Madison College Catalog

2020-2021

Madison Area Technical College

Courses by Subject starting on page 259

Effective 2020-2021
Program Number: 101011

Accounting

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
BUSADM 10102134	Introduction to Business	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
MATH 10804144	Math of Finance	3	3-0
Second Semester			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ACCTG 10101141	QuickBooks-Intermediate	1	0.5-1
FINANCE 10114130	Personal Finance	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
Third Semester			
ACCTG 10101121	Accounting 3-Intermediate	4	4-0
ACCTG 10101125	Cost Management	4	4-0
ACCTG 10101138	Accounting And Payroll Systems	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fourth Semester			
ACCTG 10101122	Accounting 4-Intermediate	4	4-0
ACCTG 10101137	Computerized Accounting Applications	2	1.5-1
ACCTG 10101142	Accounting Capstone	3	2-2
BUSADM 10102160	Business Law 1	3	3-0
ADMINPRF 10106190	Professional Development	1	0.5-1
ECON 10809195	Economics	3	3-0

Effective 2020-2021
Program Number: 311011

Accounting Assistant

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102134	Introduction to Business	3	3-0
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
Second Semester			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ACCTG 10101141	QuickBooks-Intermediate	1	0.5-1
FINANCE 10114130	Personal Finance	3	3-0
ADMINPRF 10106190	Professional Development	1	0.5-1

Effective 2020-2021
Program Number: 305201

Addiction Studies

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
HUMSVC 10520116	Group Work Skills	3	3-0
HUMSVC 10520117	Interviewing	3	3-0
HUMSVC 10520135	Issues in Alcohol and Other Drug Abuse	3	3-0
HUMSVC 10520136	Counseling Alcoholics and Other Drug Abusers	3	3-0
HUMSVC 10520142	Psychopharmacology	3	3-0
HUMSVC 10520106	Orientation to Human Services Populations	3	3-0
HUMSVC 10520157	Human Services Counseling Skills	3	3-0
Choose one of the following courses: Note: Introduction to Psychology, 20809231 is a pre-requisite to Developmental Psychology, 20809233 and Abnormal Psychology, 20809237.)			
HUMSVC 10520141	Introduction to Community Mental Health	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 101066

Administrative Professional

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
Second Semester			
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106121	Office Technology and Procedures	3	2-2
ADMINPRF 10106164	Customer Contact Skills	2	2-0
ADMINPRF 10106240	Business Information Management	3	1-4
Third Semester			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ACCTG 10101106	Accounting Fundamentals	3	3-0
ADMINPRF 10106106	Business Writing and Research	3	2-2
ADMINPRF 10106172	Administrative Office Management	3	2-2
ADMINPRF 10106190	Professional Development	1	0.5-1
Fourth Semester			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106126	Software Capstone	3	1-4
ADMINPRF 10106192	Internship - Administrative Professional	1	0-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0

Effective 2020-2021
Program Number: 305316

Advanced EMT

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
EMS 30531360	Advanced Emergency Medical Technician	4	4-2

Effective 2020-2021
Program Number: 100701

Agricultural Equipment Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
AGMECH 10070176	Electrical Systems	5	3-4
AGMECH 10070181	Implements 1	4	2-0
MTLFAB 10457100	Metal Repair Techniques	2	1-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2
Second Semester			
AGMECH 10070178	Implements 2	3	1-4
AGMECH 10070183	Hydraulics	4	3-2
AGMECH 10070187	Occupational Experience 1 - Agricultural Equipment Technology Program	2	0-0
AGMECH 10070193	Air Conditioning	2	1-2
MKTG 10104104	Selling Principles	3	3-0
Third/Summer Session			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
AGMECH 10070175	Power Transmissions	4	1-4
AGMECH 10070150	Precision Farming (Ag Management Solutions)	1	0.5-1
PHYSICS 10806139	Survey of Physics	3	1-4
Fourth Semester			
AGMECH 10070177	Fuel Systems	3	2-2
AGMECH 10070182	Accessories & Electronics	3	2-2
AGMECH 10070184	Hydraulics 2	3	1-4
AGMECH 10070188	Occupational Experience 2	2	0-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fifth Semester			
AGMECH 10070191	Engine Repair Theory	3	1-4
AGMECH 10070195	Engine Repair	3	1-4
ECON 10809195	Economics	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
Sixth/Summer Session			
AGMECH 10070189	Occupational Experience 3	2	0-0

Madison Area Technical College

Effective 2020-2021
Program Number: 106011

Air Conditioning, Heating, and Refrigeration Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
HVAC 10601330	Refrigeration Fundamentals	2	0-4
HVAC 10601336	EPA 608 Training & Certification	1	0.5-1
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
One of the following math courses (or higher-level courses that can be found on your degree progress report):			
MATH 10804107	College Mathematics	3	2-2
MATH 10804113	College Technical Math 1A	3	3-0
Second Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
IND MECH 10462304	Industrial Fluid Distribution Systems	2	0-4
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462331	DCAC 3 Theory	1	0-2
HVAC 10601332	Heating and Air Conditioning Advanced	3	1-4
HVAC 10601340	Forced Air Heating Systems	2	0-4
HVAC 10601342	Hydronic and Steam Systems	3	1-4
Third Semester			
HVAC 10601334	Commercial Refrigeration Systems	3	3-0
HVAC 10601361	Industry Competencies 1	1	0-2
HVAC 10601370	Building Automations 1	3	1-4
HVAC 10601410	HVAC/R Systems Design	3	0-6
ENGLISH 10801195	Written Communication	3	3-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
Fourth Semester			
IND MECH 10462309	Maintenance Management	2	0-4
HVAC 10601362	Industry Competencies 2	2	0-4
HVAC 10601372	Building Automations 2	3	1-4
ARCHT 10614123	Electrical and Mechanical Systems	4	4-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 102071

Animation

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Prior to Start of Program (required)			
ANIM 10207112	2D Fundamentals	2	0-4
ANIM 10207113	3D Fundamentals	2	0-4
First Semester			
ANIM 10207103	Basic Drawing for Concepting	2	0-4
ANIM 10207110	Animation 1	2	0-4
ANIM 10207111	Texturing 1	2	0-4
ANIM 10207114	Modeling 1	2	0-4
ANIM 10207139	Design & Color for Concepting	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ANIM 10207117	Figure Drawing for Concepting	3	0-6
ANIM 10207120	Animation 2	2	0-4
ANIM 10207122	Texturing 2	2	0-4
ANIM 10207150	Animation Concepts 1	3	0-6
ANIM 10207224	Modeling 2	2	0-4
MATH 10804107	College Mathematics	3	2-2
Third Semester			
ANIM 10207130	Digital Set Design 1	2	0-4
ANIM 10207131	Animation 3	2	0-4
ANIM 10207134	Modeling 3	2	0-4
ANIM 10207140	Advanced Animation Studio 1	2	0-4
ANIM 10207151	Animation Concepts 2	2	0-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
	Elective	3	
Fourth Semester			
ANIM 10207133	Digital Set Design 2	2	0-4
ANIM 10207141	Production Studio	3	0-6
ANIM 10207142	Animation Internship	2	0-0
ANIM 10207145	Portfolio for Animation	1	0-2
ANIM 10207144	Advanced Animation Studio 2	2	0-4
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 100015

Arboriculture/Urban Forestry Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
URBN FOR 10001101	Introduction to Arboriculture	2	1-2
URBN FOR 10001102	Plant Health Care Applicator	2	2-0
URBN FOR 10001110	Tree Biology	2	1-2
URBN FOR 10001118	Landscape Plant Identification	2	1-2
URBN FOR 10001124	Fundamentals of Aerial Tree Work	3	1-4
Second Semester			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
URBN FOR 10001113	Ornamental Plant Health Care for Arboriculture	3	2-2
URBN FOR 10001133	Equipment and Chainsaw Safety and Operation	3	1-4
URBN FOR 10001138	Landscape Management 1	3	2-2
URBN FOR 10001173	Urban Tree Maintenance	2	1-2
Select one of the following practicum courses:			
URBN FOR 10001121	Tree Crew Practicum 1	2	0-4
URBN FOR 10001125	Aerial Tree Work Practicum 1	2	0-4
Third Semester			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
URBN FOR 10001105	Tree Identification, Dendrology & Silvics	3	2-2
URBN FOR 10001198	Soil and Water Resources	3	2-2
URBN FOR 10001199	Forest, Fisheries, and Wildlife	3	2-2
Select one of the following practicum courses:			
URBN FOR 10001122	Tree Crew Practicum 2	2	0-4
URBN FOR 10001126	Aerial Tree Work Practicum 2	2	0-4
Fourth Semester			
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
URBN FOR 10001103	Arboriculture	2	1-2
URBN FOR 10001139	Landscape Management 2	3	1-4
URBN FOR 10001149	Ecological Basis for Natural Resources Management	3	3-0
Select one of the following practicum courses:			
URBN FOR 10001123	Tree Crew Practicum 3-Capstone	2	0-4
URBN FOR 10001127	Aerial Tree Work Practicum 3-Capstone	2	0-4

Effective 2020-2021
Program Number: 106141

Architectural Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804114	College Technical Math 1B	2	2-0
ARCHT 10614121	Construction Materials - Architectural Technology	3	3-0
ARCHT 10614128	Architectural Software 1	4	3-2
ARCHT 10614129	Architectural Studio 1	4	3-2
Second Semester			
MATH 10804116	College Technical Math 2	4	4-0
PHYSICS 10806154	General Physics 1	4	3-2
ARCHT 10614127	Architectural Software 2	4	3-2
ARCHT 10614130	Architectural Studio 2	4	3-2
ARCHT 10614135	Building Codes	2	2-0
Third Semester			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
ARCHT 10614119	Digital Architectural Rendering	1	1-0
ARCHT 10614123	Electrical and Mechanical Systems	4	4-0
ARCHT 10614152	Introduction to Sustainable Design and LEED	2	2-0
ARCHT 10614154	Site Design	3	2-2
ARCHT 10614155	Advanced Revit	2	1-2
ARCHT 10614178	Building Structures	4	4-0
Fourth Semester			
ENGLISH 10801197	Technical Reporting	3	3-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
ARCHT 10614114	Advanced CAD	2	1-2
ARCHT 10614120	Professional Practice	2	2-0
ARCHT 10614142	Architectural Detailing	2	1-2
ARCHT 10614145	Architectural Design Studio	4	3-2
ARCHT 10614194	Portfolio Preparation for Architectural	1	1-0

Effective 2020-2021
Program Number: 106141-TR

Architectural Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ARCHT 10614111	Architectural Studio 1	4	1-4
ARCHT 10614113	Architectural Software 1	4	1-4
ARCHT 10614121	Construction Materials - Architectural Technology Program	3	3-0
ENGLISH 20801201	English 1	3	3-0
MATH 20804212	College Algebra	3	2-2
Second Semester			
ARCHT 10614112	Architectural Studio 2	4	1-4
ARCHT 10614115	Architectural Software 2	4	2-2
ARCHT 10614135	Building Codes	2	2-0
ENGLISH 20801202	English 2	3	3-0
MATH 20804213	Trigonometry	3	2-2
PHYSICS 20806220	Physics of Everyday Life	3	3-0
Third Semester			
ARCHT 10614101	Architectural Theory 1	3	2-2
ARCHT 10614123	Electrical and Mechanical Systems	4	4-0
ARCHT 10614155	Advanced Revit	2	1-2
ARCHT 10614154	Site Design	3	2-2
ARCHT 10614178	Mechanics/Strength of Materials	4	4-0
ARCHT 10614193	Job Orientation	1	1-0
Fourth Semester			
ARCHT 10614100	Introduction to Architecture	3	3-0
ARCHT 10614114	Advanced CAD	2	1-2
ARCHT 10614132	Building Estimating	2	2-0
ARCHT 10614142	Architectural Detailing	2	1-2
ARCHT 10614145	Architectural Design Studio	4	3-2
ARCHT 10614194	Portfolio Preparation for Architectural	1	1-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0

Effective 2020-2021
Program Number: 303163

Artisanal Modern Meat Butchery

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CUL ARTS 10316160	Pasture to Plate	3	3-0
CUL ARTS 10316161	Protein Identification, Fabrication, and Utilization 1	3	1-4
CUL ARTS 10316162	Slaughtering	3	0-6
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0
Second Semester			
CUL ARTS 10316163	Protein Identification, Fabrication, and Utilization 2	3	1-4
CUL ARTS 10316164	Retail Butcher Shop Operation and Sales	4	0-8
CUL ARTS 10316195	Hazard Analysis Critical Control Point (HACCP) for Business	2	2-0
SMLBUS 10145165	Entrepreneurship for the Small Farmer or Butcher	3	3-0

Effective 2020-2021
Program Number: 105431

Associate Degree Nursing (R.N.)

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Nursing Certification			
Proof of certification as a Nursing Assistant or completion of a Nursing Assistant course is required prior to petitioning. Refer to petition requirements for additional details.			
NRSAD 30543300	Nursing Assistant	3	2.77-1.66
General Education Courses			
The following general education courses are required to successfully graduate from the Nursing-Associate Degree program. Some of these courses are required to petition and others may be completed prior to the start of the program or by the end of the first year of the program. Prospective students should refer to petition requirements and current students should refer to their Degree Progress Report for additional details regarding which general education program requirements must be taken to petition.			
ENGLISH 20801201	English 1	3	3-0
Speech must be completed prior to the start of third semester			
SPEECH 10801198	Speech	3	3-0
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
Choose from Microbiology or General Microbiology:			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
SOC 20809203	Intro Sociology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
First Semester			
NRSAD 10543101	Nursing Fundamentals	2	2-0
NRSAD 10543102	Nursing Skills	3	0-6
NRSAD 10543103	Nursing Pharmacology	2	2-0
NRSAD 10543104	Nsg: Intro Clinical Practice	2	0-0
Second Semester			
NRSAD 10543105	Nursing Health Alterations	3	3-0
NRSAD 10543106	Nursing Health Promotion	3	3-0
NRSAD 10543107	Nursing: Clinical Care Across Lifespan	2	0-0
NRSAD 10543108	Nursing: Introduction to Clinical Care Management	2	0-0
Third Semester			
NRSAD 10543109	Nursing: Complex Health Alterations 1	3	3-0
NRSAD 10543110	Nursing: Mental Health Community Concepts	2	2-0
NRSAD 10543111	Nursing: Intermediate Clinical Practice	3	0-0
NRSAD 10543112	Nursing Advanced Skills	1	0-2

Madison Area Technical College

Fourth Semester			
NRSAD 10543113	Nursing: Complex Health Alteratations 2	3	3-0
NRSAD 10543114	Nursing: Management and Professional Concepts	2	2-0
NRSAD 10543115	Nursing: Advanced Clinical Practice	3	0-0
NRSAD 10543116	Nursing Clinical Transition	2	0-0

Effective 2020-2021
Program Number: 105431-PA

Associate Degree Nursing (R.N.)

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
General Education Courses			
The following general education and elective courses are required to successfully graduate from the Nursing-Associate Degree program. Some of these courses are required to petition and others may be completed prior to the start of the program or by the end of the first year of the program. Prospective students should refer to petition requirements and current students should refer to their Degree Progress Report for additional details regarding which general education program requirements must be taken to petition.			
ENGLISH 20801201	English 1	3	3-0
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
The following courses are recommended to be completed prior to enrolling in the nursing bridge courses:			
SPEECH 10801198	Speech	3	3-0
Choose from Microbiology or General Microbiology:			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
SOC 20809203	Intro Sociology	3	3-0
	Elective	5	
Paramedic Bridge Courses and Licensure Requirements			
Second Semester			
NRSAD 10543127	Paramedic to AD Theory 1	3	3-0
NRSAD 10543128	Paramedic to AD Theory 2	3	3-0
NRSAD 10543129	Paramedic to AD Skills	2	0-4
NRSAD 10543130	Paramedic to RN Clinical	2	0-0
Associate Degree Nursing 2nd Year Requirements			
Third Semester			
NRSAD 10543109	Nursing: Complex Health Alterations 1	3	3-0
NRSAD 10543110	Nursing: Mental Health Community Concepts	2	2-0
NRSAD 10543111	Nursing: Intermediate Clinical Practice	3	0-0
NRSAD 10543112	Nursing Advanced Skills	1	0-2
Fourth Semester			
NRSAD 10543113	Nursing: Complex Health Alteratations 2	3	3-0
NRSAD 10543114	Nursing: Management and Professional Concepts	2	2-0
NRSAD 10543115	Nursing: Advanced Clinical Practice	3	0-0
NRSAD 10543116	Nursing Clinical Transition	2	0-0

Madison Area Technical College

Effective 2020-2021
Program Number: 105431-PN

Associate Degree Nursing (R.N.)

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
General Education Courses			
The following general education courses are required to successfully graduate from the Nursing-Associate Degree program. Some of these courses are required to petition and others may be completed prior to the start of the program or by the end of the first year of the program. Prospective students should refer to petition requirements and current students should refer to their Degree Progress Report for additional details regarding which general education program requirements must be taken to petition.			
ENGLISH 20801201	English 1	3	3-0
SPEECH 10801198	Speech	3	3-0
SOC 20809203	Intro Sociology	3	3-0
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
Choose from Microbiology or General Microbiology:			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
Practical Nursing and Licensure Requirements			
First Semester			
NRSAD 31543301	Nursing Fundamentals - Practical Nursing Program	2	4-0
NRSAD 31543302	Nursing Skills - Practical Nursing Program	3	0-6
NRSAD 31543303	Nursing Pharmacology - Practical Nursing Program	2	4-0
NRSAD 31543304	Nursing: Intro to Clinical Practice	2	0-0
Second Semester			
NRSAD 31543305	Nursing Health Alterations - Practical Nursing Program	3	6-0
NRSAD 31543306	Nursing Health Promotion - Practical Nursing Program	3	6-0
NRSAD 31543307	Nursing: Clinical Care Across the Lifespan	2	0-0
NRSAD 31543308	Nursing: Intro to Clinical Care Management	2	0-0
Prior to the Start of Third Semester Courses			
NRSAD 10543164	Orientation Associate Degree Nursing	3	2-2
Third Semester			
NRSAD 10543109	Nursing: Complex Health Alterations 1	3	3-0
NRSAD 10543110	Nursing: Mental Health Community Concepts	2	2-0
NRSAD 10543111	Nursing: Intermediate Clinical Practice	3	0-0
NRSAD 10543112	Nursing Advanced Skills	1	0-2
Fourth Semester			
NRSAD 10543113	Nursing: Complex Health Alteratations 2	3	3-0

NRSAD 10543114	Nursing: Management and Professional Concepts	2	2-0
NRSAD 10543115	Nursing: Advanced Clinical Practice	3	0-0
NRSAD 10543116	Nursing Clinical Transition	2	0-0

Effective 2020-2021
Program Number: 902062CERT

Audio Production

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
VICOM 10206131	Sound Production Techniques	3	0-6
VICOM 10206144	Audio Internship	1	0-0
VICOM 10206151	Advanced Audio Techniques	3	0-6
VICOM 10206153	Audio Project Management	3	2-2
JOURNAL 20801269	On-Air Performance	3	2-2

Effective 2020-2021
Program Number: 324051

Auto Collision Repair & Refinishing Technician

A Two Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
AUTOBODY 32405301	Basic Sheet Metal Repair & Welding Fundamentals	5	0-10
AUTOBODY 32405302	Refinishing 1	5	0-10
AUTOBODY 32405361	Collision Repair/Refinishing Theory 1	3	6-0
AUTOBODY 32405340	Collision Electrical Fundamentals	2	2-2
Second Semester			
AUTOBODY 32405303	Non-Structural Panel Repair & Glass Servicing	5	0-10
AUTOBODY 32405304	Refinishing 2/Trim & Hardware	5	0-10
AUTOBODY 32405341	Collision Mechanical Systems	2	2-2
AUTOBODY 32405363	Collision Repair and Refinishing Theory 2	3	6-0
Third Semester			
AUTOBODY 32405305	Auto Refinishing/Color Adjustment	5	0-10
AUTOBODY 32405306	Collision Structural Welding & Panel Replacement	5	0-10
AUTOBODY 32405311	Introduction to Airbrushing and Custom Painting	2	1-3
AUTOBODY 32405365	Collision Repair and Refinishing Theory 3	3	6-0
Fourth Semester			
AUTOBODY 32405307	Adv Collision Structural Repair	5	0-10
AUTOBODY 32405308	Collision Plastics/Composites & Adv Refinishing Applications	5	0-10
AUTOBODY 32405321	Advanced Airbrushing and Custom Painting	2	1-3
AUTOBODY 32405334	Collision Damage Analysis and Report Writing	3	6-0

Effective 2020-2021
Program Number: 314051

Auto Collision Repair and Refinish Technician

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
AUTOBODY 32405301	Basic Sheet Metal Repair & Welding Fundamentals	5	0-10
AUTOBODY 32405302	Refinishing 1	5	0-10
AUTOBODY 32405340	Collision Electrical Fundamentals	2	2-2
AUTOBODY 32405361	Collision Repair/Refinishing Theory 1	3	6-0
Second Semester			
AUTOBODY 32405303	Non-Structural Panel Repair & Glass Servicing	5	0-10
AUTOBODY 32405304	Refinishing 2/Trim & Hardware	5	0-10
AUTOBODY 32405341	Collision Mechanical Systems	2	2-2
AUTOBODY 32405363	Collision Repair and Refinishing Theory 2	3	6-0

Effective 2020-2021
Program Number: 324042

Automotive Technician

A Two Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
AUTOTEC 10602100	Automotive Fundamentals	2	0-4
AUTOTEC 10602101	Automotive Service Procedures	3	0-6
AUTOTEC 10602125	Electrical and Electronics Systems 1	2	2-0
AUTOTEC 10602126	Electrical and Electronics Systems 2	2	0-4
AUTOTEC 10602166	Powertrain Management Technology	5	0-10
COLLSUCC 10890101	College Success and Study Skills 1cr	1	1-0
Second Semester			
AUTOTEC 10602156	Comfort Control Systems	2	0-4
AUTOTEC 10602157	Technical Braking Systems	5	0-10
AUTOTEC 10602163	Steering and Suspension Systems	5	0-10
MATH 10804134	Mathematical Reasoning	3	2-2
Third Semester			
AUTOTEC 10602115	Hybrid and Alternative Fueled Vehicles	2	0-4
AUTOTEC 10602154	Automatic Transmissions	5	0-10
AUTOTEC 10602158	Service Management	1	0-2
AUTOTEC 10602153	Manual Drivetrains & Axles	4	0-8
PHYSICS 10806139	Survey of Physics	3	1-4
Fourth Semester			
AUTOTEC 10602150	Internal Combustion Engines	5	0-10
AUTOTEC 10602152	Driveability Analysis	5	0-10
AUTOTEC 10602162	Automobile Accessories	2	0-4

Effective 2020-2021
Program Number: 106026

Automotive Technology-Comprehensive

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
AUTOTEC 10602100	Automotive Fundamentals	2	0-4
AUTOTEC 10602101	Automotive Service Procedures	3	0-6
AUTOTEC 10602125	Electrical and Electronics Systems 1	2	2-0
AUTOTEC 10602126	Electrical and Electronics Systems 2	2	0-4
AUTOTEC 10602156	Comfort Control Systems	2	0-4
AUTOTEC 10602166	Powertrain Management Technology	5	0-10
MATH 10804134	Mathematical Reasoning	3	2-2
Second Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
AUTOTEC 10602157	Technical Braking Systems	5	0-10
AUTOTEC 10602158	Service Management	1	0-2
AUTOTEC 10602163	Steering and Suspension Systems	5	0-10
ENGLISH 10801195	Written Communication	3	3-0
Third Semester			
AUTOTEC 10602153	Manual Drivetrains & Axles	4	0-8
AUTOTEC 10602154	Automatic Transmissions	5	0-10
AUTOTEC 10602162	Automobile Accessories	2	0-4
PHYSICS 10806139	Survey of Physics	3	1-4
ECON 10809195	Economics	3	3-0
Fourth Semester			
AUTOTEC 10602115	Hybrid and Alternative Fueled Vehicles	2	0-4
AUTOTEC 10602150	Internal Combustion Engines	5	0-10
AUTOTEC 10602152	Driveability Analysis	5	0-10
ENGLISH 10801197	Technical Reporting	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 313141

Baking & Decorative Arts

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Prior to Start of Program			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
First Semester			
BAKING 31314302	Yeast Breads	4	0-6
BAKING 31314306	Bakery Retail	1	0-2
BAKING 31314309	Baking Principles	2	4-0
BAKING 31314315	Intro to Baking	3	0-6
BAKING 31314375	Experimental Baking	1	0-2
BAKING 31314384	Cake Decorating	3	0-6
Second Semester			
BAKING 31314305	Chocolate	2	0-4
BAKING 31314335	Specialty Cakes & Miniatures	3	0-6
BAKING 31314345	Artisan Breads & Breakfast Pastries	3	0-6
BAKING 31314355	Bakery Production	3	0-6
BAKING 31314388	Advanced Cake Decorating	2	0-4
BAKING 31314389	Baking Seminar	1	2-0
CUL ARTS 10316152	Nutrition	1	1-0

Effective 2020-2021
Program Number: 303078

Basic Early Childhood Educator

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307108	ECE: Early Language and Literacy	3	2-2
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0

Effective 2020-2021
Program Number: 304626

Basic Industrial Power

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2

Effective 2020-2021
Program Number: 900072CERT

Biotechnology Intensive Post-baccalaureate

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	1-0
BIOTECH 10007122	Protein Bioseparations Methods	3	1-0
BIOTECH 10007123	Cell Culturing	3	1-0
BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2
BIOTECH 10007152	Making Biotech Products in a Quality Environment	2	0-4

Effective 2020-2021
Program Number: 500071

Biotechnology Lab Support Assistant Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	1-0
BIOTECH 10007108	Hazardous Materials - Biotechnology	1	0.5-1

Effective 2020-2021
Program Number: 300071

Biotechnology Laboratory Support Assistant

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	1-0
BIOTECH 10007105	Bioprocess Technology	3	1-0
BIOTECH 10007108	Hazardous Materials - Biotechnology	1	0.5-1
BIOTECH 10007111	Biotechnology Career Seminar	1	1-0
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2

Effective 2020-2021
Program Number: 100072

Biotechnology Laboratory Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	1-0
BIOTECH 10007108	Hazardous Materials - Biotechnology	1	0.5-1
BIOTECH 10007110	Biotechnology Applications	1	1-0
BIOTECH 10007115	General Cell Biology	4	3-0
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2
ENGLISH 10801195	Written Communication	3	3-0
Choose from one of the following courses:			
CHEM 10806127	Chemistry 1	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
Second Semester			
BIOTECH 10007104	Chromatography Techniques	3	1-0
BIOTECH 10007105	Bioprocess Technology	3	1-0
BIOTECH 10007111	Biotechnology Career Seminar	1	1-0
BIOTECH 10007174	Applied Microbiology	4	2-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Choose from one of the following courses:			
CHEM 10806129	Chemistry 2	4	3-2
CHEM 20806216	Chemistry for Biotechnology	3	2-2
Third Semester			
BIOTECH 10007122	Protein Bioseparations Methods	3	1-0
BIOTECH 10007123	Cell Culturing	3	1-0
BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007152	Making Biotech Products in a Quality Environment	2	0-4
SOC 10809197	Contemporary Amer Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
BIOTECH 10007112	Biotechnology Employment Skills	1	1-0
Fourth Semester			
BIOTECH 10007121	Applied Biochemistry	3	2-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
BIOTECH 10007126	Occupational Work Experience	3	0-0
ECON 10809195	Economics	3	3-0
	Elective	3	
Recommended Electives			
BIOTECH 10007137	Selected Topics in HPLC	1	0-2
BIOTECH 10007155	Quality Regulations and Standards for Biotechnology	2	2-0
BIOLOGY 20806203	Introductory Zoology	5	4-2

Effective 2020-2021
Program Number: 900071CERT

Biotechnology Post-baccalaureate

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
BIOTECH 10007103	Biotechnology Laboratory Skills for a Regulated Workplace	3	1-0
Courses			
In addition, participants choose a minimum of 12 additional credits from the following list:			
BIOTECH 10007104	Chromatography Techniques	3	1-0
BIOTECH 10007105	Bioprocess Technology	3	1-0
BIOTECH 10007117	Advanced Human Stem Cell Methods	3	0-6
BIOTECH 10007118	Introduction to Human Stem Cell Concepts	1	1-0
BIOTECH 10007119	Advanced Human Stem Cell Concepts	1	1-0
BIOTECH 10007121	Applied Biochemistry	3	2-0
BIOTECH 10007122	Protein Bioseparations Methods	3	1-0
BIOTECH 10007123	Cell Culturing	3	1-0
BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
BIOTECH 10007136	Laboratory Math for Biotechnology	1	0-2
BIOTECH 10007137	Selected Topics in HPLC	1	0-2
BIOTECH 10007152	Making Biotech Products in a Quality Environment	2	0-4
BIOTECH 10007155	Quality Regulations and Standards for Biotechnology	2	2-0
BIOTECH 10007174	Applied Microbiology	4	2-4
BUSADM 10102134	Introduction to Business	3	3-0

Effective 2020-2021
Program Number: 504081

Bricklaying/Masonry Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
BRCKMSN 50408510	Tech Brick Sem 1	2	3-1
Second Semester			
BRCKMSN 50408511	Tech Brick Sem 2	2	3-1
Third Semester			
BRCKMSN 50408512	Tech Brick Sem 3	2	3-1
Fourth Semester			
BRCKMSN 50408513	Tech Brick Sem 4	2	3-1
Fifth Semester			
BRCKMSN 50408514	Tech Brick Sem 5	2	3-1
Sixth Semester			
BRCKMSN 50408515	Tech Brick Sem 6	2	3-1

Effective 2020-2021
Program Number: 901454CERT

Building Blocks of Well-Being

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
ADMINPRF 10106100	Mindset for Success	3	3-0
SMLBUS 10145122	Studies in Gratitude, Optimism, and Well-Being	3	3-0
SMLBUS 10145123	Leading Your Life with Emotional Intelligence	3	3-0

Effective 2020-2021
Program Number: 101023

Business Management

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102134	Introduction to Business	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
Second Semester			
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
ACCTG 10101118	Management Accounting	4	4-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
Third Semester			
BUSADM 10102114	Business Communication	3	3-0
BUSADM 10102143	Management Techniques	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
FINANCE 10114126	Corporate Finance	3	3-0
Students must complete six total credits from one of the Business-Related Emphasis Areas listed below. Three credits should be completed during third semester and three credits should be completed during fourth semester. See below for course options.			
Fourth Semester			
BUSADM 10102104	Business Statistics	3	3-0
BUSADM 10102132	Strategic Leadership	3	3-0
BUSADM 10102133	Topics in Tactical Management	3	3-0
ECON 10809195	Economics	3	3-0
Students must complete six total credits from one of the Business-Related Emphasis Areas listed below. Three credits should be completed during third semester and three credits should be completed during fourth semester. See below for course options.			
Business-Related Emphasis Areas			
Students must complete six total credits from one of the Business-Related Emphasis Areas.			
Accounting Emphasis Area Course Options			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ACCTG 10101138	Accounting And Payroll Systems	3	2-2
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
ACCTG 10101141	QuickBooks-Intermediate	1	0.5-1
Finance Emphasis Area Course Options			
FINANCE 10114128	Financial Institutions	3	3-0
FINANCE 10114130	Personal Finance	3	3-0

FINANCE 10114140	Investments	3	3-0
Human Resources Emphasis Area Course Options			
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
HRMGT 10116148	Labor Relations	3	3-0
HRMGT 10116149	Effective Staffing	3	3-0
HRMGT 10116152	Organizational Training and Development	3	3-0
HRMGT 10116168	Employment Law	3	3-0
Marketing Emphasis Area Course Options			
MKTG 10104104	Selling Principles	3	3-0
MKTG 10104114	Social Media Principles	3	3-0
MKTG 10104125	Principles of Advertising	3	3-0
MKTG 10104126	Intro to Public Relations	3	3-0
MKTG 10104162	Mobile Marketing	3	3-0
MKTG 10104169	Digital Marketing	3	3-0
MKTG 10104802	Honors - Marketing	2	0-0
Medical Administrative Emphasis Area Course Options			
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
Microsoft Skills Emphasis Area Course Options			
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ADMINPRF 10106240	Business Information Management	3	1-4
COMPSOFT 10103121	Windows 10	1	0.27-1.5
COMPSOFT 10103136	Word Intermediate	1	0.27-1.5
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103143	PowerPoint	1	0.27-1.5
COMPSOFT 10103145	Access	1	0.27-1.5
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
Project Management Emphasis Area Course Options			
COMPSOFT 10103186	MS (Microsoft) Project	2	0.5-3
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
BUSADM 10102131	Project Management and Sustainable Change	3	3-0
Real Estate Emphasis Area Course Options			
RLEST 10194182	Real Estate Law and Sales	4	4-0
RLEST 10194185	Real Estate Broker Management	4	4-0
Risk Management & Insurance Emphasis Area Course Options			
INSMGT 10162125	Intro to Property & Casualty Insurance - PreLicensing	3	3-0
INSMGT 10162126	Introduction to Loss Investigaton (AIC 33)	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0
INSMGT 10162133	Managing Business Risks	3	3-0
INSMGT 10162135	Detecting Employee Fraud	3	3-0
Small Business Emphasis Area Course Options			
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145105	Operations Management	3	3-0
SMLBUS 10145106	Small Business Marketing	3	3-0
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0
SMLBUS 10145185	Customer Service Management	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
No Emphasis Area Course Options			
Students who do not choose one of the above-listed Business-Related Emphasis Areas must complete 6 credits of the following.			
BUSADM 10102160	Business Law 1	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
	Elective	3	

Effective 2020-2021
Program Number: 901453CERT

Business Plan

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145106	Small Business Marketing	3	3-0
Take one of the following courses:			
SMLBUS 10145108	Field Experience	2	1-0
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0

Effective 2020-2021
Program Number: 9010610CER

Business Software Essentials for Event Professionals

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5

Effective 2020-2021
Program Number: 314092

Cabinetmaking and Millwork

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CABMIL 31409101	Surfaces 1	1	1-1
CABMIL 31409328	Woodworking 1A: Machinery & Methods	2	1-3
CABMIL 31409329	Woodworking 1B: Machinery & Methods	3	1-5
CABMIL 31409331	Woodworking 2: Materials and Processes	5	2-8
CABMIL 31409337	Workplace Safety	1	0-2
CABMIL 31409341	Wood Finishing Applications and Methods	1	1-1
CABMIL 31409342	Laminates 1	1	1-1
CABMIL 31409381	Drawing 1	1	0-2
CABMIL 31409382	Drawing 2	1	0-2
Second Semester			
CABMIL 31409100	Laminates 2	1	1-1
CABMIL 31409102	Surfaces 2	1	1-1
CABMIL 31409332	Cabinetmaking, Millwork & Furniture 1	5	2-8
CABMIL 31409333	Cabinetmaking, Millwork, and Furniture 2	5	2-8
CABMIL 31409340	Tool & Machine Maintenance	1	1-1
CABMIL 31409345	Wood Finishing Processes and Colorants	1	0-2
CABMIL 31409383	AutoCAD for Cabinet Drawing 1	1	0-2
CABMIL 31409384	AutoCAD for Cabinet Drawing 2	1	0-2

Effective 2020-2021
Program Number: 304102

Carpentry Techniques

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
CONST 31410301	Introduction to Construction	5	2-8
CONST 31410328	Construction Techniques 1	5	2-8
CONST 31410337	Workplace Safety	1	0-2
CONST 31410399	Fundamentals Of Construction	3	1-5
COMM 31801356	Communications 1	1	2-0
CONST 31410379	Construction Math	1	2-0

Effective 2020-2021
Program Number: 313071

Child Care Services

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
EARLYCHL 10307148	ECE: Foundations of Early Childhood Education	3	3-0
EARLYCHL 10307151	ECE: Infant & Toddler Development	3	3-0
EARLYCHL 10307108	ECE: Early Language and Literacy	3	2-2
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0
Second Semester			
EARLYCHL 10307110	ECE: Social Studies, Art, and Music	3	2-2
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307188	ECE: Guiding Children's Behavior	3	3-1
EARLYCHL 10307175	ECE: Preschool Practicum	3	1-0
ENGLISH 10801195	Written Communication	3	3-0

Effective 2020-2021
Program Number: 106071

Civil Engineering Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CIVILET 10607120	Methods In Civil Engineering	2	2-0
CIVILET 10607125	Intro To CAD for Civil Engineering	2	1-2
CIVILET 10607149	Aggregates And Concrete	2	1-0
CIVILET 10607155	Survey 1	3	1.5-3
MATH 10804107	College Mathematics	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
CIVILET 10607147	Civil Drawing 1	3	1-2
CIVILET 10607156	Survey 2	3	2-0
CIVILET 10607160	Soils	2	1-0
CIVILET 10607178	Statics and Mechanics for Civil Engineering	2	2-0
CIVILET 10607193	Career Development	1	1-0
ENGLISH 10801195	Written Communication	3	3-0
ECON 10809195	Economics	3	3-0
Third Semester			
CIVILET 10607140	Strength of Materials for Civil Engineering	2	2-0
CIVILET 10607148	Civil Drawing 2	2	1-0
CIVILET 10607158	Survey 3	3	1-2
CIVILET 10607172	Stormwater Management	2	1-2
CIVILET 10607177	Legal Elements Engineering	2	2-0
ENGLISH 10801197	Technical Reporting	3	3-0
	Elective	3	
Fourth Semester			
CIVILET 10607133	Estimating	3	2-2
CIVILET 10607161	Project	3	1-0
CIVILET 10607171	Construction Materials	2	1-2
CIVILET 10607179	Intro to Geographical Information Systems (GIS)	2	1-2
CIVILET 10607182	Water Supply and Sewerage	2	1-2
	Elective	3	

Effective 2020-2021
Program Number: 905161CERT

Clinical Ophthalmic Assistant

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
OPTOMET 31516325	Optical Dispensing 1	3	3-2
OPTOMET 31516301	Ophthalmic Pre-Testing	3	3-3
OPTOMET 31516305	Basic Optical Concepts	3	3-2
OPTOMET 31516315	Ocular Anatomy	2	3-1
OPTOMET 31516339	Human Relations - Optometric Technician Program	1	2-0
Second Semester			
OPTOMET 31516327	Clinical Ophthalmic Procedures	2	0-4
OPTOMET 31516326	Optical Dispensing 2	2	2-2
OPTOMET 31516330	Contact Lenses	3	2.5-2.5
OPTOMET 31516335	Ophthalmic Specialty Testing	3	4-2
OPTOMET 31516340	Patient Relations/Pract Manage	2	3.33-0
OPTOMET 31516345	Preclinical	2	0-4
OPTOMET 31516350	Clinical Experience	3	0-0
Third Semester			
OPTOMET 31516351	Clinical Experience 2	3	0-0

Effective 2020-2021
Program Number: 304103

Construction Essentials

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CONST 31410337	Workplace Safety	1	0-2
CONST 31410399	Fundamentals Of Construction	3	1-5
COMM 31801356	Communications 1	1	2-0
CONST 31410379	Construction Math	1	2-0

Madison Area Technical College

Effective 2020-2021
Program Number: 314106

Construction and Remodeling

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Program Term			
CONST 31410338	Nailin' It--Success in Construction & Remodeling	1	1-1
First Semester			
CONST 31410301	Introduction to Construction	5	2-8
CONST 31410302	Plans, Site and Formwork	2	1-3
CONST 31410309	Plan Reading and Drawing	1	1-1
CONST 31410328	Construction Techniques 1	5	2-8
CONST 31410337	Workplace Safety	1	0-2
CONST 31410379	Construction Math	1	2-0
(Note: Program evening students take 31-410-399 Fundamentals of Construction in place of 31-410-410 and 31-410-411.)			
CONST 31410410	Fundamentals of Construction 1	2	1-2
Second Semester			
COMM 31801356	Communications 1	1	2-0
CONST 31410308	Construction Industry Codes and Regulations	2	2-2
CONST 31410329	Construction Techniques 2	5	2-8
CONST 31410335	Intermediate Carpentry Lab	2	1-3
CONST 31410345	Materials and Estimating 1	1	2-0
(Note: Program evening students take 31-410-399 Fundamentals of Construction in place of 31-410-410 and 31-410-411.)			
CONST 31410411	Fundamentals of Construction 2	1	0-2
Course Selectives (3 credits required)			
	Select 3 courses from the Course Selectives list below. (Recommended during second semester in program.)	3	
CONST 31410363	Building Science and Sustainability	1	2-0
CONST 31410385	Introduction to 3D Computer Assisted Drafting	1	1-1
CONST 31410311	Commercial Construction	1	0-2
CONST 31410310	Materials and Estimating 2	1	2-0
CONST 31410324	Remodeling Techniques	1	1-1

Effective 2020-2021
Program Number: 315021

Cosmetology

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Prior to start of program			
COSMET 10502330	Making the Cut	1	1-0
First Semester			
COSMET 31502351	Introduction to Salon Services & Infection Control	2	0-4
COSMET 31502352	Basic Hair and Nail Services 1	2	0-4
COSMET 31502331	Basic Hair Color	4	6-2
COSMET 31502332	Haircutting Concepts	4	6-2
COSMET 31502333	Nail Technology	2	4-0
COSMET 31502334	Cosmetology Science	1	2-0
COSMET 31502397	Basic Hair Design	2	4-0
Second Semester			
COSMET 31502353	Basic Hair and Nail Services 2	3	0-6
COSMET 31502354	Intermediate Hair, Nail, and Facial Services 1	4	0-8
COSMET 31502329	Hair Lightening Techniques	1	0-2
COSMET 31502335	Aesthetic & Makeup Artistry	2	4-0
COSMET 31502336	Long Hair Design	1	2-0
COSMET 31502392	Sales and Advertising	1	2-0
COSMET 31502396	Advanced Haircutting	1	2-0
COSMET 31502398	Client Relations	1	2-0
Third Semester			
COSMET 31502355	Intermediate Hair, Nail, and Facial Services 2	4	0-8
COSMET 31502356	Advanced Hair, Nail and Aesthetic Services	4	0-8
COSMET 31502357	Mastery Hair, Nail, and Aesthetic Services	4	0-8
COSMET 31502344	Industry Trends	1	2-0
COSMET 31502337	Chemical Texturizing	2	4-0
COSMET 31502393	Salon Marketing	1	2-0
COSMET 31502395	State Board Review	1	2-0

Effective 2020-2021
Program Number: 505021

Cosmetology Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
COSMET 50502521	Trichology, Bacteriology, Sterilization and Sanitation	2	4-0
Second Semester			
COSMET 50502522	Hair Cutting, Design and Chemical Services	2	4-0
Third Semester			
COSMET 50502523	Advanced Chemical Services and Salon Business	2	4-0
Fourth Semester			
COSMET 50502524	Facial Anatomy, Skin & Nail Care, and State Regulations	2	4-0

Madison Area Technical College

Effective 2020-2021
Program Number: 105045

Criminal Justice Studies

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CRIMJUST 10504170	Introduction to Corrections - Criminal Justice	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
CRIMJUST 10504171	Private Sector Security	3	3-0
CRIMJUST 10504902	Criminal Law	3	3-0
CRIMJUST 10504914	Juvenile Justice	3	3-0
CRIMJUST 10504914	Juvenile Justice	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
Third Semester			
CRIMJUST 10504105	Professional Development for Criminal Justice	3	3-0
CRIMJUST 10504906	Criminal Investigation Theory	3	2-2
CRIMJUST 10504909	Foundations of Policing	3	3-0
CRIMJUST 10504911	Interviewing	3	3-0
	Elective	3	
Fourth Semester			
CRIMJUST 10504912	Ethics in Criminal Justice	3	3-0
CRIMJUST 10504143	Criminology for Law Enforcement	3	3-0
CRIMJUST 10504910	Diversity and Criminal Justice	3	3-0
CRIMJUST 10504917	Police Community Relations	3	3-0
	Elective	3	
Recommended Electives			
Electives must be 10- or 20- level courses. It is recommended to take one each in the third and fourth semester.			
CRIMJUST 10504180	Internship	3	0-0
CRIMJUST 10504905	Report Writing	3	3-0
CRIMJUST 10504923	HPS Health & Fitness Readiness	3	2-2
SOC 20809207	Criminology	3	3-0
SOC 20809295	Victimology	3	3-0

Effective 2020-2021
Program Number: 305042

Criminal Justice-Law Enforcement 720 Academy

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
CRIMJUST 30504310	Application of Investigations	1	0.83-1.16
CRIMJUST 30504311	Application of Traffic Response	3	2.16-3.83
CRIMJUST 30504312	Health and Fitness	1	0.22-1.77
CRIMJUST 30504313	Overview of Criminal Justice	1	1.88-0.11
CRIMJUST 30504314	Overview of Investigations	2	3.11-0.88
CRIMJUST 30504315	Overview of Patrol Response	2	2.61-1.38
CRIMJUST 30504316	Overview of Tactics	1	1-1
CRIMJUST 30504317	Principles of Emergency Vehicle Response	2	1-3
CRIMJUST 30504318	Principles of Investigations	1	1.38-0.61
CRIMJUST 30504320	Principles of Tactics	5	1.05-8.94
CRIMJUST 30504321	Sensitive Crimes	2	3.55-0.44

Effective 2020-2021
Program Number: 103161

Culinary Arts

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
CUL ARTS 10316106	Food Theory	2	2-0
CUL ARTS 10316108	Culinary Baking Fundamentals	1	1-0
CUL ARTS 10316111	Professional Cooking 1	4	0-8
CUL ARTS 10316115	Culinary Baking Lab	2	0-4
CUL ARTS 10316140	Menu Planning	1	1-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
ACCTG 10101106	Accounting Fundamentals	3	3-0
CUL ARTS 10316121	Professional Cooking 2	4	0-8
CUL ARTS 10316133	Garde Manger/Decorative Foods	2	0-4
CUL ARTS 10316139	Catering	2	2-0
CUL ARTS 10316152	Nutrition	1	1-0
ENGLISH 10801195	Written Communication	3	3-0
Third (Summer) Term			
CUL ARTS 10316194	Culinary Internship	2	0-0
Fourth Semester			
CUL ARTS 10316134	Cost Control	3	3-0
CUL ARTS 10316104	Advanced Skills Lab 1	3	0-6
CUL ARTS 10316158	Food Purchasing Analysis	1	1-0
CUL ARTS 10316132	Waitstaff Training	2	0-4
MATH 10804123	Math with Business Applications	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
	Elective	3	
Fifth Semester			
HOSPT 10109125	Hospitality Leadership	3	3-0
CUL ARTS 10316130	Advanced Skills Lab 2	4	1-6
CUL ARTS 10316135	Dining Room Operations	2	0-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ECON 10809195	Economics	3	3-0
Recommended Electives			
HOSPT 10109136	Hospitality Law	3	3-0
BAKING 10314130	Dessert Plating	2	0-4
CUL ARTS 10314130	Dessert Plating	2	0-4
CUL ARTS 10316118	Meat Cutting	2	1-2
CUL ARTS 10316178	Americana Cuisine	2	0-4

CUL ARTS 10316189	Breakfast Cookery	1	0-2

Effective 2020-2021
Program Number: 313162

Culinary Production Specialist

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
CUL ARTS 10316101	Principles Of Sanitation	1	1-0
CUL ARTS 10316106	Food Theory	2	2-0
CUL ARTS 10316108	Culinary Baking Fundamentals	1	1-0
CUL ARTS 10316111	Professional Cooking 1	4	0-8
CUL ARTS 10316115	Culinary Baking Lab	2	0-4
CUL ARTS 10316140	Menu Planning	1	1-0
Second Semester			
ACCTG 10101106	Accounting Fundamentals	3	3-0
CUL ARTS 10316121	Professional Cooking 2	4	0-8
CUL ARTS 10316133	Garde Manger/Decorative Foods	2	0-4
CUL ARTS 10316139	Catering	2	2-0
CUL ARTS 10316152	Nutrition	1	1-0
ENGLISH 10801195	Written Communication	3	3-0
Third/Summer Semester			
CUL ARTS 10316194	Culinary Internship	2	0-0

Effective 2020-2021
Program Number: 908092CERT

Data Analytics

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
SOC 20809291	Technology and Society	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
MATH 20804217	Introduction to Programming in Python	3	3-0

Effective 2020-2021
Program Number: 305082

Dental Assistant

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
DENTHYG 10508101	Dental Health Safety	1	0-2
DENTAST 31508302	Dental Chairside	5	4-6
DENTHYG 10508113	Dental Materials	2	1-2
DENTHYG 10508304	Dental & General Anatomy	2	2-0
DENTHYG 10508103	Dental Radiography	2	1-2
DENTAST 31508312	Dental Assistant Clinical Lab	1	0-2
DENTAST 31508313	Dental Assistant Clinical	2	2-0
DENTAST 31508307	Dental Assistant Professional	1	2-0

Effective 2020-2021
Program Number: 105081

Dental Hygienist

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Dental Hygienist Courses			
The following courses must be completed prior to acceptance into dental courses:			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
Choose from Microbiology or General Microbiology:			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
Summer Semester			
The following must be taken prior to fall/first semester:			
DENTHYG 10508101	Dental Health Safety	1	0-2
First Semester			
DENTHYG 10508102	Oral Anatomy, Embry, Histology	4	4-0
DENTHYG 10508103	Dental Radiography	2	1-2
DENTHYG 10508105	Dental Hygiene Process 1	4	2-0
Second Semester			
DENTHYG 10508106	Dental Hygiene Process 2	4	2-0
DENTHYG 10508108	Periodontology	3	3-0
DENTHYG 10508109	Cardiology	1	1-0
DENTHYG 10508110	Nutrition and Dental Health	2	2-0
DENTHYG 10508113	Dental Materials	2	1-2
PSYCH 20809231	Intro Psychology	3	3-0
Third Semester			
DENTHYG 10508111	General and Oral Pathology	3	3-0
DENTHYG 10508112	Dental Hygiene Process 3	5	1-0
DENTHYG 10508114	Dental Pharmacology	2	2-0
DENTHYG 10508115	Community Dental Health	2	2-0
DENTHYG 10508118	Dental Anxiety and Pain Management	2	1-2
SOC 20809203	Intro Sociology	3	3-0
Fourth Semester			
DENTHYG 10508107	Dental Hygiene Ethics & Profes	1	1-0
DENTHYG 10508117	Dental Hygiene Process 4	4	0-0
ENGLISH 10801195	Written Communication	3	3-0
SPEECH 10801198	Speech	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
	Elective	1	

Effective 2020-2021
Program Number: 324121

Diesel & Heavy Equipment Technician

A Two Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Program Course			
DIESEL 10412100	Diesel Shop Skills Fundamentals	2	1-2
First Semester			
MATH 10804107	College Mathematics	3	2-2
DIESEL 10412155	Heavy Duty Drivetrains	4	2-0
DIESEL 10412164	Brake and Suspension Systems	4	2-0
MTLFAB 10457100	Metal Repair Techniques	2	1-0
Second Semester			
DIESEL 10412137	Preventive Maintenance Inspections	4	3-2
DIESEL 10412144	Fundamental Diesel Electrical/Electronics Systems	3	1-0
DIESEL 10412145	Electrical/Electronics Systems Diagnostics	3	1-0
ENGLISH 10801195	Written Communication	3	3-0
Third/Summer Semester			
DIESEL 10412190	Diesel Equipment Laboratory Experience 1	1	0-2
Fourth Semester			
DIESEL 10412125	Cab Climate Control and Refrigeration Systems	3	1-4
DIESEL 10412138	Diesel Shop Management	2	2-0
DIESEL 10412175	Fuel Systems	2	0-1
DIESEL 10412177	Diesel Engine Diagnostics	3	1.5-0
DIESEL 10412188	Electronic Control Systems	3	1.5-0
Fifth Semester			
DIESEL 10412112	Mobile Hydraulics	3	2-2
DIESEL 10412184	Diesel Engine Technology	2	0-4
DIESEL 10412185	Diesel Engine Repair	4	0.5-2
DIESEL 10412189	Heavy Duty Emission Control Systems	3	1-4

Madison Area Technical College

Effective 2020-2021
Program Number: 104121

Diesel Equipment Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Program Course			
DIESEL 10412100	Diesel Shop Skills Fundamentals	2	1-2
First Semester			
DIESEL 10412137	Preventive Maintenance Inspections	4	3-2
DIESEL 10412144	Fundamental Diesel Electrical/Electronics Systems	3	1-0
DIESEL 10412145	Electrical/Electronics Systems Diagnostics	3	1-0
MTLFAB 10457100	Metal Repair Techniques	2	1-0
MATH 10804107	College Mathematics	3	2-2
Second Semester			
DIESEL 10412112	Mobile Hydraulics	3	2-2
DIESEL 10412155	Heavy Duty Drivetrains	4	2-0
DIESEL 10412164	Brake and Suspension Systems	4	2-0
ENGLISH 10801195	Written Communication	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
Third/Summer Semester			
DIESEL 10412190	Diesel Equipment Laboratory Experience 1	1	0-2
DIESEL 10412195	Occupational Experience 1 - Diesel Equipment Technology Program	2	0-0
Fourth Semester			
DIESEL 10412184	Diesel Engine Technology	2	0-4
DIESEL 10412185	Diesel Engine Repair	4	0.5-2
DIESEL 10412189	Heavy Duty Emission Control Systems	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Fifth Semester			
DIESEL 10412125	Cab Climate Control and Refrigeration Systems	3	1-4
DIESEL 10412138	Diesel Shop Management	2	2-0
DIESEL 10412175	Fuel Systems	2	0-1
DIESEL 10412177	Diesel Engine Diagnostics	3	1.5-0
DIESEL 10412188	Electronic Control Systems	3	1.5-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 311045

Digital Marketing

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Principles	3	3-0
MKTG 10104162	Mobile Marketing	3	3-0
MKTG 10104164	Marketing Digital Design	3	3-0
MKTG 10104169	Digital Marketing	3	3-0
Second Semester			
MKTG 10104103	Marketing Research	3	3-0
MKTG 10104113	Leadership Ethics in the Digital Age	3	3-0
MKTG 10104115	Capstone Campaign	3	3-0
MKTG 10104126	Introduction to Public Relations	3	3-0

Effective 2020-2021
Program Number: 901046CERT

Digital Marketing Leadership - Advanced

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
MKTG 10104111	Digital Innovations	3	3-0
MKTG 10104336	Digital Strategic Planning	3	3-0
MKTG 10104337	Content Marketing	3	3-0
MKTG 10104338	Digital Analytics	3	3-0

Effective 2020-2021
Program Number: 103071

Early Childhood Education

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
EARLYCHL 10307148	ECE: Foundations of Early Childhood Education	3	3-0
EARLYCHL 10307151	ECE: Infant & Toddler Dev	3	3-0
EARLYCHL 10307108	ECE: Early Language and Literacy	3	2-2
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0
Second Semester			
EARLYCHL 10307110	ECE: Social Studies, Art and Music	3	2-2
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307188	ECE: Guiding Child Behavior	3	3-1
EARLYCHL 10307175	ECE: Preschool Practicum	3	1-0
ENGLISH 10801195	Written Communication	3	3-0
Third Semester			
EARLYCHL 10307112	ECE: STEM (Science, Technology, Engineering, and Mathematics)	3	2-2
EARLYCHL 10307177	ECE: Intermediate Practicum	3	1-0
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809172	Introduction to Diversity Studies	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fourth Semester			
EARLYCHL 10307187	ECE: Children w diff Abilities	3	3-0
EARLYCHL 10307195	ECE: Family & Community Relations	3	3-0
EARLYCHL 10307199	ECE: Advanced Practicum	3	0-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0

Effective 2020-2021
Program Number: 903072C-BS

Early Childhood Education Infant & Toddler

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
EARLYCHL 10307151	ECE: Infant & Toddler Development	3	3-0
EARLYCHL 10307169	ECE: Infant Toddler Group Care	3	3-0
EARLYCHL 10307195	ECE: Family & Community Relations	3	3-0
EARLYCHL 10307115	ECE: Infant Toddler Capstone	3	3-0

Effective 2020-2021
Program Number: 303077

Early Childhood Education Preschool

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
EARLYCHL 10307108	ECE: Early Language and Literacy	3	2-2
EARLYCHL 10307167	ECE: Health, Safety, & Nutrition	3	3-0
EARLYCHL 10307174	ECE: Introductory Practicum	3	1-0
Second Semester			
EARLYCHL 10307110	ECE: Social Studies, Art, and Music	3	2-2
EARLYCHL 10307179	ECE: Child Development	3	3-0
EARLYCHL 10307188	ECE: Guiding Child Behavior	3	3-1
EARLYCHL 10307175	ECE: Preschool Practicum	3	1-0

Effective 2020-2021
Program Number: 504133

Electrical Construction Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ELEC 50413530	Tech Electrical 1	4	6-2
Second Semester			
ELEC 50413531	Tech Electrical 2	4	6-2
Third Semester			
ELEC 50413532	Tech Electrical 3	2	2-2
Fourth Semester			
ELEC 50413533	Tech Electrical 4	2	2-2
Fifth Semester			
ELEC 50413534	Tech Electrical 5	2	3-1
Sixth Semester			
ELEC 50413535	Tech Electrical 6	2	3-1
Seventh Semester			
ELEC 50413570	Tech Electrical 7	2	2-2
Eighth Semester			
ELEC 50413571	Tech Electrical 8	2	2-2

Effective 2020-2021
Program Number: 106621

Electrical Engineering Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
ELECT 10605112	AC/DC Electronics 1	3	2-0
ELECT 10605113	Analog Circuit Techniques	3	1-4
ELECT 10605118	Digital Circuit Techniques	3	1-4
ELECT 10605172	Applied Electronic Math 2	2	1-2
Second Semester			
ECON 10809195	Economics	3	3-0
ELECT 10605114	AC/DC Electronics 2	3	2-0
ELECT 10605115	Analog Circuit Principles	3	2-0
ELECT 10605119	Digital Circuit Principles	3	2-0
ELECT 10605173	Embedded Programming	3	2-0
Third Semester			
ENGLISH 10801197	Technical Reporting	3	3-0
PHYSICS 10806143	College Physics 1	3	2-2
ELECT 10605131	Technical Calculus 1	4	3-2
ELECT 10605143	Motors and Control Circuits	3	2-0
ELECT 10605176	Microcontrollers	3	2-0
ELECENG 10662112	AC/DC Electronics 3	3	2-0
Fourth Semester			
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605132	Technical Calculus 2	4	3-2
ELECT 10605145	Programmable Logic Controls	3	2-0
ELECT 10605178	Networks, Interfacing and Programming	3	2-0
ELECENG 10662124	Advanced Circuit Analysis	3	2-0

Effective 2020-2021
Program Number: 304621

Electrical Maintenance

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2

Effective 2020-2021
Program Number: 504139

Electrician Apprentice (ABC)

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ELEC 50413580	Trade Electrical Semester 1	2	3-1
Second Semester			
ELEC 50413581	Trade Electrical Semester 2	2	3-1
Third Semester			
ELEC 50413582	Trade Electrical Semester 3	2	3-1
Fourth Semester			
ELEC 50413583	Trade Electrical Semester 4	2	3-1
Fifth Semester			
ELEC 50413584	Trade Electrical Semester 5	2	3-1
Sixth Semester			
ELEC 50413585	Trade Electrical Semester 6	2	3.4-0.6
Seventh Semester			
ELEC 50413586	Trade Electrical Semester 7	2	3-1
Eighth Semester			
ELEC 50413587	Trade Electrical Semester 8	2	3-1

Madison Area Technical College

Electro-Mechanical Technology

An Associate in Applied Science Degree

Effective 2020-2021
Program Number: 106201

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MATH 10804107	College Mathematics	3	2-2
Second Semester			
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462107	Mechanisms for Industry 2	1	0-2
IND MECH 10462331	DCAC 3 Theory	1	0-2
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462309	Maintenance Management	2	0-4
MECTEC 10606202	Computer-Assisted Design-2D	2	0.5-3
EMTEC 10620100	Introduction to PLCs	1	0-2
EMTEC 10620106	Robotics for Industrial Automation 1	1	0-2
EMTEC 10620112	Integration Introduction	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
Third Semester			
MECTEC 10606204	Computer-Assisted Design-3D	2	0-4
EMTEC 10620101	Programmable Logic Controllers 1	3	0-6
EMTEC 10620104	Interfacing Sensors with Computer Controls	3	0-6
EMTEC 10620108	Robotics for Industrial Automation 2	2	0-4
EMTEC 10620114	Integration of Mechanisms and Controls 1	4	0-8
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fourth Semester			
EMTEC 10620102	Programmable Logic Controllers 2	3	0-6
EMTEC 10620110	Vision for Robotics in Industrial Automation	2	0-4
EMTEC 10620116	Integration of Mechanisms and Controls 2	4	0-8
ENGLISH 10801197	Technical Reporting	3	3-0
ECON 10809195	Economics	3	3-0

Effective 2020-2021
Program Number: 316052

Electronic Service Technician

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ELECT 10605107	Certified IPC Application Specialist (CIS) A-610	1	1-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	2-0
ELECT 10605113	Analog Circuit Techniques	3	1-4
ELECT 10605118	Digital Circuit Techniques	3	1-4
ELECT 10605172	Applied Electronic Math 2	2	1-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ELECT 10605114	AC/DC Electronics 2	3	2-0
ELECT 10605115	Analog Circuit Principles	3	2-0
ELECT 10605119	Digital Circuit Principles	3	2-0
ELECT 10605123	Embedded Device Concepts	3	2-0

Effective 2020-2021
Program Number: 106051

Electronics

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ELECT 10605107	Certified IPC Application Specialist (CIS) A-610	1	1-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	2-0
ELECT 10605118	Digital Circuit Techniques	3	1-4
ELECT 10605123	Embedded Device Concepts	3	2-0
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ELECT 10605113	Analog Circuit Techniques	3	1-4
ELECT 10605119	Digital Circuit Principles	3	2-0
ELECT 10605172	Applied Electronic Math 2	2	1-2
ENGLISH 10801197	Technical Reporting	3	3-0
ECON 10809195	Economics	3	3-0
Third Semester			
ELECT 10605114	AC/DC Electronics 2	3	2-0
ELECT 10605115	Analog Circuit Principles	3	2-0
ELECT 10605143	Motors and Control Circuits	3	2-0
ELECT 10605152	Digital Systems Analysis	3	2-0
PHYSICS 10806143	College Physics 1	3	2-2
Fourth Semester			
ELECT 10605116	Engineering Project Principles	3	2-0
ELECT 10605151	Instrumentation and Troubleshooting	3	2-0
ELECT 10605178	Networks, Interfacing and Programming	3	2-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Electives	3	
Recommended Electives			
ELECT 10605101	Electronics Internship Level 1	3	0-0
ELECT 10605102	Electronics Internship Level 2	3	0-0
ELECT 10605136	Biomedical Electronics	3	2-0
ELECT 10605160	Virtual Reality	3	3-0
ELECT 10605173	Embedded Programming	3	2-0
ELECT 10605176	Microcontrollers	3	2-0
GENENG 10605252	Introduction to Computer Engineering	3	1-4
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4

Effective 2020-2021
Program Number: 306053

Electronics Soldering Assembler

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
ELECT 10605107	Certified IPC Application Specialist (CIS) A-610	1	1-0
ELECT 10605108	Certified IPC Application Specialist (CIS) J-STD-001	1	0.5-1
ELECT 10605112	AC/DC Electronics 1	3	2-0
ELECT 10605118	Digital Circuit Techniques	3	1-4

Effective 2020-2021
Program Number: 305313

Emergency Medical Technician

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0

Effective 2020-2021
Program Number: 901452CERT

Entrepreneurship

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145105	Operations Management	3	3-0
SMLBUS 10145106	Small Business Marketing	3	3-0
SMLBUS 10145108	Field Experience	2	1-0
SMLBUS 10145185	Customer Service Management	3	3-0

Effective 2020-2021
Program Number: 908091CERT

Ethnic Studies

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Course			
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
Additional Requirement			
Complete nine credits from the listed courses			
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
SOCSCI 20809908	Honors-Ethnic Studies (3cr)	3	0-0

Madison Area Technical College

Effective 2020-2021
Program Number: 101096

Event Management

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ACCTG 10101106	Accounting Fundamentals	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
EVTMGT 10109111	Registration/Housing Logistics	2	2-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
Second Semester			
MKTG 10104114	Social Media Principles	3	3-0
EVTMGT 10109104	Meeting Design	3	3-0
EVTMGT 10109108	Mtgs Industry Budget/Finance	2	2-0
EVTMGT 10109110	Meeting Coordination	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
MKTG 10104102	Marketing Principles	3	3-0
EVTMGT 10109109	Special Event Management	3	3-0
EVTMGT 10109116	Fundamentals of Green Meetings and Events	2	2-0
EVTMGT 10109119	Event Professional Best Practices	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
Fourth Semester			
EVTMGT 10109112	Exhibition Management	3	3-0
EVTMGT 10109113	Risk Management, Negotiations, and Legal Issues	3	3-0
EVTMGT 10109114	Meeting/Event Mgmt Internship	2	0-0
EVTMGT 10109117	Partnership Development	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	

Effective 2020-2021
Program Number: 901096CERT

Event Management for the Business Professional

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
EVTMGT 10109110	Meeting Coordination	3	3-0
EVTMGT 10109111	Registration/Housing Logistics	2	2-0

Effective 2020-2021
Program Number: 904625CERT

Facilities Management

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
BUSADM 10102135	Project Management - Fundamentals	3	3-0
IND MECH 10462100	Safety for Industry	1	0-2
HVAC 10601370	Building Automations 1	3	1-4
IND MECH 10462309	Maintenance Management	2	0-4

Effective 2020-2021
Program Number: 101044

Fashion Marketing

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
COMPSOFT 10103143	PowerPoint	1	0.27-1.5
MKTG 10104102	Marketing Principles	3	3-0
FSHNMKTG 10104122	Adobe Illustrator for Fashion	3	3-0
FSHNMKTG 10104124	Retail Management	3	3-0
FSHNMKTG 10104195	Fashion Analysis	2	2-0
FSHNMKTG 10104197	Apparel Marketing	3	3-0
Second Semester			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
MKTG 10104104	Selling Principles	3	3-0
FSHNMKTG 10104118	Store Operations	3	2-2
FSHNMKTG 10104194	Visual Merchandising	3	2-2
FSHNMKTG 10104196	Textiles	2	1.5-3
MATH 10804123	Math with Business Applications	3	3-0
Third Semester (summer)			
FSHNMKTG 10104157	Fashion Internship	2	0.5-0
Fourth Semester			
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
MKTG 10104103	Marketing Research	3	3-0
MKTG 10104113	Leadership Ethics in the Digital Age	3	3-0
FSHNMKTG 10104123	Merchandise Plan/Control	3	3-0
FSHNMKTG 10104132	Fashion Show	1	0-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fifth Semester			
MKTG 10104112	Marketing Design Strategies	3	3-0
FSHNMKTG 10104120	Adobe Photoshop Fashion Design	3	3-0
FSHNMKTG 10104182	Portfolio Presentation	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ECON 10809195	Economics	3	3-0
Related Courses			
MKTG 10104114	Social Media Principles	3	3-0
FSHNMKTG 10104127	Technical Design Specifications for Fashion	3	2-2
FSHNMKTG 10104186	History of Costume	3	3-0
FSHNMKTG 10104198	Fashion CAD Lab	1	1-0

Madison Area Technical College

Effective 2020-2021
Program Number: 101142

Finance

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
COMPSOFT 10103145	Access	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
FINANCE 10114130	Personal Finance	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
Second Semester			
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ADMINPRF 10106190	Professional Development	1	0.5-1
FINANCE 10114128	Financial Institutions	3	3-0
ECON 10809195	Economics	3	3-0
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Third Semester			
ACCTG 10101118	Management Accounting	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
BUSADM 10102160	Business Law 1	3	3-0
FINANCE 10114126	Corporate Finance	3	3-0
INSMGT 10162126	Introduction to Loss Investigaton (AIC 33)	3	3-0
Fourth Semester			
BUSADM 10102143	Management Techniques	3	3-0
FINANCE 10114127	Financial Analysis	3	3-0
FINANCE 10114140	Investments	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective or Concentration (see below)	3	
Concentrations			
Risk Management & Insurance Concentration (select 3 credits)			
INSMGT 10162125	Intro to Business Insurance Contracts (AAI 82)	3	3-0
INSMGT 10162126	Introduction to Loss Investigaton (AIC 33)	3	3-0
INSMGT 10162133	Managing Business Risks	3	3-0
INSMGT 10162135	Detecting Employee Fraud	3	3-0
Accounting Concentration (select 3 credits)			
ACCTG 10101138	Accounting And Payroll Systems	3	2-2
Business Management Concentration (select 3 credits)			
BUSADM 10102134	Introduction to Business	3	3-0
Small Business Concentration (select 3 credits)			
SMLBUS 10145102	Small Business Development	3	3-0

SMLBUS 10145106	Small Business Marketing	3	3-0
Other Recommended Electives			
INSMGT 10162140	Risk Management and Insurance Internship	2	0-0
ACCTG 10101140	Accounting/Business Internship	3	0-0
ADMINPRF 10106100	Mindset for Success	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0
MKTG 10104104	Selling Principles	3	3-0

Effective 2020-2021
Program Number: 311144

Financial Assistant

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
FINANCE 10114130	Personal Finance	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
Second Semester			
COMPSOFT 10103145	Access Beginning	1	0.27-1.5
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101123	Tax 1	4	4-0
ADMINPRF 10106190	Professional Development	1	0.5-1
FINANCE 10114128	Financial Institutions	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0

Effective 2020-2021
Program Number: 105032

Fire Protection Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
FIRET 10503143	Building Construction	3	3-0
FIRET 10503144	OSHA for the Fire Service	3	3-0
FIRET 10503191	Principles of Emergency Services	2	2-0
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
FIRET 10503100	Fire Recruit Academy	5	2-0
FIRET 10503154	Hazardous Materials Chemistry	2	2-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Third Semester			
FIRET 10503151	Fire Prevention	4	4-0
FIRET 10503195	Fire Behavior & Combustion	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
SOC 10809197	Contemporary Amer Society elective	3	3-0
Fourth Semester			
FIRET 10503156	Strategies, Tactics & Inc Mgmt	4	4-0
FIRET 10503157	Fire Investigation	3	3-0
FIRET 10503192	Principles Emergency Services/Survival	3	3-0
FIRET 10503193	Fire Protection Systems	3	3-0
FIRET 10503194	Fire Protection Hydraulics	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 105032-ET

Fire Protection Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
FIRET 10503143	Building Construction	3	3-0
FIRET 10503144	Occupational Safety and Health for Emergency Services	3	3-0
FIRET 10503191	Principles of Emergency Services	2	2-0
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
MATH 10804134	Mathematical Reasoning	3	2-2
FIRET 10503141	Firefighter 2/Hazardous Materials Operations	1	1-0
FIRET 10503142	Fire Fighting Principles	4	4-0
FIRET 10503100	Fire Recruit Academy	5	2-0
FIRET 10503154	Hazardous Materials Chemistry	2	2-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Third Semester			
FIRET 10503148	Principles of Fire & Emergency Service Administration	4	4-0
FIRET 10503151	Fire Prevention	4	4-0
FIRET 10503195	Fire Behavior & Combustion	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
SOC 10809197	Contemporary American Society elective	3	3-0
Fourth Semester			
FIRET 10503156	Strategies, Tactics & Inc Mgmt	4	4-0
FIRET 10503157	Fire Investigation	3	3-0
FIRET 10503192	Principles Emergency Services/Survival	3	3-0
FIRET 10503193	Fire Protection Systems	3	3-0
FIRET 10503194	Fire Protection Hydraulics	3	3-0

Effective 2020-2021
Program Number: 305032

Fire Service Certification

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
Choose from one of the two following Fire Recruit Academy courses:			
FIRET 30503300	Fire Recruit Academy - Fire Service Certification Program	5	5.55-3.88
FIRET 10503100	Fire Recruit Academy	5	2-0
Take both of the following courses:			
EMS 10531102	Emergency Medical Technician 1	2	1-2
EMS 10531103	Emergency Medical Technician 2	3	1-0

Effective 2020-2021
Program Number: 101094

Fitness and Recreation Management

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
MKTG 10104102	Marketing Principles	3	3-0
FIT REC 10109103	Leisure and Lifestyle	3	3-0
FIT REC 10109162	Introduction to Fitness and Recreation	2	2-0
FIT REC 10109196	Principles of Outdoor Pursuits	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
FIT REC 10109106	Fitness and Recreation Programming	3	3-0
FIT REC 10109149	Risk Management in Fitness and Recreation	2	2-0
FIT REC 10109171	Internship Development and Community Partnerships	2	2-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
	Emphasis Course (see below)	3	
Third Semester (Summer)			
FIT REC 10109175	Fitness and Recreation Internship Practicum	2	0-0
Fourth Semester			
FIT REC 10109135	Leadership Strategies in Fitness and Recreation	3	3-0
FIT REC 10109163	Trends & Topics in Fitness and Recreation	3	3-0
FIT REC 10109195	Industry Budget and Financial Management	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Emphasis Course (see below)	3	
Fifth Semester			
FIT REC 10109115	Fitness and Recreation Administration & Management	3	3-0
FIT REC 10109155	Facility Operations and Maintenance	3	3-0
FIT REC 10109160	Inclusive Fitness and Recreation	3	3-0
FIT REC 10109190	Fitness and Recreation Seminar	1	1-0
ECON 10809195	Economics	3	3-0
	Emphasis Course (see below)	3	
Emphasis Program Courses			
FIT REC 10109159	Health Coaching and Wellness Promotion	3	3-0
FIT REC 10109173	Group Fitness Development	3	2-2
FIT REC 10109176	Personal Trainer Development	3	2.5-1
FIT REC 10109197	Challenge Course Programming	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
FIT REC 10109297	Exercise Science for Fitness Professionals	3	3-0

FIT REC 10109299	Precision Nutrition	3	3-0
FIT REC 10109189	Foundations of Worksite Wellness	3	3-0

Effective 2020-2021
Program Number: 301094

Fitness and Wellness Specialist

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
FIT REC 10109173	Group Fitness Development	3	2-2
FIT REC 10109195	Industry Budget and Financial Management	3	3-0
FIT REC 10109297	Exercise Science for Fitness Professionals	3	3-0
FIT REC 10109298	Introduction to Fitness and Wellness	2	2-0
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
Second Semester			
FIT REC 10109159	Wellness Coaching and Promotion	3	3-0
FIT REC 10109176	Personal Trainer Development	3	2.5-1
FIT REC 10109299	Precision Nutrition	3	3-0
FIT REC 10109300	Fitness and Wellness Professional Development	1	1-0
FIT REC 10109301	Fitness and Wellness Practical Lab	1	0-2

Effective 2020-2021
Program Number: 908022CERT

French Language Proficiency

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Language Requirement			
Completion of two courses in French (French 3 or higher level) is required. At least 3 credits must be enrolled in at Madison College.			
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
Practicum Requirement			
Completion of both practicum courses is required.			
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
Additional Course Requirement			
Completion of at least one of the listed courses is required.			
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801223	Peace, Conflict, and Literature: The Arts of the Contact Zone	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
FILM 20810254	History Of World Cinema	3	2-2
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
JOURNAL 20801252	World Issues Journalism	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
MUSIC 20805207	World Music	3	3-0
PHILOS 20809263	East/West World View	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809245	Latin American Politics	3	3-0
POLISCI 20809246	African Politics	3	3-0

SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
	Honors courses may be available. See the certificate advisor for details.	2	

Oral Competency Assessment Requirement
Completion of the World Language Oral Assessment with a minimum score of 6 within the last three years is required.

Effective 2020-2021
Program Number: 304425

Gas Metal Arc Welding (GMAW)

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
IND MECH 10462100	Safety for Industry	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
WELD 31442320	Welding Occupational Development	1	2-0
WELD 31442323	Basic Gas Metal Arc Welding (GMAW/MIG)	2	2-2
MATH 31804379	Vocational Math 1	1	2-0

Effective 2020-2021
Program Number: 908093CERT

Gender and Women's Studies

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
Additional Course List			
Students must complete a minimum of 12 credits from the following:			
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOC 20809277	Couple Relationships	1	1-0
ART 20815211	Art History: Women In Art	3	3-0

**Students with a GPA of 3.5 or higher may choose to complete an honors project in Gender and Women's Studies for up to 3 credits in place of one of the courses on this list.*

Madison Area Technical College

Effective 2020-2021
Program Number: 102011

Graphic Design

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
GRDSGN 10201102	Design Fundamentals	3	0-6
GRDSGN 10201103	Drawing Fundamentals	3	0-6
GRDSGN 10201136	Concept Development	2	0-4
GRDSGN 10201137	Survey of Design Communication	1	1-0
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
Second Semester			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
GRDSGN 10201112	Color	2	0-4
GRDSGN 10201151	Typographic Design	3	0-6
GRDSGN 10201152	Applied Drawing	2	0-4
GRDSGN 10201177	Web Page Design	3	0-6
GRDSGN 10201182	Applied Computer Graphics	3	0-6
Third Semester			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
GRDSGN 10201106	Illustration	3	0-6
GRDSGN 10201121	Graphic Design	3	0-6
GRDSGN 10201128	Print & Digital Production	3	0-6
PHOTO 10203130	Introduction to Photography and Video	2	0-4
VICOM 10206129	Motion Design	2	0-4
Fourth Semester			
SOC 10809197	Contemporary American Society	3	3-0
GRDSGN 10201153	Integrated Design	2	0-4
GRDSGN 10201154	Design Project Management	3	0-6
GRDSGN 10201162	Portfolio Preparation	2	0-4
GRDSGN 10201184	Advanced Design & Layout	2	0-4
	Electives	6	
Recommended Electives			
GRDSGN 10201142	Introduction to Letterpress Printing	1	0-2
GRDSGN 10201144	Principles of Letterpress: Design and Printing	3	0-6
GRDSGN 10201145	Introduction to Screen Printing	2	0-4
GRDSGN 10201146	Advanced Screen Printing Workshop	2	0-4
GRDSGN 10201147	Advanced Letterpress Workshop	2	0-4
GRDSGN 10201148	Letterpress Independent Study	1	0-2
GRDSGN 10201156	Programming for Designers	3	0-6
GRDSGN 10201157	Social Media Concepting	3	0-6

GRDSGN 10201158	Interactive Design Lab	2	0-4
GRDSGN 10201163	UX Design	3	0-6
GRDSGN 10201164	Advanced Portfolio	1	0-2
GRDSGN 10201165	Design Studio	2	0-4
GRDSGN 10201169	Business of Graphic Design & Illustration	2	2-0
GRDSGN 10201178	Applied UI Design	3	0-6
GRDSGN 10201183	Electronic Illustration	2	0-4
GRDSGN 10201195	Advanced Web Page Design	3	0-6
GRDSGN 10201198	Social Media/Web Design Strategies	3	3-0
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0

Effective 2020-2021
Program Number: 504019

HVAC Apprentice (ABC)

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
HVAC 50401590	Trade HVAC Semester 1	2	3-1
Second Semester			
HVAC 50401591	Trade HVAC Semester 2	2	3-1
Third Semester			
HVAC 50401592	Trade HVAC Semester 3	2	3-1
Fourth Semester			
HVAC 50401593	Trade HVAC Semester 4	2	3-1
Fifth Semester			
HVAC 50401594	Trade HVAC Semester 5	2	3-1
Sixth Semester			
HVAC 50401595	Trade HVAC Semester 6	2	3-1
Seventh Semester			
HVAC 50401596	Trade HVAC Semester 7	2	3-1
Eighth Semester			
HVAC 50401597	Trade HVAC Semester 8	2	3-1

Effective 2020-2021
Program Number: 901608CERT

Healthcare Management

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
BUSADM 10102143	Management Techniques	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
In addition to being required for this certificate, the following 2 courses may also be used to fulfill Medical Admin Emphasis Track requirements for the Business Management Program:			
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4

Effective 2020-2021
Program Number: 301602

Healthcare Receptionist

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160179	Medical Language for the Business Professional 2	3	2-2

Effective 2020-2021
Program Number: 301091

Hospitality Assistant

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
HOSPT 10109101	Exploring Hospitality	3	3-0
BUSADM 10102114	Business Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0

Effective 2020-2021
Program Number: 901068CERT

Hospitality Certificate for the Business Professional

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
COURSES			
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
HOSPT 10109101	Exploring Hospitality	3	3-0
HOSPT 10109125	Hospitality Leadership	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 101092

Hospitality Management

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
BUSADM 10102114	Business Communication	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
HOSPT 10109101	Exploring Hospitality	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
Second Semester			
ACCTG 10101106	Accounting Fundamentals	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
HOSPT 10109136	Hospitality Law	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester (summer)			
HOSPT 10109157	Hospitality Internship	2	0-0
Fourth Semester			
MKTG 10104114	Social Media Principles	3	3-0
EVTMGT 10109119	Event Professional Best Practices	3	3-0
HOSPT 10109131	Rooms Division Operation	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fifth Semester			
HOSPT 10109125	Hospitality Leadership	3	3-0
HOSPT 10109134	Revenue Management	3	3-0
SMLBUS 10145185	Customer Service Management	3	3-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
SOC 10809197	Contemporary American Society	3	3-0

Effective 2020-2021
Program Number: 311094

Hospitality Specialist

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
BUSADM 10102114	Business Communication	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
HOSPT 10109101	Exploring Hospitality	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ACCTG 10101106	Accounting Fundamentals	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Principles	3	3-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0
HOSPT 10109131	Rooms Division Operation	3	3-0
HOSPT 10109136	Hospitality Law	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 101162

Human Resource Management

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
BUSADM 10102134	Introduction to Business	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
HRMGT 10116153	Meeting Facilitation	1	0.5-1
HRMGT 10116168	Employment Law	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Second Semester			
FINANCE 10114130	Personal Finance	3	3-0
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
HRMGT 10116149	Effective Staffing	3	3-0
HRMGT 10116152	Organizational Training and Development	3	3-0
SPEECH 10801198	Speech	3	3-0
MATH 10804144	Math of Finance	3	3-0
Third Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102143	Management Techniques	3	3-0
HRMGT 10116148	Labor Relations	3	3-0
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fourth Semester			
ACCTG 10101154	Payroll Accounting	1	0.5-1
BUSADM 10102132	Strategic Leadership	3	3-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
MKTG 10104102	Marketing Principles	3	3-0
HRMGT 10116169	Human Resources Capstone	1	1-0

Effective 2020-2021
Program Number: 901161CERT

Human Resources

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
Select a minimum of 12 credits from the following			
BUSADM 10102143	Management Techniques	3	3-0
ACCTG 10101154	Payroll Accounting	1	0.5-1
HRMGT 10116145	Introduction to Human Resources	3	3-0
HRMGT 10116147	Wage, Salary & Benefits Admin	3	3-0
HRMGT 10116148	Labor Relations	3	3-0
HRMGT 10116149	Effective Staffing	3	3-0
HRMGT 10116152	Organizational Training and Development	3	3-0
HRMGT 10116153	Meeting Facilitation	1	0.5-1
HRMGT 10116168	Employment Law	3	3-0
HRMGT 10116169	Human Resources Capstone	1	1-0

Effective 2020-2021
Program Number: 105203

Human Services Associate

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
HUMSVC 10520105	Introduction to Human Services	3	3-0
HUMSVC 10520106	Orientation to Human Services Populations	3	3-0
HUMSVC 10520117	Interviewing	3	3-0
HUMSVC 10520135	Issues in Alcohol and Other Drug Abuse	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
HUMSVC 10520116	Group Work Skills	3	3-0
HUMSVC 10520130	Social Change Skills	3	3-0
HUMSVC 10520141	Introduction to Community Mental Health	3	3-0
HUMSVC 10520142	Psychopharmacology	3	3-0
HUMSVC 10520136	Counseling Alcoholics and Other Drug Abusers	3	3-0
Third Semester			
HUMSVC 10520157	Human Services Counseling Skills	3	3-0
HUMSVC 10520188	Human Services Experience Conference 1	3	3-0
HUMSVC 10520190	Human Services Agency Internship 1	3	0-0
ENGLISH 10801197	Technical Reporting	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809172	Introduction to Diversity Studies	3	3-0
Fourth Semester			
HUMSVC 10520120	Community Service Agencies	3	3-0
HUMSVC 10520191	Human Services Agency Internship 2	3	0-0
HUMSVC 10520189	Human Services Experience Conference 2	3	3-0
SOC 10809197	Contemporary American Society	3	3-0

Effective 2020-2021
Program Number: 901561CERT

IT-Big Data Analytics

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ITDATA 10156128	Big Data Fundamentals	3	2-2
Second Semester			
ITDATA 10156129	Advanced Big Data Topics	3	2-2

Effective 2020-2021
Program Number: 901502CERT

IT-Cisco Certified Networking Associate (CCNA)

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITNET 10150122	Cisco Networking 2	3	2-2
ITNET 10150123	Cisco Networking 3	3	2-2

Madison Area Technical College

Effective 2020-2021
Program Number: 101571

IT-Cloud Support Associate

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITDATA 10156124	Introduction to Databases	3	2-2
ITTECSUP 10154184	Enterprise Client	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
ITPROG 10152109	Python Programming	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITCLOUD 10157123	Advanced Scripting for Cloud	3	2-2
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
ITCLOUD 10157141	AWS Administration	3	2-2
MATH 10804144	Math of Finance	3	3-0
	Recommended Elective or General Elective	3	
Fourth Semester			
ITCLOUD 10157130	Azure Administration	3	2-2
ITCLOUD 10157155	Cloud Automation/DevOps	3	2-2
ITCLOUD 10157196	Cloud Internship	3	0-0
SOC 10809197	Contemporary American Society	3	3-0
	Recommended Elective or General Elective	3	
List of Recommended Electives			
ITPROG 10152120	Website Development	3	2-2
ITTECSUP 10154172	Windows Server 2	3	2-2
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITTECSUP 10154118	Infrastructure Automation	3	2-2

Madison Area Technical College

Effective 2020-2021
Program Number: 101512

IT-Cybersecurity Specialist

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITTECSUP 10154184	Enterprise Client	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
ITNET 10150194	Firewall/VPN Technologies	3	2-2
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITPROG 10152109	Python Programming	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITSECUR 10151137	Intrusion Detection	3	2-2
ITSECUR 10151142	Web Application Security	3	2-2
ITSECUR 10151168	Security Design	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2
MATH 10804144	Math of Finance	3	3-0
Fourth Semester			
ITNET 10150190	Wireless Topics	3	2-2
ITSECUR 10151133	Computer Forensics	3	2-2
ITSECUR 10151164	Penetration Testing	3	2-2
ITSECUR 10151197	Cybersecurity Internship	3	0-0
SOC 10809197	Contemporary American Society	3	3-0

Effective 2020-2021
Program Number: 901514CERT

IT-Cybersecurity in an Industrial Control Environment (IoT)

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ITSECUR 10151127	Securing Industrial IoT	3	2-2
Second Semester			
ITSECUR 10151128	Advanced Securing Industrial IoT	3	2-2

Effective 2020-2021
Program Number: 311541

IT-Desktop Support Technician

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103136	Word Intermediate	1	0.27-1.5
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITTECSUP 10154184	Enterprise Client	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103139	Excel Intermediate	1	0.27-1.5
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2
ITTECSUP 10154122	IT Service Concepts	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0

Effective 2020-2021
Program Number: 1015210

IT-Front End Developer

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ITPROG 10152110	Cloud for Developers	3	2-2
ITPROG 10152121	Advanced CSS	3	2-2
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152168	Advanced Javascript	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITPROG 10152131	Agile Practices	3	2-2
ITPROG 10152158	JS Frameworks	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
MATH 10804144	Math of Finance	3	3-0
	Elective	3	
Fourth Semester			
ITPROG 10152108	Advanced Cloud for Developers	3	2-2
ITPROG 10152114	Front End Development Internship	3	0-0
ITPROG 10152182	Advanced Front End Development	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	
Recommended Electives			
ITPROG 10152103	C# Web Development Using ASP.NET	3	2-2
ITPROG 10152166	PHP Web Development with MySQL	3	2-2

Effective 2020-2021
Program Number: 901527CERT

IT-Java Professional Developer

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
ITPROG 10152111	Java Programming	3	2-2
ITPROG 10152112	Advanced Java Programming	3	2-2
ITPROG 10152113	Enterprise Java Programming	3	2-2

Effective 2020-2021
Program Number: 101528

IT-Mobile Applications Developer

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ITPROG 10152121	Advanced CSS	3	2-2
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152159	Kotlin Programming	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITPROG 10152103	C# Web Development Using ASP.NET	3	2-2
ITPROG 10152131	Agile Practices	3	2-2
ITPROG 10152189	Android Applications Development with Kotlin	3	2-2
MATH 10804144	Math of Finance	3	3-0
	Recommended Elective or General Elective	3	
Fourth Semester			
ITPROG 10152139	iOS Development	3	2-2
ITPROG 10152168	Advanced Javascript	3	2-2
ITPROG 10152174	IT Mobile Development Internship	3	0-0
SOC 10809197	Contemporary American Society	3	3-0
	Recommended Elective or General Elective	3	
List of Recommended Electives			
ITPROG 10152110	Cloud for Developers	3	2-2
ITPROG 10152166	PHP Web Development with MySQL	3	2-2

Effective 2020-2021
Program Number: 101502

IT-Network Specialist

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITTECSUP 10154184	Enterprise Client	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
ITPROG 10152109	Python Programming	3	2-2
ITNET 10150122	Cisco Networking 2	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
ITNET 10150194	Firewall/VPN Technologies	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITNET 10150123	Cisco Networking 3	3	2-2
ITNET 10150150	VoIP Convergence Fundamentals	3	2-2
ITNET 10150190	Wireless Topics	3	2-2
MATH 10804144	Math of Finance	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
Fourth Semester			
ITNET 10150151	Advanced Networking Topics	3	2-2
ITNET 10150163	Software Defined Networking	3	2-2
ITNET 10150195	Networking Internship	3	0-0
	Elective	3	
Recommended Electives			
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITTECSUP 10154172	Windows Server 2	3	2-2
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2

Effective 2020-2021
Program Number: 901528CERT

IT-PHP Professional Web Developer

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
ITPROG 10152166	PHP Web Development with MySQL	3	2-2
ITPROG 10152167	Advanced PHP and MySQL Web Development	3	2-2

Effective 2020-2021
Program Number: 611541PATH

IT-Service Center Technician

Career Pathway Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
ITTECSUP 10154184	Enterprise Client	3	2-2
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2

Effective 2020-2021
Program Number: 311528

IT-Software Quality Specialist

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITPROG 10152138	Software Quality Scripting	3	2-2
ITPROG 10152200	Software Quality Fundamentals	4	2-4
Second Semester			
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152201	Software Quality Automation	4	2-4
ITPROG 10152202	Software Quality Internship	3	0-0
ITDATA 10156124	Introduction to Databases	3	2-2
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 101547

IT-Systems Administration Specialist

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103136	Word Intermediate	1	0.27-1.5
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITNET 10150121	Intro to Cisco Networking	3	2-2
ITTECSUP 10154184	Enterprise Client	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103139	Excel Intermediate	1	0.27-1.5
ITPROG 10152109	Python Programming	3	2-2
ITTECSUP 10154104	A+ Hardware Essentials	3	2-2
ITTECSUP 10154122	IT Service Concepts	3	2-2
ITTECSUP 10154171	Windows Server 1	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITTECSUP 10154118	Infrastructure Automation	3	2-2
ITTECSUP 10154147	Supporting Emerging Technologies	3	2-2
ITTECSUP 10154190	Linux Server 1	3	2-2
ITCLOUD 10157101	Introduction to Cloud Computing	3	2-2
MATH 10804144	Math of Finance	3	3-0
Fourth Semester			
ITTECSUP 10154172	Windows Server 2	3	2-2
ITTECSUP 10154198	Systems Administration Internship	3	0-0
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
	Elective	3	
Recommended Electives			
Electives must be associate degree (10-level) or college transfer (20-level) courses.			
ITPROG 10152120	Website Development	3	2-2
ITSECUR 10151114	Linux Server 2 (Security)	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ITCLOUD 10157130	Azure Administration	3	2-2

ITCLOUD 10157141	AWS Administration	3	2-2

Effective 2020-2021
Program Number: 901573CERT

IT-VMware Certified Professional

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Course			
ITCLOUD 10157135	VMware Certified Professional (VCP)	3	2-2

Madison Area Technical College

Effective 2020-2021
Program Number: 101524

IT-Web Software Developer

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IT 10107111	Exploration of Information Technology	1	0.5-1
ITSECUR 10151102	IT Security Awareness	1	0.5-1
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
ITPROG 10152120	Website Development	3	2-2
ITDATA 10156124	Introduction to Databases	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
ITPROG 10152111	Java Programming	3	2-2
ITDATA 10156125	SQL Database Programming	3	2-2
ITPROG 10152130	UI/UX for Developers	3	2-2
ITPROG 10152166	PHP Web Development with MySQL	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Third Semester			
IT 10107175	Preparation for an IT Career	1	0.5-1
ITPROG 10152112	Advanced Java Programming	3	2-2
ITPROG 10152121	Advanced CSS	3	2-2
ITPROG 10152131	Agile Practices	3	2-2
MATH 10804144	Math of Finance	3	3-0
	Elective	3	
Fourth Semester			
ITPROG 10152113	Enterprise Java Programming	3	2-2
ITPROG 10152132	Web Software Developer Internship	3	0-0
ITPROG 10152168	Advanced Javascript	3	2-2
SOC 10809197	Contemporary American Society	3	3-0
	Elective	3	
Recommended Electives			
ITPROG 10152110	Cloud for Developers	3	2-2
ITPROG 10152103	C# Web Development Using ASP.NET	3	2-2
ITPROG 10152158	JS Frameworks	3	2-2
ITPROG 10152159	Kotlin Programming	3	2-2
ITPROG 10152167	Advanced PHP and MySQL Web Development	3	2-2

Effective 2020-2021
Program Number: 904623CERT

Industrial Automation - Post Baccalaureate

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester Courses			
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
EMTEC 10620101	Programmable Logic Controllers 1	3	0-6
EMTEC 10620106	Robotics for Industrial Automation 1	1	0-2
Second Semester Courses			
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
EMTEC 10620102	Programmable Logic Controllers 2	3	0-6
EMTEC 10620104	Interfacing Sensors with Computer Controls	3	0-6
EMTEC 10620108	Robotics for Industrial Automation 2	2	0-4

Effective 2020-2021
Program Number: 504131

Industrial Electrician Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ELEC 50413750	DC Electricity for Industrial Electricians	2	2-2
ELEC 50413751	AC Electricity for Industrial Electricians	2	2-2
Second Semester			
ELEC 50413752	Codes for Industrial Electricians 1: Introduction to the NEC	0	1-0
ELEC 50413753	Codes for Industrial Electricians 2: OCPD and Electrical Device Installations	0	1-0
ELEC 50413754	Codes for Industrial Electricians 3: Article 250 Part A	0	1-0
ELEC 50413755	Codes for Industrial Electricians 4: Article 250 Part B	0	1-0
ELEC 50413760	Industrial Electrician Transformers	1	1-1
ELEC 50413761	Industrial Electrician Motors & Generators	1	1-1
Third Semester			
ELEC 50413762	Industrial Electrician Motor Controls 1	1	1-1
ELEC 50413756	Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations	0	1-0
ELEC 50413773	Safety & Print Reading for Industrial Electricians	0	1-0
Fourth Semester			
ELEC 50413764	Industrial Electrician Motor Controls 3	1	2-0
Fifth Semester			
ELEC 50413765	Power Systems & Variable Speed Drives for Industrial Electricians	2	2-2
Sixth Semester			
ELEC 50413757	Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables	0	1-0
ELEC 50413766	Fluid Power Systems for Industrial Electricians - Pneumatics	0	0.77-0
ELEC 50413767	Fluid Power Systems for Industrial Electricians- Hydraulics	0	0.77-0
ELEC 50413772	Green Awareness for the E&I Trades	1	1.55-0
Seventh Semester			
ELEC 50413768	Industrial Electrician Solid State Electronics	2	2-2
Eighth Semester			
ELEC 50413769	Industrial Electrician Programmable Logic Controllers 1	1	1-1
ELEC 50413770	Industrial Electrician Programmable Logic Controllers 2	1	1-1
Ninth Semester			
ELEC 50413758	Codes for Industrial Electricians 7: Motors and Generators	0	1-0

ELEC 50413759	Codes for Industrial Electricians 8: Transformers	0	1-0
ELEC 50413771	Industrial Electrician Programmable Logic Controllers 3	1	1-1

Effective 2020-2021
Program Number: 904626CERT

Industrial Electro-Mechanical Essentials

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
IND MECH 10462331	DCAC 3 Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420330	Metal Processes 1	2	2-2
	10-442-126 Metal Repair Techniques may be taken in place of Metal Processes 1	2	
MACHT 32420349	Basic Metrology (Part A)	1	2-0
	32-420-351 Elements of Basic Metrology may be taken in place of Basic Metrology (Part A)	2	

Madison Area Technical College

Effective 2020-2021
Program Number: 314623

Industrial Mechanic - HVAC

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
HVAC 10601330	Refrigeration Fundamentals	2	0-4
HVAC 10601336	EPA 608 Training & Certification	1	0.5-1
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
One of the following math courses (or higher-level courses that can be found on your degree progress report):			
MATH 10804107	College Mathematics	3	2-2
MATH 10804113	College Technical Math 1A	3	3-0
Second Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
IND MECH 10462304	Industrial Fluid Distribution Systems	2	0-4
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462331	DCAC 3 Theory	1	0-2
HVAC 10601332	Heating and Air Conditioning Advanced	3	1-4
HVAC 10601340	Forced Air Heating Systems	2	0-4
HVAC 10601342	Hydronic and Steam Systems	3	1-4

Madison Area Technical College

Effective 2020-2021
Program Number: 314629

Industrial Mechanic-Advanced Manufacturing

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MATH 10804107	College Mathematics	3	2-2
Second Semester			
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462107	Mechanisms for Industry 2	1	0-2
IND MECH 10462331	DCAC 3 Theory	1	0-2
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462309	Maintenance Management	2	0-4
MECTEC 10606202	Computer-Assisted Design-2D	2	0.5-3
EMTEC 10620100	Introduction to PLCs	1	0-2
EMTEC 10620106	Robotics for Industrial Automation 1	1	0-2
EMTEC 10620112	Integration Introduction	2	0-4
ENGLISH 10801195	Written Communication	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 3146210

Industrial Mechanic-Facilities

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IND MECH 10462100	Safety for Industry	1	0-2
IND MECH 10462102	Introduction to Logic & Troubleshooting	1	0-2
IND MECH 10462304	Industrial Fluid Distribution Systems	2	0-4
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
HVAC 10601330	Refrigeration Fundamentals	2	0-4
HVAC 10601336	EPA 608 Training & Certification	1	0.5-1
MECTEC 10606201	Interpreting Engineering Drawings Part A	1	0-2
CONST 31410309	Plan Reading and Drawing	1	1-1
CONST 31410410	Fundamentals of Construction 1	2	1-2
Second Semester			
MTLFAB 10457100	Metal Repair Techniques	2	1-0
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462309	Maintenance Management	2	0-4
IND MECH 10462334	Facilities Maintenance	3	0-6
HVAC 10601332	Heating and Air Conditioning Advanced	3	1-4
HVAC 10601340	Forced Air Heating Systems	2	0-4
CONST 31410311	Commercial Construction	1	0-2
CONST 31410363	Building Science and Sustainability	1	2-0
CONST 31410411	Fundamentals of Construction 2	1	0-2

Effective 2020-2021
Program Number: 504201

Injection Mold Set-Up (Plastic) Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
PLASTIC 50463501	Industrial Math 1	1	1.5-0.5
PLASTIC 50463713	Schematics for Apprentices	1	1.61-0.38
Second Semester			
PLASTIC 50463714	Introduction to Injection Molding	2	2.77-1.22
Third Semester			
ELEC 50413701	Fundamentals of Electricity for Apprentices	1	1.61-0.38
PLASTIC 50463502	Industrial Math 2	1	1.5-0.5
Fourth Semester			
PLASTIC 50463715	Injection Mold Design	2	2.77-1.22
Fifth Semester			
HYDPNEU 50419501	Hydraulics for Apprentices	1	1.61-0.38
HYDPNEU 50419502	Pneumatics for Apprentices	1	1.61-0.38
Sixth Semester			
PLASTIC 50463716	Fundamentals of Plastics Processing	2	2.77-1.22
Seventh Semester			
PLASTIC 50463717	Plastic Processing Design & Troubleshooting	2	2.77-1.22
Eighth Semester			
AUTMFG 50664718	Automation for Apprentices	2	2.77-1.22

Effective 2020-2021
Program Number: 901069CERT

Insurance Certificate for the Business Professional

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
COURSES			
Courses			
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	1	2-0
ADMINPRF 10106164	Customer Contact Skills	2	2-0
BUSADM 10102134	Business Organization, Management, and Ethics	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
INSMGT 10162125	Intro to Property & Casualty Insurance - PreLicensing	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0

Effective 2020-2021
Program Number: 901401CERT

Interdisciplinary Global Studies

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
World Language Requirement (3-8 credits)			
SPANISH 10802102	Introductory Spanish Conversation 1	3	3-0
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2

Internationalized Courses Requirement (5-10 credits)
In combination with the language, study abroad, and capstone requirements, complete additional courses to bring the certificate to a total of 15 credits.
Choose from courses as listed in the following disciplines:

English Literature and Journalism
History
Music
Natural Science
Social and Behavioral Science
Speech/Drama
Art
Other Disciplines
Interdisciplinary Humanities

English Literature and Journalism			
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801223	Peace, Conflict, and Literature: The Arts of the Contact Zone	3	3-0
ENGLISH 20801224	Special Topics in International Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0

ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian/Soviet Literature in Translation	3	3-0
JOURNAL 20801252	World Issues Journalism	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
History			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803226	East Asian Civilization	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Music			
MUSIC 20805207	World Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Natural Science			
BIOLOGY 20806280	Environmental Issues	3	3-0
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
Social and Behavioral Science			
ECON 20809214	Intro International Econ	3	3-0
POLISCI 20809220	American Foreign Policy	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
ECON 20809228	Environmental Economics	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809244	Russian Politics	3	3-0
POLISCI 20809245	Latin American Politics	3	3-0
POLISCI 20809246	African Politics	3	3-0
POLISCI 20809247	East Asian Politics	3	3-0
POLISCI 20809248	Politics of India	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
PHILOS 20809263	East/West World View	3	3-0
809 20809278	Intro to Buddhism	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
Speech/Drama			
DRAMA 20810232	International Arts Intensive-Theatre	3	3-0
FILM 20810254	History Of World Cinema	3	2-2
Art			
ART 20815200	Art History: Ancient to Medieval	3	3-0

ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815228	Art History: Global Arts	3	3-0

Other Disciplines

BUSADM 10102154	International Business Procedures	3	3-0
MKTG 10104180	Global Marketing	3	3-0
FSHNMKTG 10104183	International Business in Fashion	2	0-4
PARALEG 10110171	Immigration Law	3	3-0
GLBL ED 10140107	Perspectives on Study Abroad	1	1-0
INSMGT 10162136	Current Issues in Risk Management and Insurance	1	1-0
INDSGN 10304129	History of Interior Design	3	3-0
CUL ARTS 10316112	Cuisines of the World	2	0-4
CUL ARTS 10316144	Global Studies Culinary - Italy	3	2-2
NRSAD 10543291	Community Cultural Health Care	3	1-0
LANG INT 31538303	Cultural Competency and the Medical Setting	2	4-0
LANG INT 31538304	Introduction to Interpreting in Spanish	2	4-0
LANG INT 31538305	Introduction to Basic Translation Skills in Spanish	2	4-0
LANG INT 31538308	Interpreting in Healthcare in Spanish	1	2-0
LANG INT 31538309	Interpreting in Medical and Mental Health Settings	1	2-0
LANG INT 31538313	Cultural Competency in a Medical Setting	1	2-0

Interdisciplinary Humanities

Students must meet the honors eligibility requirements to register for the following Honors courses. For more information, see the Honors Program page (https://madisoncollege.edu/honors).

HUMAN 20802802	Honors-Interdisciplinary Global Studies (2cr)	2	0-0
HUMAN 20802902	Honors-Interdisciplinary Global Studies (3cr)	3	0-0

Study Abroad Experience

Every student must complete one approved education abroad experience, whether it is a short term or long term program. Some study abroad programs may also provide credits towards the certificate. To see a list of study abroad programs offered through Madison College, contact the Center for International Education.

Global Studies Capstone Project Requirement

As part of enrollment in an approved study abroad experience, certificate students need to consult with the certificate advisor to prepare for the required Global Studies Capstone project.

HUMAN 20802280	Global Studies Capstone	2	2-0

An Honors version of the capstone course may be taken to satisfy the requirement. The requirement will be met with the 2-credit course. Additionally, the 3-credit course would also satisfy the requirement. Students must meet the honors eligibility requirements. For more information, see the Honors Program page (https://madisoncollege.edu/honors).

HUMAN 20802803	Honors-Global Studies Capstone (2cr)	2	0-0
HUMAN 20802903	Honors-Global Studies Capstone (3cr)	3	0-0

Madison Area Technical College

Effective 2020-2021
Program Number: 103041

Interior Design

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
INDSGN 10304102	Studio 1 - Visual Design	3	1.5-3
INDSGN 10304106	Construction and Drafting for Interior Design	3	1.5-3
INDSGN 10304107	Furniture and Textiles	3	3-0
INDSGN 10304129	History of Interior Design	3	3-0
INDSGN 10304177	Technology for Interior Design 1	2	1-2
MATH 10804123	Math with Business Applications	3	3-0
Second Semester			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
INDSGN 10304120	Tech for Interior Design 2	3	1-4
INDSGN 10304123	Studio 2 - Space Planning	3	1-4
INDSGN 10304127	Materials and Estimating	3	3-0
INDSGN 10304142	Professional Practice for Interior Design	3	3-0
Third Semester			
INDSGN 10304137	Studio 3 - Human-Centered Design	2	1-2
INDSGN 10304178	Commercial Office Design	2	1-2
INDSGN 10304179	Kitchen and Bath Design	3	1-4
INDSGN 10304180	Technology for Interior Design 3	2	1-2
INDSGN 10304125	Residential Design 1	3	1.5-3
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fourth Semester			
INDSGN 10304143	Residential Design 2	3	1.5-3
INDSGN 10304182	Interior Design Internship	3	1-0
INDSGN 10304147	Portfolio Development	2	1-2
INDSGN 10304181	Studio 4 - Advanced Interior Design	4	2-4
SOC 10809197	Contemporary Amer Society	3	3-0

Effective 2020-2021
Program Number: 905042CERT

Jail Officer

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
CRIMJUST 30504352	Basic Jail Officer Academy	5	6-0

Effective 2020-2021
Program Number: 908012CERT

Journalism

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
Electives			
Students must also complete at least a minimum 5 credits from the following electives			
PHOTO 10203173	Photojournalism	2	0-4
VICOM 10206147	Introduction to DSLR Video Production	2	0-4
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
ART 20815239	Digital Photography	3	0-6
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
GRDSGN 10201177	WebPage Design	3	0-6
JOURNAL 20801269	On-Air Performance	3	2-2
HUMAN 20801254	Media and Democracy	3	3-0

Effective 2020-2021
Program Number: 208001-A

Liberal Arts Transfer

An Associate in Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended). Three credits must be in public speaking.			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2
Humanities/Fine Arts (12 credits)			

Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.			
Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815228	Art History: Global Arts	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1 cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film Courses			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0

ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Languages Courses			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2

ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0

Mathematics and Natural Science (10 credits)

Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.

Mathematics Courses			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804223	Calculus Methods for Business and Social Sciences II	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
Biological Science Lab Courses			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2

BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
Biological Science Courses without Lab			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
Physical Science Lab Courses			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806200	Chemistry for Non-Science Majors	5	3-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
Physical Science Courses without Lab			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0

Social Science (12 credits)
Completion of courses from at least three disciplines is required. Choose courses from the following disciplines: anthropology, economics, history, political science, psychology, sociology, and interdisciplinary social science.
Anthropology Courses

ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
Economics Courses			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
History Courses			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Political Science Courses			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
Psychology Courses			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
Sociology Courses			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0

SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
Interdisciplinary Social Science Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0

Electives (16 credits)

Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only).

Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).

BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0

Ethnic Studies (One course)

Course may also count toward Humanities/Fine Arts, Social Science, or Electives.

ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0

Literature (One course)
The course may also count toward fulfilling the Humanities and Fine Arts or Electives requirements.
See Literature Courses under the Humanities and Fine Arts Requirement above.

World Languages (One course)
May be met with one year in high school with a grade of "C" or better OR one semester in college.
College course may also count toward Humanities/Fine Arts or Electives.
If requirement was satisfied with high school courses, email: enrollmentservices@madisoncollege.edu.
See World Languages Courses under the Humanities and Fine Arts Requirement above.

Effective 2020-2021
Program Number: 208001-EB

Liberal Arts Transfer

An Associate in Arts Degree

Curriculum

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		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended).			
Three credits must be in public speaking.			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

Humanities/Fine Arts (12 credits)

Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film Courses			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0

ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Language Courses			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2

ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0

Mathematics and Natural Science (10 credits)

Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.

Recommended Mathematics Courses			
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
Additional Mathematics Courses			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804223	Calculus Methods for Business and Social Sciences II	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
Biological Science Lab Courses			

BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
Biological Science Courses without Lab			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
Physical Science Lab Courses			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806200	Chemistry for Non-Science Majors	5	3-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
Physical Science Courses without Lab			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
Social Science (12 credits)			
Required Social Science Courses			
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0

PSYCH 20809231	Intro Psychology	3	3-0
Completion of one course from one additional discipline is required. Choose courses from the following disciplines: anthropology, history, political science, sociology, and interdisciplinary social science. Remaining credits to fulfill the requirement can be selected from any Social Science courses offered within the AA degree, including economics and psychology.			
Anthropology Courses			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
History Courses			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Political Science Courses			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
Sociology Courses			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809251	Sociology of the Middle East and North Africa	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0

Interdisciplinary Social Science Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0

Electives (16 credits)

Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honors Project credits may also be applied (20-code courses only).

Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).

BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	1	2-2
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
ECON 20809214	Intro International Econ	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
ECON 20809228	Environmental Economics	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0

COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0

Ethnic Studies (One course)
Course may also count toward Humanities/Fine Arts, Social Science, or Electives.

ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0

Literature (One Course)
Course may also count toward Humanities/Fine Arts or Electives
See Literature Courses under the Humanities and Fine Arts Requirement above.

World Languages (One course)
May be met with one year in high school with a grade of "C" or better OR one semester in college.
College courses may also count toward Humanities/Fine Arts or Electives.
If requirement was satisfied with high school courses, email: enrollmentservices@madisoncollege.edu.
See World Language Courses under the Humanities and Fine Arts Requirement above.

Effective 2020-2021
Program Number: 208001-ED

Liberal Arts Transfer

An Associate in Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended).			
Three credits must be in public speaking.			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

Humanities/Fine Arts (12 credits)

Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film Courses			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0

ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Languages Courses			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2

CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0

Mathematics and Natural Science (10 credits)

Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.

Mathematics Courses			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804223	Calculus Methods for Business and Social Sciences II	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
Biological Science Lab Courses			

BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
Biological Courses without Lab			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
Physical Science Lab Courses			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806200	Chemistry for Non-Science Majors	5	3-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
Physical Science Courses without Lab			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
Social Science (12 credits)			
Required Psychology Course			
PSYCH 20809231	Intro Psychology	3	3-0
Completion of courses from at least two additional disciplines is required. Choose courses from the			

following disciplines: anthropology, economics, history, political science, sociology, and interdisciplinary social science. Remaining credits to fulfill the requirement can be selected from any social science courses offered within the AA degree, including psychology.			
Anthropology Courses			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
Economics Courses			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
History Courses			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Political Science Courses			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
Psychology Courses			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
Sociology Courses			
SOC 10809172	Introduction to Diversity Studies	3	3-0

SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809295	Victimology	3	3-0
Interdisciplinary Social Science Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
Electives (16 credits)			
Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only)			
Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).			
BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	1	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
COLLSUCC 20890200	College Success	3	3-0

COLLSUCC 20890202	Career Development	1	1-0

Ethnic Studies (One course)
Course may also count toward Humanities/Fine Arts, Social Science, or Electives.

ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0

Literature (One Course)
Course may also count toward Humanities/Fine Arts or Electives
See Literature Courses under the Humanities and Fine Arts Requirement above.

World Languages (One course)
May be met with one year in high school with a grade of "C" or better OR one semester in college.
College courses may also count toward Humanities/Fine Arts or Electives.
If requirement was satisfied with high school courses, email: enrollmentservices@madisoncollege.edu.
See World Languages Courses under the Humanities and Fine Arts Requirement above.

Effective 2020-2021
Program Number: 208001-SS

Liberal Arts Transfer

An Associate in Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended).			
Three credits must be in public speaking.			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

Humanities/Fine Arts (12 credits)

Select one literature course. Completion of courses from two additional disciplines is required. Choose courses from the following disciplines: art, drama, film, music, philosophy, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AA degree, including literature.

Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1 cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film Courses			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0

ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Language Courses			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2

CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0

Mathematics and Natural Science (10 credits)

Select one mathematics course at the level of Intermediate Algebra or higher. Select one biological science course and one physical science course; one of the courses must include a laboratory. If lab is a stand-alone course, the associated lecture component is also required.

Mathematics Courses			
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804223	Calculus Methods for Business and Social Sciences II	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
Biological Science Lab Courses			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2

BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
Biological Science Courses - without Lab			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
Physical Science Lab Courses			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806200	Chemistry for Non-Science Majors	5	3-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
Physical Science Courses - without Lab			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
JOURNAL 20801274	Journalism Practicum 4	2	0-4

Statistics (Recommendation)
Completion of one course is recommended. Basic Statistics may count towards the math/science requirement. Statistics for Social Sciences may count towards the social science requirement. (Either course may count towards electives.)

MATH 20804240	Basic Statistics	4	3-2
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
Social Science (12 credits)			
Required Options: Completion of two of these courses is required.			
POLISCI 10809122	Intro to Amer Government	3	3-0
SOC 20809203	Intro Sociology	3	3-0
ECON 20809211	Macro Economics	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
Completion of courses from at least one additional disciplines is required. Choose courses from the following disciplines: anthropology, economics, history, political science, psychology, sociology, and interdisciplinary social science. Remaining credits to fulfill the requirement can be selected from any social science courses offered within the AA degree..			
Anthropology Courses			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
Economics Courses			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
History Courses			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Political Science Courses			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
Psychology Courses			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0

PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
Sociology Courses			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
Interdisciplinary Social Science Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0

Electives (16 credits)

Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only)

Consult with your advisor to determine which courses are best for your intended transfer institution and program.

BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662252	Introduction to Computer Engineering	3	1-4
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4

MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806295	Introduction to Engineering	3	1-4
GENENG 20806294	Engineering Seminar	1	0.5-1
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0

Ethnic Studies (One course)

Course may also count toward Humanities/Fine Arts, Social Science, or Electives.

SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0

Literature (One Course)

Course may also count toward Humanities/Fine Arts or Electives
See Literature Courses under the Humanities and Fine Arts Requirement above.

World Languages (One course)

May be met with one year in high school with a grade of "C" or better OR one semester in college.
College courses may also count toward Humanities/Fine Arts or Electives.
Email enrollmentservices@madisoncollege.edu if requirement was satisfied with high school course work.
See World Language Courses under the Humanities and Fine Arts Requirement above.

Effective 2020-2021
Program Number: 208002-E

Liberal Arts Transfer

An Associate in Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended). Three credits must be in public speaking.			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2
Mathematics and Natural Science (25 credits)			

Required Mathematics and Chemistry Courses			
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
Choose one of the following options to satisfy the Physical Science requirement.			
Physical Science Option 1:			
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
Physical Science Option 2:			
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0

Humanities/Fine Arts (6 credits)

Select one literature course. Completion of one course from one additional discipline is required. Choose from the following disciplines: art, drama, film, music, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AS degree, including literature.

Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6

ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film Courses			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Languages Courses			
SPANISH 20802211	Spanish 1	4	3-2

SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2
CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1 (1cr)	1	0-2
JOURNAL 20801272	Journalism Practicum 1 (2cr)	2	0-2
JOURNAL 20801273	Journalism Practicum 2 (1cr)	1	0-4
JOURNAL 20801274	Journalism Practicum 2 (2cr)	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0
Social Science (6 credits)			
Choose Option #1 or Option #2 to satisfy the requirement.			
Social Science Option #1			
Required Economics Courses			
ECON 20809212	Micro Economics	3	3-0
ECON 20809228	Environmental Economics	3	3-0
Social Science Option #2			
Completion of courses from at least two disciplines is required. Choose courses from the following disciplines: anthropology, economics, history, political science, psychology, sociology, and interdisciplinary social science.			
Anthropology Courses			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0

ANTHRO 20809289	World Regional Geography	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
Economics Courses			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ECON 20809228	Environmental Economics	3	3-0
History Courses			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Political Science Courses			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
Psychology Courses			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psych	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
Sociology Courses			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0

SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
Interdisciplinary Social Science Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0

Ethnic Studies (One course)

Course may also count toward Humanities/Fine Arts, Social Science, or Electives

SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0

Literature (One Course)

Course may also count toward Humanities/Fine Arts or Electives
See Literature Courses under the Humanities and Fine Arts Requirement above.

World Languages (One course)

May be met with one year of high school with a grade of "C" or better OR one semester in college.
College course may also count toward Humanities/Fine Arts or Electives.
See World Languages Courses under the Humanities and Fine Arts Requirement above.
If requirement was satisfied with high school courses, email: enrollmentservices@madisoncollege.edu.

Engineering Related Electives (13 credits)

Consult with your advisor to determine which courses are best for your intended transfer program.

GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804233	Calculus 3	5	5-0
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0

GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
SOCSCI 20809269	Energy And Society	3	3-0

Effective 2020-2021
Program Number: 208002-HE

Liberal Arts Transfer

An Associate in Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended).			
Three credits must be in public-speaking			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

Humanities/Fine Arts (6 credits)

Select one literature course. Completion of one course from one additional discipline is required. Choose from the following disciplines: art, drama, film, music, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AS degree, including literature.

Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815210	Art History: Renaissance to Modern	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film Courses			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0

ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Languages Courses			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2

CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0

Mathematics and Natural Science (20 credits)

Basic Statistics is required. Select one additional mathematics course at the level of College Algebra or higher. Select one biological science option and one physical science lab course. Remaining credits to fulfill the requirement can be selected from any mathematics or natural science courses offered within the AS degree.

Required Statistics course			
MATH 20804240	Basic Statistics	4	3-2
Select at least one of the following Mathematics courses.			
Mathematics Courses			
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804223	Calculus Methods for Business and Social Sciences II	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2

Complete both courses from one of the following Biological Science options. Consult with your advisor to determine which set of courses are best for your intended transfer program (major and transfer institution).

Option 1 (recommended for pre-med or PA path)			
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
Option 2 (recommended for pre-med alternate path)			
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806215	Botany	5	3-4
Option 3 (recommended for nursing path)			
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
Select at least one of the following Physical Science courses.			
Physical Science Courses			
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
To meet 20 credit mathematics and natural science requirement, complete courses from the following list.			
BUSADM 10102104	Business Statistics	3	3-0
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2
MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
CHEM 20806200	Chemistry for Non-Science Majors	5	3-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
BIOLOGY 20806215	Botany	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806220	Physics of Everyday Life	3	3-0
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
GENENG 20806234	Mechanics of Materials	4	3-2
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4

EARTHSCI 20806252	Natural Hazards	3	3-0
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
BIOLOGY 20806286	Environmental Science	4	2-4
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2

Social Science (6 credits)

Required Psychology Course

PSYCH 20809231	Intro Psychology	3	3-0

Required Sociology Course

SOC 20809203	Intro Sociology	3	3-0

Electives (18 credits)

Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only).

Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).

BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
POLISCI 10809122	Intro to Amer Government	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
ECON 10809195	Economics	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
BIOLOGY 20806219	Biology for Innovators	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0

HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOC 20809207	Criminology	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
POLISCI 20809227	Political Theory	3	3-0
ECON 20809228	Environmental Economics	3	3-0
SOC 20809229	Social Movements	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809237	Abnormal Psychology	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0

SOC 20809291	Technology and Society	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
SOC 20809295	Victimology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0

Ethnic Studies (One course)
Course may also count toward Humanities/Fine Arts, Social Science, or Electives

ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0

World Languages (One course)
May be met with one year in high school with a grade of "C" or better OR one semester in college.
College courses may also count toward Humanities/Fine Arts or Electives.
If requirement was satisfied with high school courses, email: enrollmentservices@madisoncollege.edu.
See World Languages Courses under the Humanities and Fine Arts Requirement above.

Literature (One Course)
This course may also count toward fulfilling the Humanities and Fine Arts or Electives requirements.
See Literature Courses under the Humanities and Fine Arts Requirement above.

Effective 2020-2021
Program Number: 208002-S

Liberal Arts Transfer

An Associate in Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
60 credits minimum to complete the program by satisfying the all requirements as defined.			
English and Speech (9 credits)			
Six credits must be in composition - English 1 and one other composition course (English 2 recommended).			
Three credits must be in public speaking.			
Composition Courses			
ENGLISH 20801201	English 1	3	3-0
ENGLISH 20801202	English 2	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
Public Speaking Courses			
SPEECH 10801198	Speech	3	3-0
JOURNAL 20801269	On-Air Performance	3	2-2
SPEECH 20810202	Theory & Practice of Argumentation and Debate	3	3-0
SPEECH 20810211	Oral Interpretation	3	3-0
Health/Wellness/Physical Education (1 credit)			
Completion of one of the listed courses is required.			
Physical Education Courses			
PHYED 20807210	Conditioning/Weight Training	1	0-2
PHYED 20807213	Co-Ed Flag Football	1	0-2
PHYED 20807214	Pickleball	1	0-2
PHYED 20807215	Walking & Running for Fitness	1	0-2
PHYED 20807219	Introduction to Kinesiology	2	2-0
PHYED 20807223	Beginning Volleyball	1	0-2
PHYED 20807229	Swimming for Fitness	1	0-2
PHYED 20807230	Beginning Swimming	1	0-2
PHYED 20807245	Social Dance	1	0-2
PHYED 20807247	Jazz 1	1	0-2
PHYED 20807248	Ballet	1	0-2
PHYED 20807250	Badminton	1	0-2
PHYED 20807254	Beginning Yoga	1	0-2
PHYED 20807255	Prev/Care Athletic Injuries	2	1-2
PHYED 20807258	First Aid and CPR	2	2-0
PHYED 20807264	Intermediate Yoga	1	0-2
PHYED 20807266	Wellness Today	2	1-2
PHYED 20807267	Health & Fitness for Life	1	0-2
PHYED 20807268	Blueprint for Healthy Living	2	2-0
PHYED 20807269	Stress Management Foundations	1	0-2
PHYED 20807271	Bicycle Conditioning	1	0-2

Humanities/Fine Arts (6 credits)

Select on literature course. Completion of one course from one additional discipline is required. Choose from the following disciplines: art, drama, film, music, world languages, writing and communication, and interdisciplinary humanities. Remaining credits to fulfill the requirement can be selected from any Humanities and Fine Arts courses offered within the AS degree, including literature.

Art Courses			
ART 20815200	Art History: Ancient to Medieval	3	3-0
ART 20815201	Basic Design	3	0-6
ART 20815205	Drawing Fundamentals	3	0-6
ART 20815211	Art History: Women In Art	3	3-0
ART 20815211	Art History: Women In Art	3	3-0
ART 20815215	Drawing 2	3	0-6
ART 20815219	Life Drawing 1	3	0-6
ART 20815220	Life Drawing 2	3	0-6
ART 20815221	Life Drawing 3	3	0-6
ART 20815228	Art History: Global Arts	3	3-0
ART 20815232	Digital Design Fundamentals	3	0-6
ART 20815235	Creative Photography	3	0-6
ART 20815236	Advanced Creative Photography	3	0-6
ART 20815239	Digital Photography	3	0-6
ART 20815241	Painting 1	3	0-6
ART 20815242	Painting 2	3	0-6
ART 20815253	Jewelry 1	3	0-6
ART 20815254	Jewelry 2	3	0-6
ART 20815290	Ceramics 1	3	0-6
ART 20815291	Ceramics 2	3	0-6
ART 20815293	Ceramics Independent Study	3	0-6
ART 20815294	Ceramics Sculpture 1	3	0-6
ART 20815295	Ceramics Sculpture 2	3	0-6
ART 20815296	Ceramics Firing Techniques/Alternative Methods	3	0-6
Drama Courses			
DRAMA 20810230	Intro To Theatre	3	3-0
DRAMA 20810235	Stagecraft 1	3	3-0
DRAMA 20810236	Stagecraft 2	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
DRAMA 20810260	Drama Practicum (1cr)	1	0-2
DRAMA 20810261	Drama Practicum (2cr)	2	0-4
DRAMA 20810262	Acting 1	3	3-0
DRAMA 20810263	Acting 2	3	3-0
DRAMA 20810270	Movement Theory & Training for Actors	1	0-2
Film			
FILM 20810250	Introduction to Film	3	2-2
FILM 20810254	History Of World Cinema	3	2-2
Literature Courses			
ENGLISH 20801204	Introduction to Literature	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801211	Gay & Lesbian Literature	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801215	British Literature 1	3	3-0
ENGLISH 20801216	British Literature 2	3	3-0
ENGLISH 20801217	American Literature 1	3	3-0
ENGLISH 20801218	American Literature 2	3	3-0
ENGLISH 20801219	Western World Lit: Classical Antiquity to the Middle Ages	3	3-0
ENGLISH 20801220	Western World Lit: Early Renaissance to Present	3	3-0
ENGLISH 20801221	Literature and Popular Culture	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0

ENGLISH 20801227	Children's Literature	3	3-0
ENGLISH 20801229	Contemporary Lit	3	3-0
ENGLISH 20801230	Classical Mythology	3	3-0
ENGLISH 20801231	19th c. Russian Literature in Translation	3	3-0
ENGLISH 20801232	20th c. Russian Literature in Translation	3	3-0
ENGLISH 20801250	Women In Literature	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
Music Courses			
MUSIC 20805202	Choir 1	1	0-2
MUSIC 20805203	Choir 2	1	0-2
MUSIC 20805205	Class Voice	1	0-2
MUSIC 20805207	World Music	3	3-0
MUSIC 20805209	Swing Choir	2	2-0
MUSIC 20805211	Orchestra 1	1	0-2
MUSIC 20805212	Orchestra 2	1	0-2
MUSIC 20805216	Concert Band 1	1	0-2
MUSIC 20805217	Concert Band 2	1	0-2
MUSIC 20805219	Jazz Ensemble 1	1	0-2
MUSIC 20805220	Jazz Ensemble 2	1	0-2
MUSIC 20805221	Class Piano 1	1	0-2
MUSIC 20805222	Class Piano 2	1	0-2
MUSIC 20805227	Music Appreciation	3	3-0
MUSIC 20805260	Music Theory Fundamentals	3	3-0
MUSIC 20805261	Music Theory 1	3	3-0
MUSIC 20805262	Music Theory 2	3	3-0
MUSIC 20805263	Jazz History	3	3-0
MUSIC 20805267	Aural Skills 1	1	0-2
MUSIC 20805268	Aural Skills 2	1	0-2
MUSIC 20805270	Chorale 1	1	0-2
MUSIC 20805271	Chorale 2	1	0-2
MUSIC 20805278	Hist Pop/Rock Music	3	3-0
MUSIC 20805279	World Drumming Ensemble 1	1	0-2
MUSIC 20805280	World Drumming Ensemble 2	1	0-2
MUSIC 20805281	World Drumming Ensemble 3	1	0-2
MUSIC 20805282	World Drumming Ensemble 4	1	0-2
Philosophy Courses			
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PHILOS 20809258	Philosophy Through Film	3	3-0
PHILOS 20809259	Classics in Philosophy	3	3-0
PHILOS 20809260	Intro Philosophy	3	3-0
PHILOS 20809261	Elementary Logic	4	4-0
PHILOS 20809262	Contemporary Moral Issues	3	3-0
PHILOS 20809263	East/West World View	3	3-0
PHILOS 20809264	Introduction to Logic and Critical Thinking	3	3-0
PHILOS 20809266	Ethics In Medicine	3	3-0
PHILOS 20809268	Intro to Social and Political Philosophy	3	3-0
PHILOS 20809276	Business Ethics	3	3-0
World Languages Courses			
SPANISH 20802211	Spanish 1	4	3-2
SPANISH 20802212	Spanish 2	4	3-2
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
FRENCH 20802221	French 1	4	3-2
FRENCH 20802222	French 2	4	3-2
FRENCH 20802223	French 3	4	3-2
FRENCH 20802224	French 4	4	3-2
FRENCH 20802226	French 5	3	3-0
CHINESE 20802230	Intro to Mandarin Chinese 1	3	2-2

CHINESE 20802231	Intro to Mandarin Chinese 2	3	2-2
ARABIC 20802240	Intro to Modern Arabic 1	3	2-2
ARABIC 20802241	Intro to Modern Arabic 2	3	2-2
Writing and Communication Courses			
ENGLISH 10801195	Written Communication	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
ENGLISH 10801197	Technical Reporting	3	3-0
ENGLISH 20801240	Creative Writing	3	3-0
ENGLISH 20801241	Creative Writing/Fiction	3	3-0
ENGLISH 20801242	Creative Writing/Drama	3	3-0
ENGLISH 20801243	Creative Writing/Poetry	3	3-0
ENGLISH 20801244	Creative Writing/Non Fiction	3	3-0
JOURNAL 20801245	Introduction to Journalism	3	3-0
JOURNAL 20801246	Investigative Journalism	3	3-0
ENGLISH 20801249	Film Writing	3	3-0
JOURNAL 20801251	Introduction to Mass Communication	4	4-0
JOURNAL 20801252	World Issues Journalism	3	3-0
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2
JOURNAL 20801272	Journalism Practicum 2	1	0-2
JOURNAL 20801273	Journalism Practicum 3	2	0-4
JOURNAL 20801274	Journalism Practicum 4	2	0-4
COMM 20810205	Small Group & Interpersonal Communications	3	3-0
Interdisciplinary Humanities Courses			
HUMAN 20801254	Media and Democracy	3	3-0
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
HUMAN 20802280	Global Studies Capstone	2	2-0
LDRSHP 20810267	Leadership As An Art	3	3-0

Mathematics and Natural Science (20 credits)

Select one mathematics course at the level of College Algebra or higher. Select one biological science course and one physical science course. Both courses must include a laboratory. Remaining credits to fulfill the requirement can be selected from any mathematics or natural science courses offered within the AS degree.

Mathematics Courses			
MATH 20804210	Math for Elementary Teachers	3	3-0
MATH 20804211	Quantitative Reasoning	3	2-2
MATH 20804212	College Algebra	3	2-2
MATH 20804213	Trigonometry	3	2-2
MATH 20804214	Math for Elementary Teachers 2	3	3-0
MATH 20804220	Finite Math	3	2-2
MATH 20804221	Calculus Methods for Business and Social Sciences I	5	5-0
MATH 20804223	Calculus Methods for Business and Social Sciences II	3	2-2
MATH 20804228	Calculus w Algebra & Trigonometry 1	5	5-0
MATH 20804229	Math Analysis	5	5-0
MATH 20804230	Calculus w Algebra & Trigonometry II	5	5-0
MATH 20804231	Calculus and Analytic Geometry 1	5	5-0
MATH 20804232	Calculus and Analytic Geometry 2	5	5-0
MATH 20804233	Calculus 3	5	5-0
MATH 20804240	Basic Statistics	4	3-2
MATH 20804241	Introduction to Engineering Statistics	3	1-4
MATH 20804255	Techniques in Ordinary Differential Equations	3	1-4
MATH 20804256	Elementary Matrix and Linear Algebra	3	1-4
MATH 20804265	Introduction to Discrete Mathematics	3	2-2
Biological Science Lab Courses			
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
BIOLOGY 20806203	Introductory Zoology	5	4-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2

BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
BIOLOGY 20806215	Botany	5	3-4
BIOLOGY 20806226	Introduction To Human Biology	5	4-2
BIOLOGY 20806271	Cellular and Molecular Biology	5	3-4
BIOLOGY 20806272	Organismal Biology	5	3-4
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806276	Principles of Genetics	4	3-2
BIOLOGY 20806286	Environmental Science	4	2-4
Biological Science Courses without Lab			
BIOLOGY 20806204	Biological Greek and Latin Terminology	3	3-0
BIOLOGY 20806261	Human Nutrition	3	3-0
BIOLOGY 20806280	Environmental Issues	3	3-0
BIOLOGY 20806281	Ecology/Conservation Biology	3	3-0
Physical Science Lab Courses			
CHEM 10806134	General Chemistry	4	3-2
PHYSICS 10806139	Survey of Physics	3	1-4
CHEM 20806200	Chemistry for Non-Science Majors	5	3-4
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
CHEM 20806209	College Chemistry 1	5	3-4
CHEM 20806212	College Chemistry 2	5	3-4
CHEM 20806216	Chemistry for Biotechnology	3	2-2
PHYSICS 20806221	University Physics 1	5	3-4
PHYSICS 20806222	University Physics 2	5	3-4
PHYSICS 20806223	University Physics 1-Calculus-Based	5	2-6
PHYSICS 20806224	University Physics 2-Calculus Based	5	2-6
GENENG 20806234	Mechanics of Materials	4	3-2
EARTHSCI 20806244	General Geology	4	3-2
EARTHSCI 20806247	Earth Science Lab	1	0-2
EARTHSCI 20806248	Weather and Climate Laboratory	1	0-2
EARTHSCI 20806249	Geologic Evolution of the Earth	4	3-2
EARTHSCI 20806251	Undergraduate Geology Field Experience	2	0-4
ASTRON 20806253	Astronomy: The Solar System	4	3-2
ASTRON 20806254	Astronomy: Stars & Galaxies	4	3-2
CHEM 20806266	Organic Chemistry 1 Lab	2	0-4
CHEM 20806267	Organic Chemistry 2 Lab	2	0-4
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
Physical Science Courses without Lab			
PHYSICS 20806220	Physics of Everyday Life	3	3-0
GENENG 20806232	Statics	3	2-2
GENENG 20806233	Dynamics	3	3-0
PHYSICS 20806235	Modern Physics	3	3-0
EARTHSCI 20806241	Earth Science	3	3-0
EARTHSCI 20806245	Weather And Climate	3	3-0
EARTHSCI 20806246	Survey of Oceanography	3	3-0
EARTHSCI 20806250	Climate and Climate Change	3	3-0
EARTHSCI 20806252	Natural Hazards	3	3-0
CHEM 20806256	Organic Chemistry 1 Lecture	4	4-0
CHEM 20806257	Organic Chemistry 2 Lecture	4	4-0
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806291	Introduction to Renewable Energy	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology	3	3-0
Additional courses available to meet 20 credit mathematics and natural science requirement.			
BUSADM 10102104	Business Statistics	3	3-0
MATH 10804114	College Technical Math 1B	2	2-0
MATH 10804115	College Technical Math 1	5	5-0
MATH 10804116	College Technical Math 2	4	4-0
MATH 20804200	Principles Of Geometry	3	1-4
MATH 20804201	Intermediate Algebra	4	3-2
MATH 20804202	Intermediate Algebra Part 1	3	2-2
MATH 20804203	Intermediate Algebra Part 2	3	2-2

MATH 20804215	Computer Science 1	3	2-2
MATH 20804216	Computer Science 2	3	2-2
MATH 20804217	Introduction to Programming in Python	3	3-0
BIOLOGY 20806262	Anatomy and Physiology for Exercise Lab	1	0-2
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
Social Science (6 credits)			
Completion of courses from at least two disciplines is required. Choose courses from the following disciplines: anthropology, economics, history, political science, psychology, sociology, and interdisciplinary social science.			
Anthropology Courses			
ANTHRO 20809279	Introduction to the Archaeology of Native North America	3	3-0
ANTHRO 20809280	General Anthropology	3	3-0
ANTHRO 20809281	Archaeology & Prehistoric World	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ANTHRO 20809287	Anthropology of Islamic Societies and Cultures	3	3-0
ANTHRO 20809288	Human Biology & Physical Anthropology	3	3-0
ANTHRO 20809289	World Regional Geography	3	3-0
ANTHRO 20809292	Agriculture, Food, and Society	3	3-0
Economics Courses			
ECON 10809195	Economics	3	3-0
ECON 20809211	Macro Economics	3	3-0
ECON 20809212	Micro Economics	3	3-0
ECON 20809214	Intro International Econ	3	3-0
PSYCH 20809225	Social Psychology	3	3-0
ECON 20809228	Environmental Economics	3	3-0
History Courses			
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803211	Am Hist 1607-1865	3	3-0
HISTORY 20803212	Am Hist 1865-Pres.	3	3-0
ECON 20809214	Intro International Econ	3	3-0
HISTORY 20803220	History Of West Civilization 1	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803229	Vietnam/American-1945-Present	3	3-0
HISTORY 20803230	Public Man, Private Woman: Bronze Age to Glass Ceiling	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
HISTORY 20803241	Introduction to Judaism	3	3-0
HISTORY 20803242	History Nazi Germany-1933-1945	3	3-0
Political Science Courses			
POLISCI 10809122	Intro to Amer Government	3	3-0
POLISCI 20809218	Law and Society	3	3-0
POLISCI 20809221	American Ntl Govt	3	3-0
POLISCI 20809222	State and Local Government	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809227	Political Theory	3	3-0
PSYCH 20809237	Abnormal Psychology	3	3-0
POLISCI 20809242	Public Policy	3	3-0
POLISCI 20809243	Comparative Politics	3	3-0
POLISCI 20809245	Gender and Politics	3	3-0
Psychology Courses			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
PSYCH 20809201	Human Sexuality	3	3-0
PSYCH 20809210	Psychology of Men	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0

PSYCH 20809233	Developmental Psychology	3	3-0
PSYCH 20809234	Psychology of Women	3	3-0
PSYCH 20809239	Child Human Development	3	3-0
PSYCH 20809249	Educational Psychology	3	3-0
PSYCH 20809296	Cognitive Psychology	3	3-0
PSYCH 20809297	Sport and Performance Psychology	3	3-0
Sociology Courses			
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
SOC 20809202	Social Problems	3	3-0
SOC 20809203	Intro Sociology	3	3-0
SOC 20809204	Marriage and the Family	3	3-0
SOC 20809207	Criminology	3	3-0
SOC 20809229	Social Movements	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOC 20809253	Sociology of Gender	3	3-0
SOC 20809255	Introduction to LGBTQ+ Studies	3	3-0
SOC 20809275	Sociology of Religion	3	3-0
SOC 20809277	Couple Relationships	1	1-0
SOC 20809291	Technology and Society	3	3-0
SOC 20809293	Field Experience in Latin America	1	1-0
SOC 20809295	Victimology	3	3-0
Interdisciplinary Social Science Courses			
SOCSCI 20809206	Introduction to Women's Studies	3	3-0
SOCSCI 20809215	Education in a Pluralistic Society	3	3-0
EDFOUND 20809216	Introduction to Education and Teaching	3	3-0
POLISCI 20809216	Introduction to Education and Teaching	3	3-0
SOCSCI 20809230	Statistics for the Social Sciences	4	4-0
SOCSCI 20809254	Research Methods for the Social Sciences	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
SOCSCI 20809257	Gender and Women's Studies-Study Abroad Experience	1	1-0
SOCSCI 20809269	Energy And Society	3	3-0
SOCSCI 20809294	Introduction to Data Analytics	3	3-0
Electives (18 credits)			
Select any courses offered within the Liberal Arts Transfer program or from the list of additional electives below. A maximum of six Honor Project credits may also be applied (20-code courses only).			
Consult with your advisor to determine which courses are best for your intended transfer program (major and transfer institution).			
BIOTECH 10007124	Molecular Biology 1	3	1-0
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0
ACCTG 10101111	Accounting 1 - Principles	4	4-0
ACCTG 10101113	Accounting 2 - Principles	4	4-0
ACCTG 10101118	Management Accounting	4	4-0
ACCTG 10101125	Cost Management	4	4-0
BUSADM 10102104	Business Statistics	3	3-0
FINANCE 10114130	Personal Finance	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
CRIMJUST 10504900	Introduction to Criminal Justice	3	3-0
GENENG 10605270	AC/DC Circuit Techniques and Principles	3	1-4
GENENG 10606231	Introductory Engineering Graphics	3	2-2
GENENG 10606232	Reverse Engineering and Solidworks Assemblies	1	0-2
GENENG 10662121	Circuit Modeling 1	3	1-4
GENENG 10662221	Circuit Modeling 2	4	2-4
GENENG 10662252	Introduction to Computer Engineering	3	1-4
BIOLOGY 20806219	Biology for Innovators	1	0-2
GENENG 20806294	Engineering Seminar	1	0.5-1
GENENG 20806295	Introduction to Engineering	3	1-4

COLLSUCC 20890200	College Success	3	3-0
COLLSUCC 20890202	Career Development	1	1-0

Ethnic Studies (One course)
Course may also count toward Humanities/Fine Arts, Social Science, or Electives.

SOC 10809172	Introduction to Diversity Studies	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
HISTORY 20803214	Native American History	3	3-0
HISTORY 20803240	Afro-American History	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0

Literature (One course)
The course may also count toward fulfilling the Humanities and Fine Arts or Electives requirements.
See Literature Courses under the Humanities and Fine Arts Requirement above.

World Languages (One course)
May be met with one year in high school with a grade of "C" or better OR one semester in college.
College course may also count toward Humanities/Fine Arts or Electives.
If requirement was satisfied with high school courses, email: enrollmentservices@madisoncollege.edu.
See World Languages Courses under the Humanities and Fine Arts Requirement above.

Effective 2020-2021
Program Number: 314201

Machine Tool Operation

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420322	Machine Tool 1	4	2-6
MACHT 32420323	Machine Tool 2	4	2-6
MACHT 32420346	Intro to CNC - G-code Programming	2	2-2
MACHT 32420351	Elements of Basic Metrology	2	4-0
COMM 31801356	Communications 1	1	2-0
MATH 31804381	Machine Tool Math 1	2	4-0
Second Semester			
MATH 31804382	Machine Tool Math 2	1	2-0
MACHT 32420304	Intermediate Metrology Applications	1	0-2
MACHT 32420324	Machine Tool 3	4	2-6
MACHT 32420325	Machine Tool 4	4	2-6
MACHT 32420337	Manufacturing w/Solid Modeling-2D	2	4-0
MACHT 32420348	Applied CNC-Conversational and Setup	2	2-2
MACHT 32420388	Tool and Fixture Design	1	2-0
MACHT 32420390	Fundamentals of Metallurgy	2	4-0

Madison Area Technical College

Effective 2020-2021
Program Number: 324205

Machine Tooling Technics

A Two Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420322	Machine Tool 1	4	2-6
MACHT 32420323	Machine Tool 2	4	2-6
MACHT 32420346	Intro to CNC - G-code Programming	2	2-2
MACHT 32420351	Elements of Basic Metrology	2	4-0
COMM 31801356	Communications 1	1	2-0
MATH 31804381	Machine Tool Math 1	2	4-0
Second Semester			
MACHT 32420304	Intermediate Metrology Applications	1	0-2
MACHT 32420324	Machine Tool 3	4	2-6
MACHT 32420325	Machine Tool 4	4	2-6
MACHT 32420337	Manufacturing w/Solid Modeling-2D	2	4-0
MACHT 32420348	Applied CNC-Conversational and Setup	2	2-2
MACHT 32420388	Tool and Fixture Design	1	2-0
MACHT 32420390	Fundamentals of Metallurgy	2	4-0
MATH 31804382	Machine Tool Math 2	1	2-0
Third Semester			
MACHT 32420326	Machine Tool 5	4	2-6
MACHT 32420327	Machine Tool 6	5	2-8
MACHT 32420336	Manufacturing w/Solid Modeling 3D	2	4-0
MACHT 32420389	Applied CNC - Intermediate Operations	2	1-3
MACHT 32420394	Tool Making Theory 1	2	4-0
PHYSICS 31806363	Science 1	2	2-2
Fourth Semester			
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
MACHT 32420328	Machine Tool 7	4	2-6
MACHT 32420329	Machine Tool 8	5	2-8
MACHT 32420370	Manufacturing w/Solid Modeling-Advanced	1	1-1
MACHT 32420391	Applied CNC - Advanced Operations	1	0-2
MACHT 32420393	Job Orientation - Machine Tooling Technics Program	1	2-0
MACHT 32420395	Tool Making Theory 2	2	4-0
WELD 32442313	Related Welding	1	0-2

Effective 2020-2021
Program Number: 504202

Machinist Apprenticeship

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MACHT 50420711	Mathematics for the Machine Trades	1	1.61-0.38
MACHT 50420715	Mechanical Hardware & Hand Tools for Machine Trades Apprentices	1	1.61-0.38
Second Semester			
MACHT 50420713	Precision Measurement for Machine Tool Trade Apprentices	1	1.61-0.38
MACHT 50420714	Engineering Drawings for Machine Tool Trades Apprentices	1	1.61-0.38
Third Semester			
MACHT 50420710	Safety for Machine Tool Trade Apprentices	0	0.33-0.16
MACHT 50420720	Cut-Off Machines for Machine Trades Apprentices	0	0.33-0.16
MACHT 50420721	Metallurgy & Materials for Machine Trades	1	1.61-0.38
MACHT 50420732	Machine Tool Apprenticeship Greening Competencies - SAGE Project	0	0.72-0.27
Fourth Semester			
MACHT 50420716	Turning Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420717	Milling Machines for Machine Trades Apprentices	0	0.5-0.27
MACHT 50420718	Drilling Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420719	Grinding Machines for Machine Trades Apprentices	0	0.72-0.27
Fifth Semester			
MACHT 50420725	Basic CAD/CAM for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420726	Jig and Fixture Design for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420727	Geometric Design and Tolerancing for Machine Trades Apprentices	0	0.72-0.27
Sixth Semester			
MACHT 50420724	CNC Programming and Planning for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420733	CNC Operations for Machine Tool Trades Apprentices	1	1.61-0.38

Effective 2020-2021
Program Number: 504231

Maintenance Mechanic/Millwright Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MILLWRGT 50423710	Math and Physics for MMMP Trades (C1)	1	1-1
MILLWRGT 50423711	Print Reading for MMMP Trades (C-2)	1	1-1
Second Semester			
MILLWRGT 50423712	Fasteners for MMMP Trades (C-3)	0	0.22-0.22
MILLWRGT 50423713	Precision Measurements for MMMP Trades (C-4)	0	0.33-0.33
MILLWRGT 50423714	Rigging for MMMP Trades (C-5)	1	0.88-0.88
MILLWRGT 50423715	Welding for MMMP Trades (C-6)	0	0.27-0.27
MILLWRGT 50423716	Metallurgy for MMMP Trades (C-7)	0	0.27-0.27
Third Semester			
MILLWRGT 50423717	Hydraulics for MMMP Trades (C-8)	0	0.55-0.55
MILLWRGT 50423718	Pneumatics & Compressed Air for MMMP Trades (C-9)	0	0.55-0.55
MILLWRGT 50423719	Vacuum Systems for MMMP Trades (C-10)	0	0.55-0.55
IND MECH 50462101	Introduction to Heat Treating Part A	0	0-0.66
Fourth Semester			
MILLWRGT 50423720	Pipefitting and Valves for MMMP Trades (C-11)	0	0.66-0.66
MILLWRGT 50423722	Packings, Seals, Gaskets for MMMP Trades (C-13)	0	0.44-0.44
MILLWRGT 50423723	MSDS & Adhesives and Sealants for MMMP Trades (C-14)	0	0.22-0.22
MILLWRGT 50423732	Pumps for the MMMP Trades (M-3)	0	0.66-0.66
Fifth Semester			
MILLWRGT 50423724	Preventative and Predictive Maintenance for MMMP Trades (C-15)	1	1-1
MILLWRGT 50423726	Green Awareness for the MMMP Trades (C-17)	1	1-1
Sixth Semester			
MILLWRGT 50423730	Bearings for the MMMP Trades (M-1)	0	0.66-0.66
MILLWRGT 50423731	Couplings & Alignment for the MMMP Trades (M-2)	1	1-1
IND MECH 50462102	Introduction to Heat Treating Part B	0	0-0.66
Seventh Semester			
MILLWRGT 50423733	Belts, Sheaves, Pulleys, and Drives for the MMMP Trades (M-4)	0	0.66-0.66
MILLWRGT 50423734	Gears, Gearboxes, Gear Assemblies for the MMMP (M-5)	0	0.66-0.66
MILLWRGT 50423735	Mechanical Power Transmission for the MMMP Trades (M-6)	0	0.66-0.66
Eighth Semester			

MILLWRGT 50423736	Conveyors for the MMMP Trades (M-7)	0	0.22-0.22
MILLWRGT 50423737	Equipment Installation for the MMMP Trades (M-8)	0	0.66-0.66
MILLWRGT 50423738	Sheet Metal and Structural Steel Fabrication for the MMMP Trades (M-9)	0	0.66-0.66
IND MECH 50462103	Introduction to Heat Treating Part C	0	0-0.66

Effective 2020-2021
Program Number: 504641

Maintenance Technician Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IND MECH 10462321	DCAC 1 DC Theory	1	0-2
IND MECH 10462329	DCAC 2 AC Theory	1	0-2
IND MECH 10462323	Industrial Electricity and Controls 1	2	0-4
Second Semester			
ELEC 50413752	Codes for Industrial Electricians 1: Introduction to the NEC	0	1-0
ELEC 50413753	Codes for Industrial Electricians 2: OCPD and Electrical Device Installations	0	1-0
IND MECH 10462325	Industrial Electricity and Controls 2	2	0-4
IND MECH 10462331	DCAC 3 Theory	1	0-2
Third Semester			
ELEC 50413754	Codes for Industrial Electricians 3: Article 250 Part A	0	1-0
ELEC 50413755	Codes for Industrial Electricians 4: Article 250 Part B	0	1-0
ELEC 50413756	Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations	0	1-0
ELEC 50413757	Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables	0	1-0
Fourth Semester			
ELEC 50413758	Codes for Industrial Electricians 7: Motors and Generators	0	1-0
ELEC 50413759	Codes for Industrial Electricians 8: Transformers	0	1-0
ELEC 50413761	Industrial Electrician Motors & Generators	1	1-1
Fifth Semester			
ELEC 50413760	Industrial Electrician Transformers	1	1-1
EMTEC 10620100	Introduction to PLCs	1	0-2
Sixth Semester			
ELEC 50413765	Power Systems & Variable Speed Drives for Industrial Electricians	2	2-2
Seventh Semester			
IND MECH 10462100	Safety for Industry	1	0-2
MECTEC 10606201	Interpreting Engineering Drawings Part A	1	0-2
Eighth Semester			
IND MECH 10462106	Mechanisms for Industry 1	1	0-2
IND MECH 10462107	Mechanisms for Industry 2	1	0-2

Ninth Semester			
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
IND MECH 10462109	Maintenance Management Part A	1	0-2
Tenth Semester			
IND MECH 10462105	Fluid Power 2 for Industry	2	0-4

Effective 2020-2021
Program Number: 311027

Management Trainee

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
BUSADM 10102134	Introduction to Business	3	3-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
Second Semester			
ACCTG 10101118	Management Accounting	4	4-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Third Semester			
BUSADM 10102114	Business Communication	3	3-0
BUSADM 10102143	Management Techniques	3	3-0
MKTG 10104102	Marketing Principles	3	3-0

Effective 2020-2021
Program Number: 101043

Marketing

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103143	PowerPoint	1	0.27-1.5
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104104	Selling Principles	3	3-0
MKTG 10104113	Leadership Ethics in the Digital Age	3	3-0
Second Semester			
MATH 10804144	Math of Finance	3	3-0
MKTG 10104112	Marketing Design Strategies	3	3-0
MKTG 10104114	Social Media Principles	3	3-0
MKTG 10104125	Principles of Advertising	3	3-0
MKTG 10104162	Mobile Marketing	3	3-0
Third Semester			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MKTG 10104126	Introduction to Public Relations	3	3-0
MKTG 10104164	Marketing Digital Design	3	3-0
MKTG 10104169	Digital Marketing	3	3-0
	Marketing Approved Elective (See list below)	3	
Fourth Semester			
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
MKTG 10104103	Marketing Research	3	3-0
MKTG 10104115	Capstone Campaign	3	3-0
MKTG 10104180	Global Marketing	3	3-0
MKTG 10104188	Marketing Portfolio	1	0-2
Marketing Approved Electives (3 credits in Third Semester)			
MKTG 10104165	Marketing Internship	3	1-0
MKTG 10104187	Global Studies Seminar	3	3-0
MKTG 10104160	Sales Management	3	3-0
JOURNAL 20801262	Social Media Writing	3	3-0
MKTG 10104802	Honors - Marketing	3	0-0
MKTG 10104111	Digital Innovations	3	3-0

Effective 2020-2021
Program Number: 9010611CER

Marketing Essentials for the Business Professional

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
COURSES			
ADMINPRF 10106164	Customer Contact Skills	2	2-0
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104114	Social Media Principles	3	3-0

Effective 2020-2021
Program Number: 301043

Marketing-Social Media

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
MKTG 10104114	Social Media Principles	3	3-0
MKTG 10104162	Mobile Marketing	3	3-0
MKTG 10104164	Marketing Digital Design	3	3-0
MKTG 10104169	Digital Marketing	3	3-0

Effective 2020-2021
Program Number: 106061

Mechanical Design Technology

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MECTEC 10606100	Engineering Technology Communications	3	1-4
MECTEC 10606101	Engineering Technology Fundamentals	2	1-2
MECTEC 10606120	2-D CAD (Computer Aided Drafting)	1	1-0
MECTEC 10606130	SolidWorks 1	1	1-0
MECTEC 10606131	SolidWorks 2	2	1-2
MECTEC 10606160	Fundamentals of Manufacturing/Engineering Materials	2	1-2
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804114	College Technical Math 1B	2	2-0
Second Semester			
MECTEC 10606132	SolidWorks 3	2	1-2
MECTEC 10606140	Dimensioning Practices	1	1-0
MECTEC 10606141	Geometric Dimensioning & Tolerancing	1	1-0
MECTEC 10606155	Statics And Mechanics	3	2-2
MECTEC 10606161	Manufacturing Processes	2	1-2
MECTEC 10606170	Strength Of Materials	3	2-2
MATH 10804116	College Technical Math 2	4	4-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Third Semester (Summer)			
MECTEC 10606193	Career Development - Mechanical Design Program	1	1-0
Fourth Semester			
IND MECH 10462104	Fluid Power 1 for Industry	1	0-2
MECTEC 10606104	Engineering Technology Practices	3	1-4
MECTEC 10606116	Machine Design	3	2-2
MECTEC 10606125	Plastics for Mechanical Design	3	2-2
MECTEC 10606163	Engineering Technology Project Management	2	1-2
MECTEC 10606164	Quality Systems	2	1-2
EMTEC 10620100	Introduction to PLCs	1	0-2
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
Fifth Semester			
MECTEC 10606112	Tool Design Technology	3	1-4
MECTEC 10606150	Rapid Prototyping	2	1-2
MECTEC 10606186	Engineering Technology Applications	3	0-6
MECTEC 10606188	Mechanical Design Technology Field Study Experience	1	0-2
ENGLISH 10801197	Technical Reporting	3	3-0
PHYSICS 10806154	General Physics 1	4	3-2

Effective 2020-2021
Program Number: 101604

Medical Administrative Specialist

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160179	Medical Language for the Business Professional 2	3	2-2
COMM 10801196	Oral/Interpersonal Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
Third Semester			
ADMINPRF 10106106	Business Writing and Research	3	2-2
ADMINPRF 10106190	Professional Development	1	0.5-1
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ADMINPRF 10106240	Business Information Management	3	1-4
MEDADMIN 10160166	Healthcare Documentation Techniques and Procedures	3	2-2
MEDADMIN 10160191	Introduction to Healthcare Documentation	2	0.5-3
Fourth Semester			
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106126	Software Capstone	3	1-4
MEDADMIN 10160177	Specialized Insurance Claims	3	2-2
MEDADMIN 10160199	Internship - Medical Administrative Specialist	1	0-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 315091

Medical Assistant

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MASST 31509301	Medical Asst Admin Procedures	2	2-2
MASST 31509302	Human Body in Health & Disease	3	6-0
MASST 31509303	Medical Asst Lab Procedures 1	2	2-2
MASST 31509304	Medical Asst Clin Procedures 1	4	4-4
FOUNHLTH 10501101	Medical Terminology	3	3-0
FOUNHLTH 10501107	Digital Literacy for Healthcare	2	1-2
Second Semester			
FOUNHLTH 31501308	Pharmacology for Allied Health	2	4-0
MASST 31509305	Med Asst Lab Procedures 2	2	2-2
MASST 31509306	Med Asst Clin Procedures 2	3	2-4
MASST 31509307	Medical Office Insurance & Finance	2	4-0
MASST 31509309	Medical Law, Ethics and Professionalism	2	4-0
MASST 31509310	Medical Assistant Practicum	3	2-0
ENGLISH 10801195	Written Communication	3	3-0

Effective 2020-2021
Program Number: 311605

Medical Billing

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
MEDADMIN 10160178	Medical Language for the Business Professional 1	3	2-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
COMPSOFT 10103165	Outlook	1	0.27-1.5
MEDADMIN 10160165	Medical Administrative Procedures	3	1-4
MEDADMIN 10160177	Specialized Insurance Claims	3	2-2
MEDADMIN 10160179	Medical Language for the Business Professional 2	3	2-2

Effective 2020-2021
Program Number: 315302

Medical Coding Specialist

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Program Courses			
FOUNHLTH 10501153	Body Structure & Function	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
COMPSOFT 10103121	Windows 10	1	0.27-1.5
FOUNHLTH 10501107	Digital Literacy for Healthcare	2	1-2
Core Program Courses			
Cluster 1			
MEDREC 10530162	Foundations of HIM	3	2-2
MEDREC 10530182	Human Disease for Health Professions	3	3-0
MEDREC 10530197	ICD Diagnosis Coding	3	2-2
Cluster 2			
MEDREC 10530184	CPT Coding	3	2-2
MEDREC 10530159	Healthcare Revenue Management	3	2-2
MEDREC 10530189	Management of Coding Services	1	1-0
MEDREC 10530199	ICD Procedure Coding	2	1-2
Cluster 3			
MEDREC 10530168	Advanced ICD Coding	3	2-2
MEDREC 10530187	Advanced CPT Coding	3	2-2
MEDREC 10530188	Certification & Professional Development	2	1-2

Effective 2020-2021
Program Number: 105131

Medical Laboratory Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
LABASST 10513110	Basic Lab Skills	1	0-2
LABASST 10513111	Phlebotomy	2	3-0
LABASST 10513113	QA Lab Math	1	1-0
LABASST 10513114	Urinalysis	2	0-4
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
LABASST 10513115	Basic Immunology Concepts	2	3-0
LABASST 10513120	Basic Hematology	3	0.5-1
LABASST 10513121	Coagulation	1	0-2
LABASST 10513109	Blood Bank	4	2-4
SPEECH 10801198	Speech	3	3-0
Choose from Microbiology or General Microbiology:			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
Third Semester (summer)			
SOC 10809197	Contemporary Amer Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fourth Semester			
LABASST 10513130	Advanced Hematology	2	0-4
LABASST 10513116	Clinical Chemistry	4	2-4
LABASST 10513133	Clinical Microbiology	4	0-8
LABASST 10513170	Introduction to Molecular Diagnostics	2	2-0
	Elective	2	
Fifth Semester			
LABASST 10513140	Advanced Microbiology	2	2-0
LABASST 10513141	Pre-Clinical Experience	2	0-0
LABASST 10513151	Clinical Experience 1	3	0-6
LABASST 10513152	Clinical Experience 2	4	0-8
LABASST 10513153	Capstone Project	1	0-2

Effective 2020-2021
Program Number: 314572

Metal Fabrication

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
IND MECH 10462100	Safety for Industry	1	0-2
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
MACHT 32420349	Basic Metrology (Part A)	1	2-0
WELD 31442332	Oxy-Fuel Cutting 1	1	1-1
WELD 31442318	Gas Tungsten Arc Welding 1 (GTAW/TIG)	2	0-4
WELD 31442323	Basic Gas Metal Arc Welding (GMAW/MIG)	2	2-2
MTLFAB 31457301	Fabrication 1	2	1-3
MTLFAB 31457302	Fabrication 2	2	1-3
MTLFAB 31457305	CNC Operation	2	1-3
MATH 31804379	Vocational Math 1	1	2-0
Second Semester			
WELD 31442326	Flux Cored & Advanced Gas Metal Arc Welding (FCAW/GMAW)	2	1-3
WELD 31442328	Gas Tungsten Arc Welding 2 (GTAW/TIG)	2	1-3
WELD 31442390	Fundamentals of Metallurgy	2	4-0
MTLFAB 31457303	Fabrication 3	2	1-3
MTLFAB 31457304	Fabrication 4	2	1-3
MTLFAB 31457306	CNC Programming	2	1-3
MTLFAB 31457307	Jig and Fixture Development	2	1-3
MTLFAB 31457308	Metal Fabrication Occupational Development	1	2-0

Effective 2020-2021
Program Number: 301066

Microsoft Office

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ADMINPRF 10106240	Business Information Management	3	1-4

Effective 2020-2021
Program Number: 901031CERT

Microsoft Office Essentials

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Microsoft Office Essentials Certificate			
COMPSOFT 10103121	Windows 10	1	0.27-1.5
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103137	Word Beginning	1	0.27-1.5
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
COMPSOFT 10103145	Access	1	0.27-1.5
COMPSOFT 10103143	PowerPoint	1	0.27-1.5

Effective 2020-2021
Program Number: 900074CERT

Molecular Biology Fundamentals

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Term Course			
BIOLOGY 20806219	Biology for Innovators	1	0-2
BIOTECH 10007124	Molecular Biology 1	3	1-0
Second Term Courses			
BIOTECH 10007125	Research Methods in Molecular Biology	3	1-0

Effective 2020-2021
Program Number: 314612

Motorcycle, Marine & Outdoor Power Products

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MACHT 32420330	Metal Processes 1	2	2-2
SMENG 31461324	Engine Fundamentals	5	4-6
SMENG 31461325	Engine Diagnostics	5	4-6
SMENG 31461328	Engine Lab 1	1	0-2
Second Semester			
MACHT 32420331	Metals Processes 2	2	2-2
SMENG 31461326	Electrical & Drivetrains 1	5	4-6
SMENG 31461327	Electrical & Drivetrains 2	5	4-6
SMENG 31461329	Engine Lab 2	1	0-2

Effective 2020-2021
Program Number: 305431

Nursing Assistant

A Less Than One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First, Second or Summer Semester			
NRSAD 30543300	Nursing Assistant	3	2.77-1.66

Madison Area Technical College

Effective 2020-2021
Program Number: 105141

Occupational Therapy Assistant

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Occupational Therapy Assistant Courses			
The following courses must be completed prior to acceptance into Occupational Therapy courses:			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
First Semester			
OTASST 10514171	Introduction to Occupational Therapy	3	2-2
OTASST 10514172	Medical and Psychosocial Conditions	3	2-2
OTASST 10514173	Activity Analysis and Application	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
Second Semester			
OTASST 10514174	OT Performance Skills	4	0-8
OTASST 10514175	Psychosocial Practice	3	1-4
OTASST 10514176	OT Theory and Practice	3	1-4
OTASST 10514178	Geriatric Practice	3	1-4
PSYCH 20809237	Abnormal Psych	3	3-0
SPEECH 10801198	Speech	3	3-0
Summer Semester			
PSYCH 20809233	Developmental Psychology	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
Third Semester			
OTASST 10514179	Community Practice	2	0-4
OTASST 10514189	OT Phys Rehab Practice	4	1-6
OTASST 10514190	OT Pediatric Practice	4	0-8
OTASST 10514184	OTA Fieldwork 1	2	1-2
	Elective	3	
Fourth Semester			
OTASST 10514185	OT Practice and Management	2	1-2
OTASST 10514186	OTA Fieldwork IIA	5	0-0
OTASST 10514187	OTA Fieldwork IIB	5	0-0

Effective 2020-2021
Program Number: 311061

Office Assistant

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ADMINPRF 10106100	Mindset for Success	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106139	Keyboard Skillbuilding	1	0.27-1.5
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
Second Semester			
COMPSOFT 10103165	Outlook	1	0.27-1.5
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106121	Office Technology and Procedures	3	2-2
ADMINPRF 10106164	Customer Contact Skills	2	2-0
ADMINPRF 10106240	Business Information Management	3	1-4

Madison Area Technical College

Effective 2020-2021
Program Number: 101069

Office Management

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ADMINPRF 10106100	Mindset for Success	3	3-0
BUSADM 10102134	Introduction to Business	3	3-0
ADMINPRF 10106107	Business Document Applications	3	1-4
ADMINPRF 10106164	Customer Contact Skills	2	2-0
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804144	Math of Finance	3	3-0
Second Semester			
ACCTG 10101111	Accounting 1 - Principles	4	4-0
COMPSOFT 10103165	Outlook	1	0.27-1.5
ADMINPRF 10106108	Proofreading And Editing	3	2-2
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
ADMINPRF 10106172	Administrative Office Management	3	2-2
ADMINPRF 10106231	Business Presentations and Publications	3	1-4
Third Semester			
ACCTG 10101139	QuickBooks-Beginning	1	0.5-1
BUSADM 10102143	Management Techniques	3	3-0
COMPSOFT 10103169	Collaboration Tools	1	0.27-1.5
ADMINPRF 10106106	Business Writing and Research	3	2-2
ADMINPRF 10106190	Professional Development	1	0.5-1
ADMINPRF 10106240	Business Information Management	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Fourth Semester			
ACCTG 10101154	Payroll Accounting	1	0.5-1
BUSADM 10102135	Project Management - Fundamentals	3	3-0
ADMINPRF 10106199	Internship - Office Management	1	0-0
HRMGT 10116145	Introduction to Human Resources	3	3-0
ECON 10809195	Economics	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 315162

Optometric Technician

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
OPTOMET 31516325	Optical Dispensing 1	3	3-2
OPTOMET 31516301	Ophthalmic Pre-Testing	3	3-3
OPTOMET 31516305	Basic Optical Concepts	3	3-2
OPTOMET 31516315	Ocular Anatomy	2	3-1
OPTOMET 31516339	Human Relations - Optometric Technician Program	1	2-0
Second Semester			
OPTOMET 31516326	Optical Dispensing 2	2	2-2
OPTOMET 31516330	Contact Lenses	3	2.5-2.5
OPTOMET 31516335	Ophthalmic Specialty Testing	3	4-2
OPTOMET 31516340	Patient Relations/Pract Manage	2	3.33-0
OPTOMET 31516345	Preclinical	2	0-4
OPTOMET 31516350	Clinical Experience	3	0-0

Effective 2020-2021
Program Number: 315162-ET

Optometric Technician

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Online First Semester			
OPTOMET 31516315	Ocular Anatomy	2	3-1
OPTOMET 31516301	Ophthalmic Pre-Testing	3	3-3
OPTOMET 31516339	Human Relations - Optometric Technician Program	1	2-0
Online Second Semester			
OPTOMET 31516305	Basic Optical Concepts	3	3-2
OPTOMET 31516325	Optical Dispensing 1	3	3-2
Online Third Semester			
OPTOMET 31516326	Optical Dispensing 2	2	2-2
OPTOMET 31516335	Ophthalmic Specialty Testing	3	4-2
OPTOMET 31516346	Preclinic A	1	2-0
Online Fourth Semester			
OPTOMET 31516330	Contact Lenses	3	2.5-2.5
OPTOMET 31516340	Patient Relations/Pract Manage	2	3.33-0
OPTOMET 31516347	Preclinic B	1	2-0

Madison Area Technical College

Effective 2020-2021
Program Number: 101101

Paralegal

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Prior to start of program			
PARALEG 10110175	Orientation to the Paralegal Profession	1	1-0
First Semester			
PARALEG 10110101	Introduction to Law	3	3-0
PARALEG 10110141	Computer Applications - Legal	3	3-0
PARALEG 10110173	Contract Law in a Global Economy	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Second Semester			
PARALEG 10110102	Civil Litigation I	3	3-0
PARALEG 10110104	Legal Research	3	3-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
PARALEG 10110114	Administration Of Estates - Paralegal Program	3	3-0
Third Semester			
PARALEG 10110105	Legal Writing	3	3-0
PARALEG 10110106	Family Law	3	3-0
PARALEG 10110176	Career Building Techniques - Paralegal	2	2-0
PARALEG 10110122	Bankruptcy Law	3	3-0
MATH 10804144	Math of Finance	3	3-0
Fourth Semester			
PARALEG 10110107	Legal Aspects of Business Organizations	3	3-0
PARALEG 10110142	Paralegal Internship	3	1-0
PHILOS 10809166	Intro to Ethics: Theory & App	3	3-0
PARALEG 10110103	Civil Litigation 2	3	3-0
PARALEG 10110168	Criminal Law 1 - Paralegal	3	3-0
Other Program-Related Courses			
PARALEG 10110110	Real Estate Law - Paralegal	3	3-0
PARALEG 10110115	Administrative Law	3	3-0
PARALEG 10110160	Employment Law - Paralegal	3	3-0
PARALEG 10110171	Immigration Law	3	3-0
PARALEG 10110108	E-Discovery and Digital Tools	2	3-0
PARALEG 10110144	Paralegal Clinic Internship	3	1-0

Effective 2020-2021
Program Number: 311101

Paralegal Post-Baccalaureate

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Prior to start of first semester			
PARALEG 10110175	Orientation to the Paralegal Profession	1	1-0
First Semester			
PARALEG 10110101	Introduction to Law	3	3-0
PARALEG 10110102	Civil Litigation I	3	3-0
PARALEG 10110104	Legal Research	3	3-0
PARALEG 10110141	Computer Applications - Legal	3	3-0
PARALEG 10110176	Career Building Techniques - Paralegal	2	2-0
Second Semester			
PARALEG 10110105	Legal Writing	3	3-0
PARALEG 10110142	Paralegal Internship	3	1-0
PARALEG 10110114	Administration Of Estates - Paralegal Program	3	3-0
PARALEG 10110122	Bankruptcy Law	3	3-0
PARALEG 10110106	Family Law	3	3-0
Other Program-Related Courses			
PARALEG 10110110	Real Estate Law - Paralegal	3	3-0
PARALEG 10110115	Administrative Law	3	3-0
PARALEG 10110168	Criminal Law	3	3-0
PARALEG 10110171	Immigration Law	3	3-0
PARALEG 10110160	Employment Law - Paralegal	3	3-0
PARALEG 10110103	Civil Litigation 2	3	3-0
PARALEG 10110173	Contract Law in a Global Economy	3	3-0
PARALEG 10110108	E-Discovery and Digital Tools	3	3-0
PARALEG 10110107	Legal Aspects of Business Organizations	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 315313

Paramedic

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
EMS 10531911	EMS Fundamentals	2	2-0
EMS 10531912	Paramedic Medical Principles	4	4-0
EMS 10531913	Adv Patient Asses Principles	3	2-2
EMS 10531914	Adv Pre-Hospital Pharmacology	3	2-2
EMS 10531915	Paramedic Respiratory Management	2	1-2
EMS 10531916	Paramedic Cardiology	4	3-2
EMS 10531925	Paramedic Clinical 1	1	0-0
EMS 10531926	Paramedic Clinical 2	1	0-0
Second Semester			
EMS 10531918	Advanced Emergency Resuscitation	1	0-2
EMS 10531919	Paramedic Medical Emergencies	4	4-0
EMS 10531920	Paramedic Trauma	3	2-2
EMS 10531921	Special Patient Populations	3	2-2
EMS 10531922	EMS Operations	1	1-0
EMS 10531927	Paramedic Clinical 3	1	0-0
EMS 10531929	Paramedic Clinical 4	1	0-0
Third Semester - Summer			
EMS 10531923	Paramedic Capstone	1	0-2
EMS 10531928	Paramedic Field Internship	3	0-0

Madison Area Technical College

Effective 2020-2021
Program Number: 105311

Paramedic Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
EMS 10531911	EMS Fundamentals	2	2-0
EMS 10531912	Paramedic Medical Principles	4	4-0
EMS 10531913	Adv Patient Asses Principles	3	2-2
EMS 10531914	Adv Pre-Hospital Pharmacology	3	2-2
EMS 10531915	Paramedic Respiratory Management	2	1-2
EMS 10531916	Paramedic Cardiology	4	3-2
EMS 10531925	Paramedic Clinical 1	1	0-0
EMS 10531926	Paramedic Clinical 2	1	0-0
Second Semester			
EMS 10531918	Advanced Emergency Resuscitation	1	0-2
EMS 10531919	Paramedic Medical Emergencies	4	4-0
EMS 10531920	Paramedic Trauma	3	2-2
EMS 10531921	Special Patient Populations	3	2-2
EMS 10531922	EMS Operations	1	1-0
EMS 10531927	Paramedic Clinical 3	1	0-0
EMS 10531929	Paramedic Clinical 4	1	0-0
Third Semester- Summer			
EMS 10531923	Paramedic Capstone	1	0-2
EMS 10531928	Paramedic Field Internship	3	0-0
Fourth Semester			
ENGLISH 10801195	Written Communication	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
POLISCI 10809122	Intro to Amer Government	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
Fifth Semester			
SPEECH 10801198	Speech	3	3-0
MATH 10804134	Mathematical Reasoning	3	2-2
SOC 10809172	Introduction to Diversity Studies	3	3-0

Effective 2020-2021
Program Number: 305132

Phlebotomist/Specimen Processor

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
COURSES			
LABASST 10513110	Basic Lab Skills	1	0-2
LABASST 10513111	Phlebotomy	2	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 102031

Photography

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
PHOTO 10203105	Photo Composition	2	2-0
PHOTO 10203107	Studio Photography 1	3	0-6
PHOTO 10203120	Lighting Technique	2	0-4
VICOM 10206109	Intro to Electronic Design	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	
Second Semester			
PHOTO 10203108	Studio Photography 2	3	0-6
PHOTO 10203141	Color Photography 1	3	0-6
PHOTO 10203173	Photojournalism	2	0-4
VICOM 10206130	Video Production	3	0-6
COMM 10801196	Oral/Interpersonal Communication	3	3-0
SOC 10809197	Contemporary Amer Society	3	3-0
Third Semester			
PHOTO 10203121	Commercial Photography 1	3	0-6
PHOTO 10203124	Portrait Photography	2	0-4
PHOTO 10203142	Color Photography 2	3	0-6
PHOTO 10203134	Electronic Imaging	3	0-6
MATH 10804107	College Mathematics	3	2-2
Fourth Semester			
PHOTO 10203109	Studio Photography 3	3	1-4
PHOTO 10203125	Business Of Photography	1	2-0
PHOTO 10203126	Advanced Digital Studio Portrait	2	0-4
PHOTO 10203176	Photographic Communication	2	0-4
PHOTO 10203185	Portfolio Preparation - Photography Program	2	0-4
PHOTO 10203174	Photography on Location	3	0-6
Recommended Electives			
PHOTO 10203199	Photography Internship	1	0-0
PHOTO 10203129	Professional Nature and Conservation Photography	2	1-2
PHOTO 10203131	Digital Photo 2	2	0-4
ART 20815201	Basic Design	3	0-6

Effective 2020-2021
Program Number: 105241

Physical Therapist Assistant

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Prior to First Year Spring Term			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
ENGLISH 10801195	Written Communication	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
First Year Spring Term			
PTASST 10524156	PTA Applied Kinesiology 1	4	2-4
PTASST 10524139	PTA Patient Interventions	4	2-4
PTASST 10524140	PTA Professional Issues 1	2	2-0
ENGLISH 10801197	Technical Reporting	3	3-0
PSYCH 10809188	Developmental Psychology	3	3-0
First Year Fall Term			
PTASST 10524157	PTA Applied Kinesiology 2	3	2-2
PTASST 10524142	PTA Therapeutic Exercise	3	1-4
PTASST 10524143	PTA Therapeutic Modalities	4	2-4
SPEECH 10801198	Speech	3	3-0
Second Year Spring Term			
PTASST 10524144	PTA Princ of Neuro Rehab	4	2-4
PTASST 10524145	PTA Princ of Musculo Rehab	4	2-4
PTASST 10524146	PTA Cardio and Integumentary Management	3	2-2
PTASST 10524147	PTA Clinical Practice 1	2	0-0
Interim Course			
Occurs at the end of the Spring term			
PTASST 10524148	PTA Clinical Practice 2	3	0-0
Second Year Summer Trimester			
PTASST 10524149	PTA Rehab Across the Lifespan	2	2-0
PTASST 10524150	PTA Professional Issues 2	2	2-0
PTASST 10524151	PTA Clinical Practice 3	5	0-0
	Elective	3	

Trimesters begin in September for Fall, January for Winter, and June for Summer. Dates are not necessarily in sequence with the rest of the college. Trimesters last 15 weeks with an additional week for exams as needed. Inquire to PTA program regarding specific dates, as these may vary from year to year.

Effective 2020-2021
Program Number: 504279

Plumbing Apprentice (ABC)

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
PLUMBNG 50427550	Trade Plumbing Semester 1	2	3-1
Second Semester			
PLUMBNG 50427551	Trade Plumbing Semester 2	2	3-1
Third Semester			
PLUMBNG 50427552	Trade Plumbing Semester 3	2	3-1
Fourth Semester			
PLUMBNG 50427553	Trade Plumbing Semester 4	2	3-1
Fifth Semester			
PLUMBNG 50427554	Trade Plumbing Semester 5	2	3-1
Sixth Semester			
PLUMBNG 50427555	Trade Plumbing Semester 6	2	3-1
Seventh Semester			
PLUMBNG 50427556	Trade Plumbing Semester 7	2	3-1
Eighth Semester			
PLUMBNG 50427557	Trade Plumbing Semester 8	2	3-1

Effective 2020-2021
Program Number: 504273

Plumbing Apprentice (JAC)

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
PLUMBNG 50427753	Water Distribution 1	2	3.6-0.4
Second Semester			
PLUMBNG 50427751	Sanitary Drains 1	2	3.6-0.4
Third Semester			
PLUMBNG 50427755	Sanitary Drains 2	2	3.6-0.4
Fourth Semester			
PLUMBNG 50427754	Water Distribution 2	2	3.6-0.4
Fifth Semester			
PLUMBNG 50427752	Vents and Venting Systems	2	3.6-0.4
Sixth Semester			
PLUMBNG 50427756	Private On-Site Wastewater Treatment Systems (POWTS)	2	3.6-0.4
Seventh Semester			
PLUMBNG 50427757	Green Plumbing Applications	2	3.6-0.4
Eighth Semester			
PLUMBNG 50427758	Plumbing Advanced Topics/TSA	2	3.6-0.4

Effective 2020-2021
Program Number: 315431

Practical Nursing

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Program Courses			
NRSAD 30543300	Nursing Assistant	3	2.77-1.66
NRSAD 31543356	Growth and Development	2	4-0
FOUNHLTH 10501153	Body Structure & Function	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
SPEECH 10801198	Speech	3	3-0
First Semester			
NRSAD 31543301	Nursing Fundamentals	2	4-0
NRSAD 31543302	Nursing Skills	3	0-6
NRSAD 31543303	Nursing Pharmacology	2	4-0
NRSAD 31543304	Nursing: Intro to Clinical Practice	2	0-0
Second Semester			
NRSAD 31543305	Nursing Health Alterations	3	6-0
NRSAD 31543306	Nursing Health Promotion	3	6-0
NRSAD 31543307	Nursing: Clinical Care Across the Lifespan	2	0-0
NRSAD 31543308	Nursing: Intro to Clinical Care Management	2	0-0

Effective 2020-2021
Program Number: 901065CERT

Project Management Certificate for the Business Professional

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
ADMINPRF 10106109	Business Spreadsheet Applications	3	1-4
COMPSOFT 10103186	MS (Microsoft) Project	2	0.5-3
ADMINPRF 10106164	Customer Contact Skills	2	2-0
BUSADM 10102135	Project Management - Fundamentals	3	3-0
Plus, choose one of the following courses:			
BUSADM 10102134	Introduction to Business	3	3-0
BUSADM 10102131	Project Management and Sustainable Change	3	3-0
EVTMGT 10109102	Fundamentals Of Meeting Mgmt	3	3-0

Madison Area Technical College

Effective 2020-2021
Program Number: 105261

Radiography

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Radiography Courses			
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804107	College Mathematics	3	2-2
First Semester			
RADTEC 10526149	Radiographic Procedures 1	5	5-0
RADTEC 10526158	Introduction to Radiography	3	3-0
RADTEC 10526159	Radiographic Imaging	3	3-0
RADTEC 10526168	Radiography Clinical 1	2	0-0
Second Semester			
RADTEC 10526230	Advanced Radiographic Imaging	2	2-0
RADTEC 10526191	Radiographic Procedures 2	5	5-0
RADTEC 10526192	Radiography Clinical 2	3	0-0
Third Semester (Summer)			
RADTEC 10526193	Radiography Clinical 3	3	0-0
Fourth Semester			
RADTEC 10526194	Imaging Equipment Operation	3	3-0
RADTEC 10526195	Radiographic Image Analysis	2	2-0
RADTEC 10526231	Imaging Modalities	2	2-0
RADTEC 10526199	Radiography Clinical 4	3	0-0
COMM 10801196	Oral/Interpersonal Communication	3	3-0
PSYCH 20809231	Intro Psychology	3	3-0
Fifth Semester			
RADTEC 10526189	Radiographic Pathology	1	1-0
RADTEC 10526190	Radiography Clinical 5	2	0-0
RADTEC 10526197	Radiation Protection & Biology	3	3-0
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 20809233	Developmental Psychology	3	3-0
Sixth Semester (Summer)			
RADTEC 10526174	ARRT Certification Seminar	2	0-0
RADTEC 10526198	Radiography Clinical 6	2	0-0

Effective 2020-2021
Program Number: 901942CERT

Real Estate Sales

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
COMPSOFT 10103133	Excel Beginning	1	0.27-1.5
RLEST 10194182	Real Estate Law and Sales	4	4-0
RLEST 10194185	Real Estate Broker Management	4	4-0
Second Semester			
MKTG 10104102	Marketing Principles	3	3-0
MKTG 10104104	Selling Principles	3	3-0
MKTG 10104114	Social Media Principles	3	3-0
Third Semester			
RLEST 10194195	Real Estate Internship	3	1-0

Madison Area Technical College

Effective 2020-2021
Program Number: 908061CERT

Renewable Energy

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses (Specific)			
Completion of both of the listed courses is required.			
PHYSICS 20806291	Introduction to Renewable Energy/Renewable Energy Technology	3	3-0
PHYSICS 20806292	Solar Photovoltaic Technology/Solar Energy Technology	3	3-0
Required Courses (Choices)			
Completion of 3 credits from the listed courses is required.			
PHYSICS 20806287	Special Topics: Energy Storage	2	1.5-1
PHYSICS 20806290	Renewable Energy for International Development	3	3-0
PHYSICS 20806293	Solar Photovoltaic Installation Lab	1	0-2
SOCSCI 20809269	Energy And Society	3	3-0
Honors courses and Independent Studies courses may also be available. Consult the Program Director for more information.			
NATSCI 20806807	Honors-Renewable Energy (2cr)	2	0-0
NATSCI 20806907	Honors-Renewable Energy (3cr)	3	0-0
NATSCI 20806297	Independent Study - Science (1 cr)	1	1-0
NATSCI 20806298	Independent Study - Science (2 cr)	2	2-0
NATSCI 20806299	Independent Study - Science (3 cr)	3	3-0
Additionally, some previously taken Renewable Energy courses may count towards the requirements. Those courses that qualify would automatically be picked up in the specific individual's Degree Progress (Academic Advising) Report.			

Effective 2020-2021
Program Number: 105151

Respiratory Therapy

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Program Courses			
The following courses should be taken during the petition process, prior to program acceptance.			
ENGLISH 10801195	Written Communication	3	3-0
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
First Semester			
RESPC 10515111	Respiratory Survey	3	3-0
RESPC 10515173	Respiratory Pharmacology	3	3-0
FOUNHLTH 10501101	Medical Terminology	3	3-0
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
Second Semester			
Choose from Microbiology or General Microbiology:			
BIOLOGY 20806273	Microbiology-University Medical	5	3-4
BIOLOGY 20806274	General Microbiology	5	3-4
RESPC 10515171	Respiratory Therapeutics1	3	2-2
RESPC 10515172	Respiratory Therapeutics 2	3	2-2
RESPC 10515174	Respiratory/Cardiac Physiology	3	3-0
RESPC 10515175	Respiratory Clinical 1	2	0-0
Summer Term			
SPEECH 10801198	Speech	3	3-0
Third Semester			
RESPC 10515176	Respiratory Disease	3	3-0
RESPC 10515112	Respiratory Airway Management	2	1-2
RESPC 10515113	Respiratory Life Support	3	2-2
RESPC 10515178	Respiratory Clinical 2	3	0-0
RESPC 10515179	Respiratory Clinical 3	3	0-0
SOC 10809197	Contemporary Amer Society	3	3-0
Fourth Semester			
RESPC 10515180	Respiratory Neo/Peds Care	2	2-0
RESPC 10515181	Respiratory/Cardio Diagnostics	3	2-2
RESPC 10515182	Respiratory Clinical 4	3	0-0
RESPC 10515183	Respiratory Clinical 5	3	0-0
RESPC 10515184	Neonatal Pediatric Resuscitation (NRP)	1	1-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 901044CERT

Retail Management

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
FSHNMKTG 10104124	Retail Management	3	3-0
FSHNMKTG 10104118	Store Operations	3	2-2
FSHNMKTG 10104123	Merchandise Plan/Control	3	3-0
FSHNMKTG 10104194	Visual Merchandising	3	2-2

Effective 2020-2021
Program Number: 311621

Risk Management and Insurance

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
BUSADM 10102134	Introduction to Business	3	3-0
INSMGT 10162116	Cyber Risk Management	3	3-0
INSMGT 10162125	Intro to Property & Casualty Insurance - PreLicensing	3	3-0
INSMGT 10162133	Managing Business Risks	3	3-0
INSMGT 10162135	Fraud Examination & Detection	3	3-0
MATH 10804144	Math of Finance	3	3-0
Second Semester			
MKTG 10104102	Marketing Principles	3	3-0
FINANCE 10114140	Investments	3	3-0
INSMGT 10162126	Introduction to Loss Investigaton (AIC 33)	3	3-0
INSMGT 10162131	Intro to Life & Health Insurance	3	3-0
INSMGT 10162140	Risk Management and Insurance Internship	2	0-0
ENGLISH 10801195	Written Communication	3	3-0

Effective 2020-2021
Program Number: 901042CERT

Sales Academy

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Courses			
MKTG 10104104	Selling Principles	3	3-0
FSHNMKTG 10104124	Retail Management	3	3-0
MKTG 10104160	Sales Management	3	3-0

Effective 2020-2021
Program Number: 311451

Small Business Entrepreneurship

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
SMLBUS 10145105	Operations Management	3	3-0
SMLBUS 10145106	Small Business Marketing	3	3-0
SMLBUS 10145117	Introduction to Entrepreneurship	3	3-0
SMLBUS 10145185	Customer Service Management	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
ACCTG 10101106	Accounting Fundamentals	3	3-0
MKTG 10104104	Selling Principles	3	3-0
SMLBUS 10145102	Small Business Development	3	3-0
SMLBUS 10145108	Field Experience	2	1-0
BUSADM 10102143	Management Techniques	3	3-0
	Required Technical Course Selection	3	
Technical Course Selection Options (Complete 3 credits)			
BUSADM 10102160	Business Law 1	3	3-0
ADMINPRF 10106100	Mindset for Success	3	3-0
MKTG 10104111	Digital Innovations	3	3-0
MKTG 10104114	Social Media Principles	3	3-0
FSHNMKTG 10104118	Store Operations	3	2-2
MKTG 10104169	Internet Marketing	3	3-0
MKTG 10104180	Global Marketing	3	3-0

Effective 2020-2021
Program Number: 908021CERT

Spanish Language Proficiency

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Language Requirement			
Completion of two courses in Spanish (at the Spanish 3 or higher level) is required. At least 3 credits must be enrolled in at Madison College.			
SPANISH 20802213	Spanish 3	4	3-2
SPANISH 20802214	Spanish 4	4	3-2
SPANISH 20802215	Spanish 5	3	3-0
SPANISH 20802218	Spanish 6	3	3-0
Practicum Requirement			
Completion of both practicum courses is required.			
HUMAN 20802261	Intercultural Experience Practicum 1	1	0-2
HUMAN 20802262	Intercultural Experience Practicum 2	1	0-2
Additional Course Requirement			
Completion of at least one of the listed courses is required.			
ANTHRO 20809283	Cultural Anthropology & Human Diversity	3	3-0
ANTHRO 20809285	Anthropology of Myth, Magic, and Religion	3	3-0
ANTHRO 20809286	The Anthropology of Globalization & Multiculturalism	3	3-0
ART 20815210	Art History: Renaissance to Modern	3	3-0
DRAMA 20810238	Cultural Diversity in Contemporary American Theater	3	3-0
ECON 20809214	Intro International Econ	3	3-0
ENGLISH 20801207	World Indigenous Literatures	3	3-0
ENGLISH 20801212	Ethnic Literature	3	3-0
ENGLISH 20801213	Native American Literature	3	3-0
ENGLISH 20801214	African American Literature	3	3-0
ENGLISH 20801222	U.S. Latino Literature	3	3-0
ENGLISH 20801223	Peace, Conflict, and Literature: The Arts of the Contact Zone	3	3-0
ENGLISH 20801226	Introduction to African Literature	3	3-0
FILM 20810254	History Of World Cinema	3	2-2
HISTORY 20803204	Renaissance, Reformation, and Revolution	3	3-0
HISTORY 20803205	Europe and Modern World	3	3-0
HISTORY 20803224	History of Sub Saharan Africa	3	3-0
HISTORY 20803225	World In 20th Century	3	3-0
HISTORY 20803233	Gender and Women's History in Cultural Representations	3	3-0
HISTORY 20803234	Gender and Women's Global History	3	3-0
JOURNAL 20801252	World Issues Journalism	3	3-0
LITTRANS 20802250	Literature in Translation	3	3-0
MUSIC 20805207	World Music	3	3-0
PHILOS 20809263	East/West World View	3	3-0
POLISCI 20809223	International Relations	3	3-0
POLISCI 20809245	Latin American Politics	3	3-0

POLISCI 20809246	African Politics	3	3-0
SOC 10809172	Introduction to Diversity Studies	3	3-0
SOC 20809240	Introduction to Latin America	3	3-0
SOC 20809252	Race and Ethnicity in the U.S.	3	3-0
SOCSCI 20809256	International Perspectives on Gender and Women	3	3-0
	Honors courses may be available. See the certificate advisor for details.	2	

Oral Competency Assessment Requirement
Completion of the World Language Oral Assessment with a minimum score of 6 within the last three years is required.

Madison Area Technical College

Effective 2020-2021
Program Number: 504354

Steamfitting Service Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
HVAC 50401550	HVAC Fundamentals of Refrigeration	2	4-0
HVAC 50401580	HVAC Refrigeration Drawing & Layout	1	2-0
HVAC 50413527	HVAC Electrical-Mechanical Equipment Servicing 1	1	2-0
Second Semester			
HVAC 50401560	Commercial Refrigeration 1	1	3-0
HVAC 50401570	Refrigeration Service Mathematics	1	1.77-0
ELEC 50413528	Electric Controls for Mechanical Equipment 2	1	2-0
PSYCH 50809551	Job Relations	0	1-0
Third Semester			
HVAC 50401561	Commercial Refrigeration 2	1	3-0
ELEC 50413529	Electrical Controls for Mechanical Equipment 3	1	1-1
STEAM 50435558	Pneumatic Controls for HVAC	1	3-0
Fourth Semester			
HVAC 50401572	Related Business	1	2-0
ELEC 50413554	Electric Controls of Mechanical Equipment 4	1	1-2
STEAM 50435570	Gas and Oil Burner Service	1	3-0
Fifth Semester			
HVAC 50401598	Digital Energy Management Systems	2	4-0
STEAM 50435571	System Start, Test, & Balance	2	4-0

Effective 2020-2021
Program Number: 504353

Steamfitting-Construction Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
WELD 50442500	Fundamentals of Arc Welding	4	2-6
Second Semester			
WELD 50442504	Advanced Pipe Welding Techniques	4	2-6
Third Semester			
STEAM 50435575	Science for Steamfitters	1	3-0
STEAM 50435580	Basic Drawing for Steamfitters	1	2-0
STEAM 50435581	System Layout & Design	1	2-0
STEAM 50435585	Mathematics for Steamfitters 1	0	1-0
Fourth Semester			
STEAM 50435550	Hot Water Heating Systems	1	3-0
STEAM 50435583	Applied Field Drawing for Steamfitters	1	0-2
STEAM 50435584	CAD for Steamfitters	1	2-0
STEAM 50435586	Mathematics for Steamfitters 2	0	1-0
Fifth Semester			
STEAM 50435552	Refrigeration Servicing	2	4-0
STEAM 50435555	Steam Applications	2	4-0

Effective 2020-2021
Program Number: 900073CERT

Stem Cell Technologies

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester (Spring Only)			
BIOTECH 10007118	Introduction to Human Stem Cell Concepts	1	1-0
BIOTECH 10007119	Advanced Human Stem Cell Concepts	1	1-0
BIOTECH 10007117	Advanced Human Stem Cell Methods	3	0-6

Effective 2020-2021
Program Number: 315121

Surgical Technologist

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Pre-Surgical Technologist Courses			
Choose from one of the two General Anatomy & Physiology courses or Anatomy and Physiology 1 & 2:			
BIOLOGY 10806177	Gen Anatomy & Physiology	4	3-2
BIOLOGY 20806206	General Anatomy and Physiology	4	3-2
BIOLOGY 20806207	Anatomy and Physiology 1	4	3-2
BIOLOGY 20806208	Anatomy and Physiology 2	4	3-2
FOUNHLTH 10501101	Medical Terminology	3	3-0
ENGLISH 10801195	Written Communication	3	3-0
SURGT 31512317	Surgical Technologist Functional Microbiology	1	2-0
First Semester			
SURGT 31512327	ST: Introduction	4	6-2
SURGT 31512328	ST: Fundamentals 1	4	6-2
SURGT 31512329	ST: Fundamentals 2	2	2-2
SURGT 31512330	ST: Clinical 1	3	0-0
Second Semester			
SURGT 31512331	ST: Surgical Procedures	4	8-0
SURGT 31512332	ST: Clinical 2	4	0-0
SURGT 31512334	ST: Clinical 3	4	0-0

Madison Area Technical College

Effective 2020-2021
Program Number: 104995

Technical Studies Journey Worker

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

	Credits/Units	Hrs/Week LEC-LAB

Coursework Required for Degree

Occupational Specific Courses (39 credits)
The Occupational Specific Course area is met by a Wisconsin Apprenticeship Completion Certificate issued by the Department of Workforce Development-Bureau of Apprenticeship Standards registered program which included a minimum of 400 hours of prescribed apprentice related instruction in the Wisconsin Technical College System.

General Education (21 credits)
General Education courses must meet the WTCS Associate of Applied Science Degree requirement for a minimum of 21 credits of General Education distributed across the following categories.

Communications	6
Social Science	3
Behavioral Science	3
Math and/or Science	3
Additional General Education	6

Effective 2020-2021
Program Number: 504512

Telecommunications Voice Data Video Installer Technician

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
TEL&CBL 50451591	Voice Data Video Install Sem 1	2	3.39-0.56
Second Semester			
TEL&CBL 50451592	Voice Data Video Install Sem 2	2	3.39-0.56
Third Semester			
TEL&CBL 50451593	Voice Data Video Install Sem 3	2	3.39-0.56
Fourth Semester			
TEL&CBL 50451594	Voice Data Video Install Sem 4	2	3.39-0.56
Fifth Semester			
TEL&CBL 50451595	Voice Data Video Install Sem 5	2	3.39-0.56
Sixth Semester			
TEL&CBL 50451590	Voice Data Video Install Sem 6	2	3.39-0.56

Effective 2020-2021
Program Number: 315371

Therapeutic Massage

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
FOUNHLTH 10501153	Body Structure & Function - Used in a variety of Degree Programs	3	3-0
THERMASS 10537136	Musculoskeletal Anatomy for the Massage Therapist	4	3-2
THERMASS 31537340	Therapeutic Massage 1	4	2.44-5.55
THERMASS 31537342	Therapeutic Massage 2	4	2.44-5.55
Second Semester			
THERMASS 10537137	Kinesiology for the Massage Therapist	3	3-0
THERMASS 10537139	Pathology and Medical Terminology for the Massage Therapist	3	3-0
THERMASS 31537344	Specialized Techniques for Therapeutic Massage	4	2-6
THERMASS 31537346	Therapeutic Massage Clinic and Business Practices	4	2-6

Effective 2020-2021
Program Number: 504393

Tool & Die Apprentice

Apprenticeship Completion

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MACHT 50420711	Mathematics for the Machine Trades	1	1.61-0.38
MACHT 50420715	Mechanical Hardware & Hand Tools for Machine Trades Apprentices	1	1.61-0.38
Second Semester			
MACHT 50420713	Precision Measurement for Machine Tool Trade Apprentices	1	1.61-0.38
MACHT 50420714	Engineering Drawings for Machine Tool Trades Apprentices	1	1.61-0.38
Third Semester			
MACHT 50420710	Safety for Machine Tool Trade Apprentices	0	0.33-0.16
MACHT 50420720	Cut-Off Machines for Machine Trades Apprentices	0	0.33-0.16
MACHT 50420721	Metallurgy & Materials for Machine Trades	1	1.61-0.38
MACHT 50420732	Machine Tool Apprenticeship Greening Competencies - SAGE Project	0	0.72-0.27
Fourth Semester			
MACHT 50420716	Turning Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420717	Milling Machines for Machine Trades Apprentices	0	0.5-0.27
MACHT 50420718	Drilling Machines for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420719	Grinding Machines for Machine Trades Apprentices	0	0.72-0.27
Fifth Semester			
MACHT 50420725	Basic CAD/CAM for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420726	Jig and Fixture Design for Machine Trades Apprentices	0	0.72-0.27
MACHT 50420727	Geometric Design and Tolerancing for Machine Trades Apprentices	0	0.72-0.27
Sixth Semester			
MACHT 50420724	CNC Programming and Planning for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420733	CNC Operations for Machine Tool Trades Apprentices	1	1.61-0.38
Seventh Semester			
MACHT 50420728	Stamping Diemaking for Machine Tool Trade Apprentices	1	1.61-0.38
MACHT 50420729	Mold Making for Machine Tool Trade Apprentices	1	1.61-0.38
Eighth Semester			
MACHT 50420723	Electrical Discharge Machining for Machine Tool Trade Apprentices	0	0.72-0.27
MACHT 50420712	Communications for Apprentices		0.77-0.22
Complete 1 of the following to complete the Eighth Semester			

MACHT 50420730	Stamping Design Applications for Machine Trades Apprentices	1	1.61-0.38
MACHT 50420731	Molding Die Design Applications for Machine Tool Trade Apprentices	1	1.61-0.38

Effective 2020-2021
Program Number: 310017

Tree Care Technician

A Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
URBN FOR 10001101	Introduction to Arboriculture	2	1-2
URBN FOR 10001102	Plant Health Care Applicator	2	2-0
URBN FOR 10001110	Tree Biology	2	1-2
URBN FOR 10001118	Landscape Plant Identification	2	1-2
URBN FOR 10001124	Fundamentals of Aerial Tree Work	3	1-4
Second Semester			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
URBN FOR 10001113	Ornamental Plant Health Care for Arboriculture	3	2-2
URBN FOR 10001133	Equipment and Chainsaw Safety and Operation	3	1-4
URBN FOR 10001138	Landscape Management 1	3	2-2
URBN FOR 10001173	Urban Tree Maintenance	2	1-2
Select one of the following practicum courses:			
URBN FOR 10001121	Tree Crew Practicum 1	2	0-4
URBN FOR 10001125	Aerial Tree Work Practicum 1	2	0-4

Effective 2020-2021
Program Number: 100911

Veterinary Technician

An Associate in Applied Science Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
VETTECH 10091105	Occupational Preparation	1	1-0
VETTECH 10091123	Lab Animal Science 1	2	1-0
VETTECH 10091170	Veterinary Medical Terminology - Veterinary Technician Program	2	2-0
VETTECH 10091171	Animal Care and Management 1	3	2-0
ENGLISH 10801195	Written Communication	3	3-0
BIOLOGY 10806105	Principles of Animal Biology	4	3-2
Second Semester			
VETTECH 10091107	Animal Disease 1	2	2-0
VETTECH 10091109	Pharmacology 1 - Animals	2	1-2
VETTECH 10091120	Veterinary Clinical Pathology 1	3	1-4
VETTECH 10091131	Veterinary Office Procedures 1	1	1-0
VETTECH 10091172	Animal Care And Management 2	3	2-0
CHEM 20806201	General, Organic & Biological Chemistry	5	4-2
Third Semester (summer)			
VETTECH 10091158	Internship - Veterinary Technician Program	4	0-0
Fourth Semester			
VETTECH 10091108	Animal Disease 2	2	2-0
VETTECH 10091124	Veterinary Clinical Pathology 2	3	2-0
VETTECH 10091127	Surgical Nursing 1	3	2-0
VETTECH 10091128	Animal Nursing 1	2	1-0
VETTECH 10091132	Veterinary Office Procedures 2	1	0-2
VETTECH 10091140	Animal Anatomy & Physiology 1	3	1-4
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Fifth Semester			
VETTECH 10091110	Pharmacology 2	2	2-0
VETTECH 10091121	Veterinary Clinical Pathology 3	3	1-4
VETTECH 10091122	Advanced Topics in Veterinary Medicine	1	1-0
VETTECH 10091152	Surgical Nursing 2	3	2-0
VETTECH 10091153	Diagnostic Imaging	3	2-0
SOC 10809197	Contemporary Amer Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0

Effective 2020-2021
Program Number: 902061CERT

Video Production

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
VICOM 10206131	Sound Production Techniques	3	0-6
VICOM 10206130	Video Production	3	0-6
VICOM 10206129	Motion Design	2	0-4
Second Semester			
VICOM 10206142	Advanced Video Production	3	0-6
VICOM 10206151	Advanced Audio Techniques	3	0-6
VICOM 10206162	Video Project Management	3	0-6
JOURNAL 20801253	Documentary Storytelling	3	2-2

Madison Area Technical College

Effective 2020-2021
Program Number: 102061

Visual Communications

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
GRDSGN 10201102	Design Fundamentals	3	0-6
GRDSGN 10201103	Drawing Fundamentals	3	0-6
GRDSGN 10201136	Concept Development	2	0-4
GRDSGN 10201137	Survey of Design Communication	1	1-0
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
PHOTO 10203130	Introduction to Photography and Video	2	0-4
ENGLISH 10801195	Written Communication	3	3-0
Second Semester			
GRDSGN 10201112	Color	2	0-4
GRDSGN 10201151	Typographic Design	3	0-6
GRDSGN 10201177	Web Page Design	3	0-6
VICOM 10206130	Video Production	3	0-6
VICOM 10206131	Sound Production Techniques	3	0-6
MATH 10804123	Math with Business Applications	3	3-0
Third Semester			
GRDSGN 10201121	Graphic Design	3	0-6
VICOM 10206151	Advanced Audio Techniques	3	0-6
VICOM 10206129	Motion Design	2	0-4
VICOM 10206142	Advanced Video Production	3	0-6
VICOM 10206162	Video Project Management	3	0-6
COMM 10801196	Oral/Interpersonal Communication	3	3-0
Fourth Semester			
VICOM 10206125	Instructional Media Systems	3	0-6
VICOM 10206128	Compositing and Special Effects	3	0-6
GRDSGN 10201162	Portfolio Preparation	2	0-4
SOC 10809197	Contemporary American Society	3	3-0
PSYCH 10809199	Psychology Of Human Relations	3	3-0
	Elective	3	

Effective 2020-2021
Program Number: 908013CERT

Visual Storytelling

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
Required Courses			
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
PHOTO 10203130	Introduction to Photography and Video	2	0-4
VICOM 10206130	Video Production	3	0-6
JOURNAL 20801253	Documentary Storytelling	3	2-2
JOURNAL 20801262	Social Media Writing	3	3-0
JOURNAL 20801271	Journalism Practicum 1	1	0-2

Madison Area Technical College

Effective 2020-2021
Program Number: 102013

Web & Digital Media Design

An Associate in Applied Arts Degree

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
ENGLISH 10801195	Written Communication	3	3-0
MATH 10804123	Math with Business Applications	3	3-0
GRDSGN 10201102	Design Fundamentals	3	0-6
GRDSGN 10201103	Drawing Fundamentals	3	0-6
GRDSGN 10201136	Concept Development	2	0-4
GRDSGN 10201137	Survey of Design Communication	1	1-0
GRDSGN 10201181	Introduction to Computer Graphics	3	0-6
Second Semester			
PSYCH 10809199	Psychology Of Human Relations	3	3-0
GRDSGN 10201112	Color	2	0-4
GRDSGN 10201151	Typographic Design	3	0-6
GRDSGN 10201163	UX Design	3	0-6
GRDSGN 10201177	Web Page Design	3	0-6
GRDSGN 10201198	Social Media/Web Design Strategies	3	3-0
Third Semester			
COMM 10801196	Oral/Interpersonal Communication	3	3-0
GRDSGN 10201121	Graphic Design	3	0-6
GRDSGN 10201156	Programming for Designers	3	0-6
GRDSGN 10201157	Social Media Concepting	3	0-6
GRDSGN 10201195	Advanced Web Page Design	3	0-6
VICOM 10206129	Motion Design	2	0-4
Fourth Semester			
SOC 10809197	Contemporary American Society	3	3-0
GRDSGN 10201158	Advanced Digital Design	2	0-4
GRDSGN 10201162	Portfolio Preparation	2	0-4
GRDSGN 10201178	Applied UX/UI Design	3	0-6
GRDSGN 10201189	Web Design Project Management	3	0-6
	Elective	3	
Recommended Electives			
ITPROG 10152119	Introduction to Programming with JavaScript	3	2-2
GRDSGN 10201153	Integrated Design	2	0-4
GRDSGN 10201183	Electronic Illustration	2	0-4
GRDSGN 10201184	Advanced Design & Layout	2	0-4

Effective 2020-2021
Program Number: 902011CERT

Web & Interactive Design

Certificate

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
GRDSGN 10201156	Programming for Designers	3	0-6
GRDSGN 10201163	UX Design	3	0-6
GRDSGN 10201195	Advanced Web Page Design	3	0-6
GRDSGN 10201198	Social Media/Web Design Strategies	3	3-0
Second Semester			
GRDSGN 10201158	Advanced Digital Design	2	0-4
GRDSGN 10201189	Web Design Project Management	3	0-6
GRDSGN 10201178	Applied UX/UI Design	3	0-6

Madison Area Technical College

Effective 2020-2021
Program Number: 314421

Welding

A One Year Technical Diploma

Curriculum

The courses listed below outline the requirements for completion for students officially admitted in the 2020-2021 academic year. Requirements for completion may vary depending on the semester in which a student is admitted. Current/continuing students should consult their Academic Requirements report available through their student center account for specific requirements, as requirements are subject to change.

		Credits/Units	Hrs/Week LEC-LAB
First Semester			
MECTEC 10606200	Interpreting Engineering Drawings	2	0-4
WELD 31442312	Oxy Fuel Welding and Thermal Cutting	2	2-2
WELD 31442314	Arc Welding Theory	2	4-0
WELD 31442315	Basic Arc (SMAW)	2	0-4
WELD 31442318	Gas Tungsten Arc Welding 1 (GTAW/TIG)	2	0-4
WELD 31442323	Basic Gas Metal Arc Welding (GMAW/MIG)	2	2-2
MTLFAB 31457301	Fabrication 1	2	1-3
MATH 31804379	Vocational Math 1	1	2-0
Second Semester			
IND MECH 10462100	Safety for Industry	1	0-2
WELD 31442320	Welding Occupational Development	1	2-0
WELD 31442321	Arc Welding (SMAW) Vertical	2	2-2
WELD 31442322	Advanced Welding Techniques	2	2-2
WELD 31442326	Flux Cored & Advanced Gas Metal Arc Welding (FCAW/GMAW)	2	1-3
WELD 31442328	Gas Tungsten Arc Welding 2 (GTAW/TIG)	2	1-3
WELD 31442390	Fundamentals of Metallurgy	2	4-0
MTLFAB 31457302	Fabrication 2	2	1-3

Degree Credit Course Descriptions

809 20809278 **Intro to Buddhism** **3 Credits/Units**

Focuses on Buddhism and the diverse Asian cultures with which it engages from its Indian inception and original encounter with Hindu and Jain traditions to it's Chinese (including Japan et. al.) encounter with Daoism and Confucianism. Finally, Tibetan (including Mongolian et. al.) developments and development of Tantric tradition will be addressed along with the emergence of Buddhism in the West. This course will encompass not only intellectual but artistic, social and historical developments. Students will acquire factual knowledge through formative assessments such as on-line quizzes, peer-to-peer review and in-class debates leading to four summative assessment midterms. Students will be able to synthesize diverse data through a research project developed through an outline, paper and final documentary project.

ACCTG 10101106 **Accounting Fundamentals** **3 Credits/Units**

Surveys accounting principles and practices with an emphasis on interpretation, rather than preparation, of financial statements. Presents basic business terminology, cash basis and accrual basis accounting, ratio analysis, payroll, and budgeting. This class is not for students majoring in accounting.

ACCTG 10101111 **Accounting 1 - Principles** **4 Credits/Units**

Introduction to the field of accounting. The accounting cycle of journalizing transactions, posting, adjusting and closing entries, as well as the preparation of accounting statements is emphasized for service industries and merchandising concerns. Details of accounting for cash and receivables are studied. An introduction to a computerized accounting system is also included.

ACCTG 10101113 **Accounting 2 - Principles** **4 Credits/Units**

Procedures of accounting for partnerships and corporations. Additional topics include fixed assets, current liabilities and payroll, long-term liabilities, investments, statement of cash flows, analysis of financial statements, and may include an introduction to cost accounting.

ACCTG 10101118 **Management Accounting** **4 Credits/Units**

Emphasizes the managerial use of accounting reports, the problem-solving functions of accounting in relation to current planning and control, performance evaluation, long-range planning, budgets and cost-volume-profit relationships.

ACCTG 10101121 **Accounting 3-Intermediate** **4 Credits/Units**

This intermediate-level course builds on the material covered in the Accounting Principles-1 and -2 courses. It expands on earlier coverage of both the income statement and balance sheet. Revenue recognition concepts and methods are covered. Emphasis is also placed on each classification of asset. This emphasis includes in-depth coverage of cash, receivables and inventory. Coverage also includes operational asset acquisition, depreciation, and disposal. Present value concepts are studied and applied. Excel spreadsheet software is used in this course.

ACCTG 10101122 **Accounting 4-Intermediate** **4 Credits/Units**

Emphasizes analysis of financial statements. Generally accepted accounting principles are applied in the preparation, analysis and interpretation of financial statements. Particular emphasis is applied to valuation of current and long-term liabilities and stockholders' equity, and earnings per share. Special topics included are deferred income taxes, long-term investments, and leases. Further consideration is applied to errors and their correction, and statements of cash flow. Comparison and analysis is also made between GAAP and international standards(IFRS).

ACCTG 10101123 **Tax 1** **4 Credits/Units**

Introduction to federal and state income tax laws with an emphasis on personal taxes. These areas are included: filing status, personal exemptions and standard deductions; income recognition, itemized deductions, credits, depreciation, gains and losses, and sole proprietorship taxation. The course also requires the preparation of a series of individual income tax returns.

ACCTG 10101125 **Cost Management** **4 Credits/Units**

This course presents typical accounting methods and processes that are used for collecting information for effective decision making for both manufacturing and service environments. Areas emphasized include job order costing, process costing, standard costing, activity based costing, budgeting, cost allocations, cost-volume-profit analysis and capital investment analysis. Students will be required to prepare and analyze various management reports.

ACCTG 10101137 **Computerized Accounting Applications** **2 Credits/Units**

Provides practical experience developing and applying flexible solutions to accounting problems using Excel. Spreadsheet tools that may be utilized include analysis formulas, cross-referencing and linking, lookup, statistical, date/time, database and financial functions; tables, pivot tables, dashboards, transferring Excel information into other programs, logical statements (IF); what-if tools, charting and macros. Students will also benchmark ten-key data entry speed and improve this skill as needed.

ACCTG 10101138 **Accounting And Payroll Systems** **3 Credits/Units**

A survey of accounting and payroll systems covering procedures and methods to capture data and report financial information. Specific topics include flowcharting, internal controls, and transaction work in both manual and computerized environments. Special emphasis is also placed on payroll calculations and the processing of payroll information. Lab intensive course involving hands-on experience with Excel spreadsheet software and accounting software.

ACCTG 10101139 QuickBooks-Beginning 1 Credits/Units

Introduction to QuickBooks-Beginning small business accounting software. Students become familiar with QuickBooks features and learn to use the software to set up a new company, manage business revenue and expenses, process payroll, reconcile bank accounts, track inventory and create useful reports. A tutorial approach will be followed using a textbook and practice problem templates. Prerequisites:

(1) Course work or experience in Microsoft Windows and using email is required.

(2) Accounting program students should take this course the second half of the semester they take 10-101-111 Accounting 1-Principles (or they may take it in a semester after they have completed Accounting-Principles). (Non-program students working in the accounting field or with small business management experience should obtain permission from the instructor to register, and take the course in a section during the first half of a semester.

ACCTG 10101140 Accounting/Business Internship 3 Credits/Units

Opportunity for students to apply accounting or business skills in a real life business environment. Activities may include working with bank and account reconciliations, accounts payable preparation, spreadsheet work and development, preparing and analyzing financial reports, tax return preparation and other business related duties as requested by the employer.

ACCTG 10101141 QuickBooks-Intermediate 1 Credits/Units

QuickBooks-Intermediate is the next course offering after QuickBooks-Beginning which provides student users with in-depth material on advanced topics. Topics will include inventory; Sales Tax; Time Tracking; Payroll Setup and Processing; Estimates and Sales Orders; Budgeting, Forecasting & Business Planning; and Adjustments and Year-End Procedures. A tutorial approach will be followed using a textbook and practice problem company files.

ACCTG 10101142 Accounting Capstone 3 Credits/Units

This course will provide students an opportunity to demonstrate their attainment of program outcomes through the completion of a project. This project accounts for a small business through the accounting cycle, review of internal controls, and financial analysis.

ACCTG 10101154 Payroll Accounting 1 Credits/Units

This course introduces the student to the many aspects of payroll accounting, administration, and management. The course is intended for accounting students, other business students and outside professionals who have a need or interest in understanding the laws and regulations, the calculations (including all payroll taxes), the government reporting and the accounting entries related to the payroll function.

ADMINPRF 10106100 Mindset for Success 3 Credits/Units

Designed to foster the attitudes and skills that can inspire and empower you throughout your career regardless of your chosen path. Develop and improve skills in creativity, ambition, critical thinking, innovation, opportunistic thinking, and teamwork through experiential and problem-solving approaches. Become an engaged workplace contributor and develop a workforce-ready mindset.

ADMINPRF 10106106 Business Writing and Research 3 Credits/Units

Apply effective writing strategies to compose employment-related correspondence including business letters, memos, informal reports, and formal reports. Learn to use correct-order writing plans as well as appropriate tone, etiquette, and style. Apply writing, researching, and critical thinking skills in the context of real business writing scenarios. Reinforcement of grammar, punctuation, and proofreading will be integrated throughout the course.

ADMINPRF 10106107 Business Document Applications 3 Credits/Units

Achieve expert-level Word skills by learning the world's leading word processing program within the Microsoft Office Suite. Emphasis is placed on learning to use Microsoft Office Word software to efficiently and effectively produce business documents. Students will apply Microsoft Word skills to solve practical problems in a project-based format. Explore fundamentals and best practices in document creation, editing, formatting, collaboration, tables, mail merge, desktop publishing, themes, templates, forms, and macros. Prerequisites: Windows competency, including solid file management skills; ability to key 30 WPM. This course will use Microsoft Office 365/Word 2019.

ADMINPRF 10106108 Proofreading And Editing 3 Credits/Units

Develop and refine writing skills with a focus on effective communication within the professional workplace. Review grammar, punctuation, and word usage skills. Proofread and edit business documents for appropriate content and clarity.

ADMINPRF 10106109 Business Spreadsheet Applications 3 Credits/Units

Create professional data-driven workbooks utilizing Microsoft Office Excel spreadsheet software. Using Microsoft Excel, work with formulas and a variety of time-saving functions; professionally format worksheets; create charts and tables; utilize advanced functions and apply conditional formatting; work with multiple worksheets, workbooks, and templates; incorporate data validation; utilize worksheet protection; create macros; export and cleanse data sets; and perform what-if analysis with Scenario Manager, Data Tables, and Solver. Recommended prerequisite: Windows competency, including solid file management skills. This course will use Microsoft Office 365/Excel 2019.

ADMINPRF 10106121 Office Technology and Procedures 3 Credits/Units

Learn new technological advances used in today's office. Topics include office equipment; business procedures; digital communication; digital security, privacy, and threats; computer components; storage; and procedures that prepare you to work alongside administrative leaders via real-world business scenarios.

ADMINPRF 10106126 Software Capstone 3 Credits/Units

This is a capstone course for the Administrative Professional and Medical Administrative Specialist programs. This course is based upon knowledge learned in previous courses and uses multiple software applications, including but not limited to Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and Microsoft Access. Apply industry-standard formats to business correspondence including, business letters, reports, and publications. Manage information, apply critical-thinking skills to real-world scenarios, research topics, and compose a variety of integrated business documents, spreadsheets, databases, and presentations. This course will use Microsoft Office 365/Office 2019.
Enrollment Requirements:
Prerequisite: 10106107 OR 10103136; 10106109 OR 10103139; 10106231 OR 10103143; 10106240 OR 10103145; Co-req 10106106

ADMINPRF 10106139 Keyboard Skillbuilding 1 Credits/Units

Refine keyboarding technique, increase speed, and improve accuracy through individualized practice. The student must be able to touch type, which is defined as using the correct key reaches and not looking at the keys while typing, at a minimum rate of 25 words per minute. Equipment requirement: Access to Internet.

ADMINPRF 10106164 Customer Contact Skills 2 Credits/Units

Develop a foundation in customer service knowledge and skills through inquiry and analysis of internal and external customers, verbal and nonverbal communication, listening techniques, critical thinking and problem-solving, as well as adding value to customer service interactions. Focus on the impact of technology on customer service, analyze service breakdowns and recovery, examine customer loyalty programs, and explore the diverse customer base within our global economy.

ADMINPRF 10106172 Administrative Office Management 3 Credits/Units

Develop the skills necessary to succeed in a global business office. Topics include: teamwork and interpersonal skills, business travel, meeting preparation and support, meeting minutes/note taking, online surveys, workplace confidentiality, management and leadership skills, and global business perspectives. Learn how to effectively manage and support others within an organization.

ADMINPRF 10106190 Professional Development 1 Credits/Units

Get fully prepared for your job or internship search! Build an electronic portfolio by creating an effective resume, cover letter, and thank you letter. Polish interviewing, networking, and personal branding skills. Learn effective techniques to present yourself to employers for job prospects or promotions.

ADMINPRF 10106192 Internship - Administrative Professional 1 Credits/Units

Gain valuable, hands-on experience for your job search. Complete a 72-hour internship in an office setting supervised by a cooperating employer. Students will correspond with the Instructor via video conferencing and written reports. Must be in the last semester before graduation. Note: This is a fully online course. This course does not require on campus meetings.

ADMINPRF 10106199 Internship - Office Management 1 Credits/Units

Gain valuable, hands-on experience for your job search. Complete a 72-hour internship in an office setting supervised by a cooperating employer. Students will correspond with the Instructor via video conferencing and written reports. Must be in the last semester before graduation. Note: This is a fully online course. This course does not require on-campus meetings. Students must be in their final semester before graduation, having completed all courses in the prior three semesters for the Office Management program.

ADMINPRF 10106231 Business Presentations and Publications 3 Credits/Units

Explore key graphic design principles and best practices for designing and presenting. Using Microsoft PowerPoint, incorporate graphics, SmartArt, icons, sound, video, narration, charts, and tables to engage your audience. Add transitions and animation to enhance presentations. Work with the Slide Master to fully customize presentations. Explore desktop publishing using Microsoft Publisher to develop eye-catching handouts, flyers, brochures, newsletters, and custom publications. Prerequisite: Windows competency, including solid file management skills. This course will use Microsoft Office 365/Publisher and PowerPoint 2019.

ADMINPRF 10106240 Business Information Management 3 Credits/Units

Concentrates on the fundamentals of managing the record and information life cycle; rules for paper and electronic filing systems; charge-out procedures; retention schedules; transfer methods; control measurements; imaging systems and information security. Incorporates database skills using Microsoft Access including how to plan, create, and manage data; modify a database structure; relate tables; find, filter, query and sort data; create forms and reports; and import, export and link database properties. This course offers the opportunity to earn a badge in Records and Information Life Cycle. This course will use Microsoft Office 365/Access 2019.

AGMECH 10070150 Precision Farming (Ag Management Solutions) 1 Credits/Units

This course will introduce students to GPS and how it works with agricultural machinery functionality. Basic GPS equipment guidance systems set-up, operation and diagnostics will be utilized. Types of GPS signals and their applications currently used on John Deere agricultural equipment will be covered.

AGMECH 10070175 Power Transmissions 4 Credits/Units

The course covers the operation, power flow, diagnosis and servicing of collar shift, synchronized and power shift transmissions. The class also discusses the operation and service of wet and dry clutches differentials, planetary drive axles, P.T.O. drives and mechanical front wheel drives.

AGMECH 10070176 Electrical Systems 5 Credits/Units

This class begins with a discussion of the laws of electricity as they relate to the operation of the charging, starting and lighting systems. Diagnostic testing and troubleshooting will be demonstrated on alternators, starters and lighting systems. Methods of repair will be demonstrated where methods are currently used at the dealerships.

AGMECH 10070177 Fuel Systems 3 Credits/Units

This course covers the theory of operation, construction and service of diesel engine fuel systems. Also reviewed are diesel engine compression, ignition, theory combustion, chamber design and procedures for installing, timing of fuel quantity for proper combustion. Electronic fuel delivery will be discussed as it relates to engine operation.

AGMECH 10070178 Implements 2 3 Credits/Units

This course provides instruction in the theory of operation and service of the grain combine. Students will learn how the combine processes grain, the basic components, means of service and repair of the machine. Lab work is designed to provide students with hands-on experience on combines, grain platforms and corn heads. Service and adjustment activities include the cylinder, gear boxes and power transmission components.

AGMECH 10070181 Implements 1 4 Credits/Units

This course provides instruction in the theory of operation, adjustment and service of planting equipment. Students will learn the operation and service of corn planters and grain drills. Emphasis is given to how the corn planter seed meters work and how the attachments operate. In addition, the course also provides information on the theory, operation, adjustment and service of forage harvesting machines. Machines covered include mower conditioners, square balers, round balers and forage harvesters. Bearings, clutches, U-joints and other power transmission components also are covered.

AGMECH 10070182 Accessories & Electronics 3 Credits/Units

This course will introduce the student to the type and operation temperature, pressure and speed sensors. Students wil be introduced to the central control unit (CCU) and the hitch control unit (HCU). Students will be shown the procedure for recalling codes and transmission calibration procedures. This course will provide the electrical certification for John Deere Technicians.

AGMECH 10070183 Hydraulics 4 Credits/Units

This course introduces the student to the hydraulic systems found on 30 through 60 series John Deere Tractors. The component configuration and operational characteristics of these tractors will be introduced. Students will service and rebuild the radial piston pump, S.C.V. and other components of the hydraulic system. Students will follow the technical manual diagnostic procedures to troubleshoot hydraulic system problems found on these tractors.

AGMECH 10070184 Hydraulics 2 3 Credits/Units

This course provides instruction on the 6, 7 and 8000 series John Deere tractors. The component configuration and operational characteristics of these tractors will be introduced. Students will service and rebuild the axial piston pumps, SCV's and other components of the hydraulic system. Students will follow the technical manual diagnostic procedures to check out and troubleshoot the hydraulic system.

AGMECH 10070187 Occupational Experience 1 - Agricultural Equipment Technology Program 2 Credits/Units

Students receive on-the-job experience in the areas of implement repair and service. Areas covered include, but are not limited to, tillage, planting and hay harvesting machines. Students also will be exposed to the operation and function of the dealership service department. Prerequisite: second-semester standing.

AGMECH 10070188 Occupational Experience 2 2 Credits/Units

Students receive on-the-job experience in the areas of combines, corn heads and grain platforms. Other areas covered include set-up, tillage and planting equipment.

AGMECH 10070189 Occupational Experience 3 2 Credits/Units
Students receive on-the-job experience in tractor engine repair, air conditioning, electrical, and hydraulic system troubleshooting. Other areas covered include service department operation, warranty work and customer contacts.

AGMECH 10070191 Engine Repair Theory 3 Credits/Units
Study in this course will allow the student to develop a basic knowledge of combustion engine design and operation with the major emphasis on diesel engines. Experience in the course will provide the student with the skills and knowledge needed to diagnose, overhaul, maintain, adjust and repair engines found in agricultural machines and equipment.

AGMECH 10070193 Air Conditioning 2 Credits/Units
This course covers the theory of operation, service and testing of air conditioning units used to cool and heat the operator's cab. Lab work consists of leak detecting, evacuation, charging component installations, electrical circuits and troubleshooting of systems. Air conditioning service certification tests are also given to students enrolled in this course.

AGMECH 10070195 Engine Repair 3 Credits/Units
Study in this course will allow the student to develop a basic knowledge of combustion engine design and operation with the major emphasis on diesel engines. Experience in the course will provide the student with the skills and knowledge needed to diagnose, overhaul, maintain, adjust and repair engines found in agricultural machines and equipment.

ANIM 10207103 Basic Drawing for Concepting 2 Credits/Units
An introductory drawing course emphasizing visualization and rendering skills necessary for concept development in animation and digital 3D. Students will learn the fundamentals of perspective, proportion, linear rendering, basic value structure, and digital approaches currently practiced in related industries. Lecture/demonstration and guided practice leads students toward the creation of concept drawings intended for modeling in 3D, including the development of variations, digital techniques to enhance productivity, and discussion of the strengths and limitations of 3D final execution.

ANIM 10207110 Animation 1 2 Credits/Units
General overview of professional animation, including current industry standards and practices. Students begin a basic study of motion dynamics based largely on the industry's "Fundamental Principles of Animation," presented through a combination of lecture and demonstration and continual analysis of existing professional animation. Contemporary standards, definitions, workflows, etc., are discussed as well as job organization and job-tracking skills, and translation of basic motion principles into digital 3D space.

ANIM 10207111 Texturing 1 2 Credits/Units
A foundation introduction to digital 3D. Students learn to organize electronic files and projects into a professional workflow, and to electronically navigate Cartesian space. Class activities include the basics of digital modeling and surfacing, and the translation of 2D prep-work into 3D prototypes.

ANIM 10207112 2D Fundamentals 2 Credits/Units
An introduction to Photoshop as used in professional 3D asset creation and concept development. File organization, efficiency, capture, and best practices are discussed, as well as basic texture creation, tiling, and interaction with 3D software.

ANIM 10207113 3D Fundamentals 2 Credits/Units
Students will begin with the basics of a 3D interface including selecting and manipulating objects, understanding Cartesian space as well as exploring best practices for organizing and structuring a 3D scene. Students will also be introduced to basic modeling tools and basic animation tools as a preparatory stage to the Modeling One and Animation One courses in the Animation Program Curriculum. This course will direct students towards building a solid understanding of the concepts, terms and workflows required to create professional level 3D assets for film and games.

ANIM 10207114 Modeling 1 2 Credits/Units
This course is an introduction to the fundamental techniques, theories, workflows and software as it relates to 3D modeling for real-time and pre-rendered production. Students will create digital models with an emphasis on topographical density, texture mapping, multi-step processes and asset design. Lectures and projects consist of the various production techniques that explore polygonal modeling and how to prepare constructed models for texturing.

ANIM 10207117 Figure Drawing for Concepting 3 Credits/Units
An introduction to drawing the human figure for the purpose of creating concept art for 3D industries. Course syllabus includes approaches to gestural sketching, proportional and anatomical construction, complete figure studies, and digital techniques for making corrections, variations, and enhancing productivity based on current 3D industry practices.

ANIM 10207120 Animation 2 2 Credits/Units

Continuation of the study of motion with emphasis on character movement and animation. A combination of lectures and class demonstration introduces students to forward- and inverse-kinematics, and gradually more complex rigging. The continued study of body mechanics and dynamics by analyzing classic and contemporary professional animation will assist students in translating their own ideas into credible motion in digital form.

ANIM 10207122 Texturing 2 2 Credits/Units

A continuation of Texturing 1, this course moves students into more complex modeling and surfacing challenges. Specialized techniques such as patch- and advanced spline-modeling are explored as well as specialized shaders, normal maps, and other advanced surfacing options. Students complete the semester with the design and creation of a complex, multi-part object correctly constructed, linked and boned for advanced animation techniques.

ANIM 10207130 Digital Set Design 1 2 Credits/Units

Students concentrate on the planning and construction of architectural and environmental spaces in game-engine software. Basic architectural principles as they relate to animation and appropriate effects for specific themes are explored as well as environmental factors relating to the creation of credible worlds. Class activities include the exploration of specialized perspective problems, world-specific texture-sets, lighting and composition.

ANIM 10207131 Animation 3 2 Credits/Units

By exploring various off-computer techniques for analyzing character motion, students practice translating their observations into digital form and applying them to their own creations. Extensive study of actual footage and professional work helps students make the conceptual transition from real-world to believable virtual motion.

ANIM 10207133 Digital Set Design 2 2 Credits/Units

Students build upon skills learned in Digital Set Design 1 and work toward the completion of a functional digital environment. In-engine animation and playback is discussed along with further studies in architectural principles, interior and exterior lighting, textures and fine-tuning the final appearance of each student's own creation.

ANIM 10207134 Modeling 3 2 Credits/Units

A continuation of modeling skills developed in first two semesters with concentration in creating character and creature models correctly structured for rigging and animation. Realistic and stylized designs are explored as well as advanced UV and basepage techniques.

ANIM 10207139 Design & Color for Concepting 2 Credits/Units

An introduction to the fundamental principles of design and how they relate to both 2D and 3D environments. The course examines differences in interpretation when design principles are applied to a variety of 2D and 3D scenarios. The second half of the semester introduces primary, secondary and tertiary colors leading to an in-depth exploration of color theory and how these concepts relate to 3D media.

ANIM 10207140 Advanced Animation Studio 1 2 Credits/Units

This is the first class in a two-part comprehensive animation studio series. It is a project-based course in which students develop their own projects in consultation with instructors. Extensive studio time provides advanced students with large blocks of instructor and equipment access and allows an in-depth study of particular aspects of digital 3D targeting the completion of a professional quality demo-reel. Group study and interaction is encouraged and detail job tracking is required.

ANIM 10207141 Production Studio 3 Credits/Units

Production Studio is an advanced course in multiple aspects of digital 3D motion. The focus of this course is to develop more intricate and complex character and mechanical animation.

ANIM 10207142 Animation Internship 2 Credits/Units

Students work on-site in a professional setting or work on a specific task in consultation with a professional mentor. Regular reviews with a professional are scheduled to assess the student's progress and work quality. Details of internship arrangements can be developed between the student and the participating company as long as specific minimum course requirements are fulfilled.

ANIM 10207144 Advanced Animation Studio 2 2 Credits/Units

This is the second class in a 2-part comprehensive studio series. It is a project-based course in which students develop their own projects in consultation with Instructors and industry professionals. Extensive studio time provides advanced students with large blocks of Instructor and equipment access, and allows an in-depth study of particular aspects of digital 3D targeting the student's particular interests. Group study and interaction is encouraged and detailed job-tracking is required.

ANIM 10207145 Portfolio for Animation 1 Credits/Units

Students will finalize a series of animations and other artwork to be posted online highlighting individual capabilities with the goal of targeting potential employers and/or four-year animation degree programs for further education. In addition, students prepare a professional-level 2D portfolio and a personal ID package (stationary, business cards, etc.). Participation in the year-end Applied Arts portfolio show is required.

ANIM 10207150 **Animation Concepts 1** **3 Credits/Units**
Intensive study of the process of developing visual concepts for 3D execution. Course Traditional and digital drawing techniques cover the design of architectural, mechanical, vehicle, and other assets related to the creation of credible and functional 3D environments.

ANIM 10207151 **Animation Concepts 2** **2 Credits/Units**
Intensive study of the process of developing visual concepts for 3D execution, with concentration on the development of character and creature ideas for 3D execution. Traditional and digital drawing techniques cover the design of functional body-mechanics, personality traits and other aspects related to creating the illusion of life.

ANIM 10207224 **Modeling 2** **2 Credits/Units**
This course is an advanced modeling class focusing on specific techniques for creating hard surface models. Hard surfaced models are defined in this course as man-made or machined objects, examples might include helmets, wind turbines, robots or furniture. Building on the concepts of Modeling 1, students will be required to design, research, model, texture and light various hard surface projects over the course of the semester.

ANTHRO 20809279 **Introduction to the Archaeology of Native North America** **3 Credits/Units**
Provides a detailed survey of the archaeology of North America from the initial movement of peoples into North America to European contact. This course will focus on each defined archaeological culture areas in turn, including: the Eastern Woodlands, Arctic, the Great Plains, Southwest, Plateau, Northwest Coast, and Central America. Students will also be provided with an understanding of basic archaeological theory and concepts as necessary to understand the intricacies of Pre-contact Native American cultures. This course will dispel modern stereotypes about Native North American cultures by providing details on Native American lifeways.

ANTHRO 20809280 **General Anthropology** **3 Credits/Units**
Anthropology is the study of humans and their culture, which includes a survey of three major sub-disciplines of anthropology: physical anthropology, which explores human biology, evolution and the emergence of culture; archeology, which examines the physical evidence of past cultures; and cultural anthropology, which focuses on contemporary culture.

ANTHRO 20809281 **Archaeology & Prehistoric World** **3 Credits/Units**
Designed for students interested in the human past, the period of prehistory where few written records exist and most knowledge of the period comes via archaeological investigations. Organized in a historical and topical fashion, the course traces the evolution of human culture through time, focusing on the best known archaeological sites in Africa, Asia, Europe, North America and Mesoamerica. Emphasis on major changes in human and cultural evolution, such as hunting, abstract thought, domestication of plants and animals, social stratification, the development of writing, the rise of states and urbanization.

ANTHRO 20809283 **Cultural Anthropology & Human Diversity** **3 Credits/Units**
This course focuses on exploring the range of modern human cultural diversity across the world. The class will examine the cultural practices and historical ties that constitute commonalities across cultures. Particular attention will be paid to the cultural complexity of modern urbanized societies such as that of the United States.

ANTHRO 20809285 **Anthropology of Myth, Magic, and Religion** **3 Credits/Units**
An anthropological course designed to explore and examine the place of magic and religion in human culture. Students will look closely and critically at 'world religions' (Buddhism, Islam, Christianity, etc.) with analytical exploration of smaller-scale religious and magical practices (shamanism, Wicca, new Age, Cargo Cults, etc.). The forms that magic and religion have taken in human cultures, both past and present, will be covered. Prerequisite: any college-level social science course.

ANTHRO 20809286 **The Anthropology of Globalization & Multiculturalism** **3 Credits/Units**
This course explores the ways that our societies, cultures and experiences have been transformed, in both positive and negative ways, by the political, technological and economic changes brought about by the collapse of the old colonial systems and the continuing growth of all pervasive capitalism, consumerism and militarism.

ANTHRO 20809287 **Anthropology of Islamic Societies and Cultures** **3 Credits/Units**
This course will explore the social, cultural, economic and political aspects of the emergence, development and spread of Islam as a world religion. It will focus on Islam in 7th century Arabia, how the religion changed in the time since the 7th century and as Islam moved out of Hijaz into Africa and Asia, and its historical and continuing encounters with the West.

ANTHRO 20809288 **Human Biology & Physical Anthropology** **3 Credits/Units**
This course has been designed to give students a forum in which to explore the biological nature of the human species. Through this course, students will examine the current state of knowledge in anthropology regarding the genetic and biological diversity of the human species, the place of humanity in the primate and mammalian family trees, as well as of the evolution of the human line since its separation from that of apes.

ANTHRO 20809289 **World Regional Geography** **3 Credits/Units**

World Regional Geography introduces students to the basic physical and cultural geographies of the world's major regions (e.g., Central Asia, the Caribbean). Emphasis is placed on exploring what makes each region environmentally and culturally distinct, on regional human-environment relationships and associated environmental issues, and on the historical and contemporary linkages between the world's regions.

Course themes are placed in the context of globalization, including its historical periods (e.g., European colonialism). The world's regions have become increasingly interconnected through transnational flows of people, plants, capital, and microbes, among other things. This course examines how and why

the world has become more interconnected, and how globalizing processes have shaped the political, economic, ecological, and cultural character of each world region.

ANTHRO 20809292 **Agriculture, Food, and Society** **3 Credits/Units**

Examines the fascinating yet often thorny intersection of agrofood systems, the environment, politics, and society. Students will be exposed to case studies from both the past and present and from throughout the world.

ARABIC 20802240 **Intro to Modern Arabic 1** **3 Credits/Units**

Intro to Modern Arabic 1 begins with a thorough study of the Arabic sound and writing system, with the simultaneous introduction of conversational skills in Modern Standard Arabic, the standard written and literary form of Arabic used in educational institutions throughout the Arabic-speaking world. Modern Standard Arabic is the language of newspapers and literature, as well as that of formal speeches and news broadcasts. This course fulfills the needs of those wishing to pursue studies of the Qur'an and classical texts as well as those wishing to be fluent in contemporary Arabic in both its written and formal spoken forms. Knowledge of this form of Arabic can serve as a basis for further studies of regional dialects. At the conclusion of the course, students will be able to speak and write using a basic vocabulary and thorough understanding of the Arabic writing system. This course, combined with Intro to Modern Arabic 2 transfers to the University of Wisconsin-Madison as equivalent to the 5 credit African Lang. & Lit 321: First Semester Arabic.

ARABIC 20802241 **Intro to Modern Arabic 2** **3 Credits/Units**

Intro to Modern Arabic 2 builds on the basic understanding of the Arabic sound and writing system and conversational skills in Modern Standard Arabic established in Intro to Modern Arabic 1. Modern Standard Arabic is the language of newspapers and literature, as well as that of formal speeches and news broadcasts. This course fulfills the needs of those wishing to pursue studies of the Qur'an and classical texts as well as those wishing to be fluent in contemporary Arabic in both its written and formal spoken forms. Knowledge of this form of Arabic can serve as a basis for further studies of regional dialects. At the conclusion of the course, students will be able to speak and write about themselves with complete control of the Arabic writing system. This course, combined with Intro to Modern Arabic 1 transfers to the University of Wisconsin-Madison as equivalent to the 5 credit African Lang. & Lit 321: First Semester Arabic.

ARCHT 10614100 **Introduction to Architecture** **3 Credits/Units**

This course examines the way one perceives the man-made environment, how to better understand it and related disciplines. An overview of architecture and its elements including design, history, terminology, sustainable design, urban design and landscape architecture will be presented.

ARCHT 10614101 **Architectural Theory 1** **3 Credits/Units**

A survey and examination of key underlying design tenets, theory, philosophies; and social, cultural and behavioral factors in applied environmental settings. Theoretical design principles are introduced in lecture and readings that incorporate seminal works of architecture. Students combine the creation of collage diagram analysis with intensive writing experiences as a model for learning theoretical design principles.

ARCHT 10614111 **Architectural Studio 1** **4 Credits/Units**

Emphasizes architectural drafting and the theory of drafting. Proper architectural lettering, line work and use of drafting tools are discussed. Orthographic projector, isometric, axonometric perspective drawings, contours, shade and shadow are covered in the first semester. Massing studies using the software "Sketch up" is also incorporated.

ARCHT 10614112 **Architectural Studio 2** **4 Credits/Units**

Using the latest release of AutoCAD, students develop a preliminary set of Construction Document drawings for a residential project. Emphasis is placed on CAD standards, drawing set organization, building element coordination and plotting. Drawing types range in scale from site plans to wall sections. Relevant zoning and building code requirements are reviewed. Prerequisites: 10-614-111 and 10-614-113.

ARCHT 10614113 **Architectural Software 1** **4 Credits/Units**

Major emphasis is placed on learning the basic commands necessary to complete two-dimensional construction drawings for the architectural community. Approximately 50 percent of the course is spent on lecture/demonstrations concerning software commands and procedures, while 50 percent of the course is spent in on developing operating skills. A basic understanding of Windows and file management is necessary for success within the course. The current version of AutoCAD is used as the teaching tool Co-requisite: Architectural Graphics 1, 10-614-111,or consent of instructor.

ARCHT 10614114 Advanced CAD 2 Credits/Units

Students use the latest release of AutoCAD to develop CAD Manager skills by using the program efficiently and consistently. Topics include trouble shooting, file management, CAD standards, template creation, plotting styles, keyboard commands, dynamic block creation, macros and custom toolbars. Working in project teams, students will produce a preliminary set of coordinated AutoCAD drawings for an offsite owner.

ARCHT 10614115 Architectural Software 2 4 Credits/Units

Students are introduced to the industry's leading 3D Building Information Modeling (BIM) software, learning commands for creating parametric BIM models that incorporate both architectural and structural components. These models are used to develop and redline a set of commercial construction documents incorporating site plans, floor plans, elevations, sections, details, schedules and renderings. Family creation is introduced.

ARCHT 10614119 Digital Architectural Rendering 1 Credits/Units

Students are introduced to a variety of architectural digital rendering techniques and workflows for a variety of industry leading platforms. Workflows for producing architectural graphics for multiple project phases from programming and conceptual design to photorealistic rendering will be explored. Students will gain real world rendering workflows for projects in Autodesk Revit, Autodesk 3DS Max and SketchUp.

ARCHT 10614120 Professional Practice 2 Credits/Units

This course will examine the professional environment in which the architectural technician works related to the organization and conduct of a design/construction practice. Learners will examine this aspect of the profession through a number of different lenses: procuring employment, state laws governing architectural practice, project budgeting, client management, project delivery/team organization modes, contracts and legal issues, risk and liability management, product specifications and substitutions, and construction administration, dispute resolution, and social responsibility. The goal of the course is to broaden and deepen learners' understanding of the profession, its role in society, and his or her place in it.

ARCHT 10614121 Construction Materials - Architectural Technology 3 Credits/Units

Emphasizes materials used in building construction and their manufacture and application in various construction systems from wood frame to masonry, steel and precast concrete. Basic properties of materials are discussed as well as how, when and where to use them.

ARCHT 10614123 Electrical and Mechanical Systems 4 Credits/Units

Covers the basic principles of plumbing, electrical, lighting, daylighting, HVAC, fire safety, sprinklers, energy efficient design, vertical transportation and acoustics found in buildings today. Particular attention will be paid to the International Building Code and its impact on these systems. Guest speakers and a small student designed project will augment the course.

ARCHT 10614127 Architectural Software 2 4 Credits/Units

Developmental skills in the core software platforms used in the architectural profession: AutoCAD, Revit, SketchUp, and Photoshop. Emphasis is on Revit; course includes continuation of AutoCAD & SketchUp skills and further exploration of Photoshop. Prerequisite is Architectural Software 1

ARCHT 10614128 Architectural Software 1 4 Credits/Units

Introduces learners to design thinking by exploring overarching architectural concepts. Course also introduces learners to basic architectural drawing typologies, proper technical drawing conventions, and perceptual and conceptual design drawing techniques. Course uses simple design projects as a framework to achieve outcomes

ARCHT 10614129 Architectural Studio 1 4 Credits/Units

Introduces learners to design thinking by exploring overarching architectural concepts. Course also introduces learners to basic architectural drawing typologies, proper technical drawing conventions, and perceptual and conceptual design drawing techniques. Course uses simple design projects as a framework to achieve outcomes.

ARCHT 10614130 Architectural Studio 2 4 Credits/Units

Continues development of students' design thinking. Deliverables and graphics focus on proper production of architectural construction documents. Course uses simple design projects as a framework to achieve outcomes. Prerequisites are Architectural Studio 1 & Architectural Software 1.

ARCHT 10614132 Building Estimating 2 Credits/Units

Studies problems and responsibilities of the estimator, including plans, specifications and published construction cost data. Emphasis is on understanding estimating techniques and methods of preparing estimates and take-offs.

ARCHT 10614135 Building Codes 2 Credits/Units
Emphasis is placed on the study of the International Building Code and the Uniform Dwelling Code. The student will become familiar with using the code and will acquire a general knowledge of codes, standards and federal regulations.

ARCHT 10614142 Architectural Detailing 2 Credits/Units
This course provides an in-depth study of materials and building assemblies as it pertains to accepted practices in architectural detailing and design. Emphasis will be placed on detailing techniques commonly found in commercial construction. Topics included are masonry, steel, and concrete construction. Field trips and guest lecturers from the architectural, engineering and construction industry will supplement the course.

ARCHT 10614145 Architectural Design Studio 4 Credits/Units
Covers the basic skills used in the building design process. Introduces the student to building siting and massing, program analysis, building circulation, space flow diagrams, adjacency studies, and building context. The design process continues with the integration of the structural steel framing. The student will design the framing plans as well as complete the calculations for the sizing of the individual steel members.

ARCHT 10614152 Introduction to Sustainable Design and LEED 2 Credits/Units
The course provides the learner with an overview of sustainable design relevant to the design and construction industry, while concentrating on accreditation within the US Green Building Council LEED© (Leadership in Energy and Environmental Design) v.3 sustainable design program. Concepts discussed: the need for sustainable design, architects as stewards of the environment, construction activities, site selection, stormwater management, landscaping choices, building energy and atmosphere, indoor environmental quality, materials and resources and the Green Associate LEED© exam. Guest speakers and field trips provide additional support.

ARCHT 10614154 Site Design 3 Credits/Units
Introduces the student to the basic design issues of the urban environment. Explore building massing and site analysis as they relate to the urban context. Learn about vehicular and pedestrian circulation, zoning analysis, contour manipulation and basic plant material selections. Course places a strong emphasis on in-class presentations utilizing the use of multimedia digital technology.

ARCHT 10614155 Advanced Revit 2 Credits/Units
Students develop proficiency in skills introduced in Intro to Revit, including modeling, family creation, design options, importing, rendering, and exporting with the current version of Revit Architecture. Particular emphasis is placed on advanced modeling and family creation. This class also introduces new concepts related to creating and managing 3D BIM models including defining site topography and site-related features, massing, phasing, file linking, and worksharing. Competence will be demonstrated through performance on the CAD station, through saved projects, and through submitted printouts that will include both construction documents and rendered images. For one project, students will be working within a group and submitting a joint project, during which students will develop the essential worksharing skills required to complete large-scale building projects that require multiple drafters. Prerequisites: Architectural Graphics 1, 10-614-111; Intro to CAD-Architectural; 10-614-113; Intro to Revit, 10-614-115.

ARCHT 10614178 Building Structures 4 Credits/Units
Study of forces that act on a structural member. These forces affect all types of structures including parts of machines. This course will emphasis the use of statistics as it applies to building structures. Students look at types of force systems, vectors, resultant forces, moments, truss analysis and reactions. Strength of Materials provides the various analytical tools necessary for the sizing of specific structural members based on the loading conditions and strength of the material. The student will gain the knowledge necessary to calculate the sizes of members made of specific materials including wood, steel and masonry.

ARCHT 10614193 Job Orientation 1 Credits/Units
Occupational information prepares students to seek employment. Includes personal data sheets, job interviews, portfolio design, and letters of introduction and recommendation. Former graduates are invited to discuss needs of students before employment. Representatives of labor, management, business and the professions are invited to discuss points of interest toward becoming an employee. Prerequisite: third-semester standing.

ARCHT 10614194 Portfolio Preparation for Architectural 1 Credits/Units
Techniques and conventions of developing an architectural portfolio will be addressed as students generate personal portfolios for use in seeking employment. Emphasis is on developing professional documentation of work accomplished in school and related activities, both in hard copy and electronic format. Former graduates are invited to discuss current trends in hiring and what makes a portfolio stand out. Each student will display their portfolio in the annual Architectural Technology Portfolio Show to take place each Spring.

ART 20815200 Art History: Ancient to Medieval 3 Credits/Units
Surveys the development of Prehistoric, Ancient through Medieval art and architecture found throughout Europe, the near East and Egypt. Emphasis is given to the form and meaning of a select group of artworks and buildings, their stylistic tendencies and respective movements in the history of art, and the socio-political and cultural contexts for these movements.

ART 20815201 **Basic Design** **3 Credits/Units**
Design Fundamentals introduces students to the elements of art (line, texture, color, shape and value). Students will investigate principles of design, composition and basic color theory in projects incorporating a variety of media. Instruction in Adobe Photoshop will also be incorporated into class projects.

ART 20815205 **Drawing Fundamentals** **3 Credits/Units**
This is an introductory drawing class emphasizing sound craftsmanship and the study of basic freehand drawing from direct observation. Class topics include the study of perspective, proportion, composition, and properties of light and shade. Students will explore a variety of drawing media and techniques.

ART 20815210 **Art History: Renaissance to Modern** **3 Credits/Units**
Surveys the development of European and American art and architecture from the time of the early Renaissance in Italy through the first quarter of the 20th century. Emphasis is given to the form and meaning of a select group of artworks and buildings, their stylistic tendencies and respective movements in the history of art, and the socio-political and cultural contexts for these movements.

ART 20815211 **Art History: Women In Art** **3 Credits/Units**
This course will present a broad survey of selected outstanding women artists from the 12th to the 20th century. The focus is on painting, sculpture and mixed media from the Medieval Era to the Modern Era, considering a variety of individual European and American artists and their works.

ART 20815215 **Drawing 2** **3 Credits/Units**
Drawing 2 explores a variety of drawing media and techniques through projects that encourage students to consider subject/content relationships. Students will develop conceptualization skills that will prepare them for working on independent projects.

ART 20815219 **Life Drawing 1** **3 Credits/Units**
Life Drawing introduces students to drawing the figure in a variety of situations. Students will use different drawing media and techniques as they explore both descriptive and expressive ways to depicting the human figure. Includes study of human anatomy.

ART 20815220 **Life Drawing 2** **3 Credits/Units**
Continuation of life drawing with emphasis placed on expression, articulation, dramatic effect and refinement of technique.

ART 20815221 **Life Drawing 3** **3 Credits/Units**
Continued emphasis on expression, articulation, and refinement of technique with increased attention to personalized direction.

ART 20815228 **Art History: Global Arts** **3 Credits/Units**
Analyze artworks produced around the world from ancient times through the contemporary. Consider artistic production, art criticism, cross-culture exchanges, and aesthetics, to deepen understanding of cultural differences and interactions. Explore a range of media and enhance sensitivity to visual and material forms. Develop a foundation in visual and material analysis.

ART 20815232 **Digital Design Fundamentals** **3 Credits/Units**
A comprehensive course to introduce the tools and functions of four essential digital design programs. Learn to create and edit vector artwork in Adobe Illustrator, create and edit photographic content in Adobe Photoshop, develop 3-D forms with SketchUp, and build a website with Adobe Dreamweaver to display a portfolio of the art works and projects created. Out of class work time and reading and some writing is required in addition to in class instruction, work time and critique participation.

ART 20815235 **Creative Photography** **3 Credits/Units**
Reviews and expands digital camera and Photoshop techniques. Expression through photography as a fine art is developed through a series of problems stressing personal vision and mastery of the photographic media.

ART 20815236 **Advanced Creative Photography** **3 Credits/Units**
This course continues the exploration of photography as a fine art as presented in Creative Photography. Further exploration of camera and Photoshop techniques intended to foster the understanding of photography as a means of artistic expression.

ART 20815239 **Digital Photography** **3 Credits/Units**
Provides an introduction to the photographic process through the use of digital cameras to produce images for presentations, the World Wide Web, and electronic publication. Covers basic principles of effective composition, light, exposure and control of motion and focus. Participants provide their own digital camera.

ART 20815241 **Painting 1** **3 Credits/Units**
Introduces students to the basic techniques of oil painting, with emphasis on composition and color. Students will paint from classroom still life arrangements for the first part of the course. Later in the semester, students are encouraged to develop paintings that explore personal themes.

ART 20815242 **Painting 2** **3 Credits/Units**

Painting 2 is an intermediate level painting course emphasizing the development of conceptualization skills. Painting projects encourage students to respond to a general theme, subject, or concept by developing a unique and personal image. Students can respond to assignments by working in various paint media (oil, acrylic, watercolor, or collage).

ART 20815253 **Jewelry 1** **3 Credits/Units**
This course is an introduction to basic jewelry making techniques through technical demonstration and individual projects covering simple forming, fabricating, lost wax casting, cold forging and finishing techniques.

ART 20815254 **Jewelry 2** **3 Credits/Units**
Jewelry 2-Art Metal gives an introduction to silver smiting, chasing, repousse and advanced stone setting.

ART 20815290 **Ceramics 1** **3 Credits/Units**
Ceramics 1 introduces clay as an art medium through demonstration and experimentation with basic hand-building methods. It encourages individual involvement with the media and emphasizes personal expression and exploration of texture, form and surface decoration. This course covers electric and raku firing, relevant vocabulary and some of the technical aspects of clay.

ART 20815291 **Ceramics 2** **3 Credits/Units**
Ceramics 2 covers either the development of basic wheel throwing skills or advanced hand-building techniques. Students work with glaze development through both judicious testing and empirical formulas. Electric firing and raku firing will be explored.

ART 20815293 **Ceramics Independent Study** **3 Credits/Units**
Students will work independently on ceramics projects under the supervision of an instructor. Instructor permission required.

ART 20815294 **Ceramics Sculpture 1** **3 Credits/Units**
Focuses on developing the ability to make by hand, ceramic sculpture through creative projects. Forming techniques, glazing and kiln stacking are an integral part of the class and are learned through hands-on activities. Students make creative and innovative sculpture in this laboratory class as well as research and critique works of art.

ART 20815295 **Ceramics Sculpture 2** **3 Credits/Units**
This course is a continuation of Sculpture 1.

ART 20815296 **Ceramics Firing Techniques/Alternative Methods** **3 Credits/Units**
The class will focus on different firing techniques. Techniques covered would be Raku, sawdust firings, the use of saggars at different temperatures, vapor glazes and primitive pit kilns, as well as more traditional luster firings and other low temperature techniques. Surface treatments to pots that enhance the uniqueness

of the firing would be stressed. Students will have the opportunity to build kilns and manage the firings themselves. If possible, the class would try to have pieces in, and help with, a wood firing and salt firing.

The class will meet in the Downtown Ceramics studio as well as at the

Commercial Ave Campus for some firings.

ASTRON 20806253 **Astronomy: The Solar System** **4 Credits/Units**
An introductory astronomy course covering the sky and celestial motions, ancient astronomy, the Copernican revolution, gravity and orbits, light and astronomical instruments and the solar system. Recommended evening observing sessions will also be included. (These are off campus meetings for star viewing with the school's binoculars and telescopes.)

ASTRON 20806254 **Astronomy: Stars & Galaxies** **4 Credits/Units**
An introductory astronomy course covering gravity, light and astronomical instruments, our Sun, stars and stellar evolution (including nebulae, supernovae, white dwarfs, pulsars, and black holes), Milky Way and other galaxies, and cosmology (history, structure, and fate of the universe, big bang theory). Some optional evening observing sessions may also be included (off campus meetings for star viewing with the school's binoculars and telescopes).

AUTMFG 50664718 **Automation for Apprentices** **2 Credits/Units**
Examine industrial automation and applications to various trades. Automation terminology, concepts and applications will be examined. Automated systems, components and devices will be reviewed. Robotics used in modern manufacturing plants will be compared and analyzed. Job duties and tasks associated with safety, inspection, testing, maintenance, repair and servicing will be the primary emphasis.

AUTOBODY 32405301 **Basic Sheet Metal Repair & Welding Fundamentals** **5 Credits/Units**

Course material covers the introduction in the use of an oxyacetylene welding/cutting outfit as related to collision repairs. A heavy emphasis is placed on the mig welding process, types of welds and techniques used of hammer and dolly, pry tools, stud guns, air and electrical tools, hydraulic-porto-power jacks and other straightening tools, used in the processes of metal finishing and plastic filling.

AUTOBODY 32405302 Refinishing 1 5 Credits/Units
The refinishing phase includes instruction in the proper use and maintenance of the spray gun, refinishing panels and fenders, spot repairing of panels and fenders, and mixing of paint formulas. Application of primers, sealers, single stage, and coat/clear coat are covered. Instruction in shop, tool and paint safety, and state and federal environmental concerns are presented.

AUTOBODY 32405303 Non-Structural Panel Repair & Glass Servicing 5 Credits/Units
Further development of straightening skills and sheet metal alignment is achieved by performing these activities on automobiles. Such operations as straightening damages sheet metal on fixed parts and removable panels are performed. Instruction on the replacement of fixed glass such as windshields, rear window, and side glass is covered using industry standards. Further instruction includes the components and procedures involved in the removal and installation of movable glass.

AUTOBODY 32405304 Refinishing 2/Trim & Hardware 5 Credits/Units
The refinishing phase includes further instruction in the proper use of the spray gun, performing partial and complete refinishing repairs on vehicles. Procedures for blending and tinting of the paint to achieve an acceptable color match are practices. Shop and paint safety practices are emphasized. Instruction on the safe removal and installation of trim and hardware is covered along with specialty tools necessary to perform operations using industry accepted procedures.

AUTOBODY 32405305 Auto Refinishing/Color Adjustment 5 Credits/Units
Vehicle refinishing techniques including preparing adjacent panels for blending, base coat and clear coat blending, color adjustment and testing color match. Complete refinishing and panel blending is performed on repaired vehicles.

AUTOBODY 32405306 Collision Structural Welding & Panel Replacement 5 Credits/Units
Structural damage analysis, measuring vehicle dimensions, pulling and straightening vehicle structures. Replacement and alignment of non-structural panels will be performed on vehicles. Collision structural section joints will be constructed and welded (GMAW).

AUTOBODY 32405307 Adv Collision Structural Repair 5 Credits/Units
Application of replacement procedures for structural panels such as front and rear rails, rocker panels, A- pillars, B-pillars, and floor pans. Servicing and removal of drivetrain, suspension steering and other related components utilizing industry accepted procedures. Understanding suspension and wheel alignment angles and diagnostic procedures.

AUTOBODY 32405308 Collision Plastics/Composites & Adv Refinishing Applications 5 Credits/Units
Identification of automotive plastics, repair decisions, using adhesives and welding to repair plastics. Refinishing techniques include refinishing plastic, multi-stage finishing, and advance blending techniques and custom painting options.

AUTOBODY 32405311 Introduction to Airbrushing and Custom Painting 2 Credits/Units
This course is for the student who has little or no airbrush experience and to teach the student to disassemble, clean and set-up his or her own airbrush. Provides instruction in paint mixture and how different reducers affect the end result (cleanliness, etc.) This course also demonstrates practice drills and proper techniques for brush strokes towards building control and skill.

AUTOBODY 32405321 Advanced Airbrushing and Custom Painting 2 Credits/Units
Go in-depth in paint mixture, practice drills and proper techniques for airbrush strokes towards building control and skill. Includes types and methods of stencil use, from hand taping to computer cut materials, as well as overviews of commonly found "hand held" barriers and masks that provide some simple background and fill techniques. We cover "stacking" or use of multiple piece stencils to create popular graphics. Techniques in aging or patina with airbrush. Explore color variation using known theory and methods to build eye pleasing color schemes. Hand Striping: learn the proper set-up for paint mixture and brush shaping which is vital to the art of fine lining, outlining graphics or lettering. An overview of "gold leafing" and other special effects are presented.

AUTOBODY 32405334 Collision Damage Analysis and Report Writing 3 Credits/Units
This course includes damage analysis, vehicle identification, estimate writing sequence, use of estimation guide for parts and labor costs, and writing damage reports manually and with a computer. Each student has the opportunity to estimate damaged vehicles.

AUTOBODY 32405340 Collision Electrical Fundamentals 2 Credits/Units
This course is an introduction to automotive electrical systems, including basic electricity, trouble shooting and repair of common electrical circuits, wiring diagrams, soldering, power accessories and restraint systems. Standards for safety when working with electrical systems is emphasized.

AUTOBODY 32405341 Collision Mechanical Systems 2 Credits/Units

Covers basic operations and servicing principles of brake systems, fuel and exhaust systems, heating and cooling systems, suspension and steering systems, and automotive air conditioning principles including components that make up an AC system. Regulations regarding discharging/recharging and trouble shooting as related to collision repair are also included. Safety practices regarding mechanical systems are covered.

AUTOBODY 32405361 Collision Repair/Refinishing Theory 1 3 Credits/Units

Covers related information on all phases of auto body welding and metal straightening with hand tools and hydraulic equipment. Collision damage analysis of sheet metal and unibodies is studied. Different types of sheet metal, such as HSS and HSLA, as well as the properties of sheet metal are discussed. Where and how to use plastic filler is presented. Paint equipment such as the operation and maintenance of the spray gun is studied. Extensive discussion takes place on refinish products, surface preparation, sanding and polishing, thinners and reducers and top coat application. Instruction in shop, tool, paint safety, and state and federal environmental concerns and regulations are presented.

AUTOBODY 32405363 Collision Repair and Refinishing Theory 2 3 Credits/Units

To further promote knowledge of repair skills related to auto collision repair and refinishing, the following discussion areas are included: the evaluation of automobile bodies and damage repair techniques, unibody construction and repair techniques, vehicle preparation, metal correction and parts replacement. Additional instruction includes glass installation, electrical accessories, door and window servicing and trim replacement.

AUTOBODY 32405365 Collision Repair and Refinishing Theory 3 3 Credits/Units

Introduces the computer electronic system for repair of unibody vehicles, and proper anchoring and pulling procedures. Instruction on removing and replacing drivetrain components is included. The proper care and protection of on-board computers in autos is stressed. Sheet metal alignment, and frame and unibody straightening, along with procedures for restoring severely damaged vehicles are studied.

AUTOTEC 10602100 Automotive Fundamentals 2 Credits/Units

Students are introduced to the automotive service industry and learn service information to perform basic under-hood and under-car services. This class also focuses on developing skills in the automotive profession, safety, and the use of basic and power tools and equipment in accordance with industry standards.

AUTOTEC 10602101 Automotive Service Procedures 3 Credits/Units

Service Repair includes the theory, design and operation of the automobile engine, this course includes maintenance, light-duty repair and safety inspections. Engine lubrication, cooling and exhaust systems are also studied and serviced.

AUTOTEC 10602115 Hybrid and Alternative Fueled Vehicles 2 Credits/Units

This course provides: a brief history of electric and hybrid electric vehicles, electric/hybrid electric vehicle safety procedures and equipment; components and current vehicle overview; hybrid electric vehicle components; current design configurations, current and near future vehicles; an introduction to electric/hybrid electric vehicle test equipment and procedures; and an introduction to electric/hybrid electric vehicle maintenance and trouble shooting. Also, Diesel, alternative fuel systems, including CNG and Fuel Cell, and related components are covered.

AUTOTEC 10602125 Electrical and Electronics Systems 1 2 Credits/Units

The automotive repair industry demands that technicians have a proficient understanding of the electrical systems which are at the heart of today's vehicles. Students are introduced to basic electricity fundamentals in accordance with industry standards and then apply the concepts to vehicle circuits and components.

AUTOTEC 10602126 Electrical and Electronics Systems 2 2 Credits/Units

This automotive course focuses on developing the skills needed to diagnose, service, and repair electrical and electronic systems, including batteries, starting and charging systems, lighting systems, horn and wiper systems, and introduction to computer control systems.

AUTOTEC 10602150 Internal Combustion Engines 5 Credits/Units

The internal combustion automotive engine is studied in detail by discussion, demonstration and laboratory experiments. The latest machining equipment is used to accurately diagnose, disassemble, repair and reassemble an automobile engine. Diagnosis of engine related mechanical problems is covered.

AUTOTEC 10602152 Driveability Analysis 5 Credits/Units

Practical application of principles, concepts and diagnostic abilities covered in the 2 prerequisite courses. Advanced electrical/electronic diagnostic applications will reinforce prior competency development.

AUTOTEC 10602153 Manual Drivetrains & Axles 4 Credits/Units

The operation and theory of clutches, transaxles, standard transmissions, drivelines and differentials are covered. Areas of emphasis include diagnosis, repair, testing and periodic maintenance as recommended by major manufacturers. Classroom and shop time is utilized to develop skills in diagnosis and repair of clutches, drivelines and differentials.

AUTOTEC 10602154 **Automatic Transmissions** **5 Credits/Units**
This automotive course focuses on developing the skills needed to diagnose, service and repair automatic transmissions/transaxles including overhaul procedures.

AUTOTEC 10602156 **Comfort Control Systems** **2 Credits/Units**
Study includes basic principles of refrigeration and air conditioning including the component parts that make up the A/C units on passenger cars and light trucks. Heating and automatic temperature controls are also studied. Students will receive State of Wisconsin AG 136.09 certification upon completion of this course.

AUTOTEC 10602157 **Technical Braking Systems** **5 Credits/Units**
Topics include principles of drum and disc brake designs, inspection and diagnosis. Covers wheel and tire diagnosis and repair. Steering and suspension safety inspection is covered. Lab experiences including inspecting, troubleshooting and the repair and replacement of defective or worn parts of the complete brake system. The use of correct procedure and tools is stressed.

AUTOTEC 10602158 **Service Management** **1 Credits/Units**
The principles of various types of business organizations are examined and applied to automotive wholesale and retail businesses, ultimately focusing on the automobile as part of the service department. Service department operation is covered in detail and depth from large organizations to small organizations. The conventional line method of management is stressed. Employment possibilities and job interviewing techniques are discussed.

AUTOTEC 10602162 **Automobile Accessories** **2 Credits/Units**
Examines equipment supplied by both major manufacturers of automobiles and after-market suppliers. Classroom and lab activities help students to understand basic electricity, electric circuits and use of test equipment to troubleshoot problems in circuits such as lighting, windshield wipers, power windows, instruments and cruise control.

AUTOTEC 10602163 **Steering and Suspension Systems** **5 Credits/Units**
Principles of suspension designs, wheel alignment angles, inspection procedures, parts replacement, steering systems, shock absorbers/struts, sway bars and frame design. On-the-job experiences include inspecting and correcting suspension angles, parts replacement, adjusting steering gears. Covers four-wheel alignment.

AUTOTEC 10602166 **Powertrain Management Technology** **5 Credits/Units**
All engine operating systems are studied: engine breathing, ignition systems, computer control and sensors, fuel and air management and emission systems. Students learn how these systems operate, how to test for proper operation of systems and components, and how to use test equipment.

BAKING 10314130 **Dessert Plating** **2 Credits/Units**
Students learn the art of plating desserts in modern contemporary format. Working with various dessert components, students will gain a hands on experience on how to apply plating techniques to desserts.

BAKING 31314302 **Yeast Breads** **4 Credits/Units**
Students develop manual baking skills and a working knowledge of the production and finish various yeast doughs including straight doughs and pre-ferments. Students learn both handcrafted and machine methods in the make-up of these products.

BAKING 31314305 **Chocolate** **2 Credits/Units**
Students are introduced to the world of chocolate. The history and production of chocolate is explored. Learners sample a wide variety of chocolates from different companies, as well as specific types of chocolate. Products are made using these different chocolates and then compared and evaluated. Students will also learn how to make a variety of seasonal candies.

BAKING 31314306 **Bakery Retail** **1 Credits/Units**
The lab is used as a simulated bakery in this course with products being merchandised through the bakery store. Students are responsible for service case presentation as well as effective merchandising displays and customer service.

BAKING 31314309 **Baking Principles** **2 Credits/Units**
Students in this course will acquire a general understanding of basic baking principles. The functions of the major ingredients used in baking and pastry making are discussed, as well as the different types of bakery products. Students learn about the methods for producing bakery products as well as the equipment, both machine and hand tools required. Baker's math problems are calculated.

BAKING 31314315 **Intro to Baking** **3 Credits/Units**
Students develop a foundation of baking principles through hands-on application of production equipment in a state-of-the-art baking lab. Students will prepare a variety of standard bakery products to obtain knowledge of many baking processes. Safe use of bakery equipment and proper sanitation procedures are emphasized.

BAKING 31314335 **Specialty Cakes & Miniatures** **3 Credits/Units**

This course covers all aspects of specialty cake baking, constructing, and assembly. Products include various types of foam cakes, creamed cakes, icings and fillings. European classic recipes as well as current trends in cakes will be demonstrated with lab time for practice. An assortment of miniature bakery products will be produced.

BAKING 31314345 Artisan Breads & Breakfast Pastries 3 Credits/Units

This course provides students with a working knowledge of the production of pre-fermented yeast doughs and sourdoughs. In addition, students produce Viennoiserie, both laminated such as croissant and Danish, and non-laminated such as Brioche and sweet dough. Production methods and speed are emphasized.

BAKING 31314355 Bakery Production 3 Credits/Units

The lab is used as a simulated bakery in this course with products being merchandised through the bakery store. Students make items with an emphasis on production speed to help understand the flow of a real bakery. Students are responsible for service case presentation as well as effective merchandising displays and customer service.

BAKING 31314375 Experimental Baking 1 Credits/Units

Provides the opportunity to discover functions of ingredients through lab experiments. Ingredient amounts and procedures are varied in specific formulas and results are observed to determine optimum formulation.

BAKING 31314384 Cake Decorating 3 Credits/Units

Hands-on instruction in the basics of production cake decorating with attention given to the techniques of icing cakes. Cake decorating areas include script, borders, basic flowers, and seasonal decorating. Students practice icing cakes and decorating; emphasis is placed on accuracy and speed to simulate industry standards.

BAKING 31314388 Advanced Cake Decorating 2 Credits/Units

Hands-on practice with advanced cake decorating techniques is provided. Techniques highlighted in this class include air brushing, buttercream flowers, dimensional design and layout, and tiered cake assembly.

BAKING 31314389 Baking Seminar 1 Credits/Units

Covers current and relevant issues related to baking and decorative arts. Guest professionals provide expertise and knowledge about specific areas in the baking industry. Field trips will be conducted at businesses in the baking and decorative arts industry such as bakeries, production facilities, chocolate shops, and custom cake shops. Marketing and social media will be explored.

BIOLOGY 10806105 Principles of Animal Biology 4 Credits/Units

Principles of Animal Biology is an introductory biology course focusing on general biological principles, cell structure and function, genetics, comparative anatomy and physiology, evolution, and ecosystems. It includes dissection of various fresh and preserved materials.

BIOLOGY 10806177 Gen Anatomy & Physiology 4 Credits/Units

This course examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization, of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients.

BIOLOGY 20806203 Introductory Zoology 5 Credits/Units

This introductory Intro Zoology course covers general biological principles with an emphasis on cell structure and function, genetics, and vertebrate anatomy and physiology. Consideration is also given to diversity within the animal kingdom and environmental interactions. It includes three periods of lecture per week, two periods of laboratory and a one-period discussion session.

BIOLOGY 20806204 Biological Greek and Latin Terminology 3 Credits/Units

Biological Greek & Latin Terminology is an introductory course designed to provide students with a knowledge of biomedical terms and their related anatomy and physiology. Course will describe how scientific terms can be systematically analyzed and defined with an understanding of Greek and Latin word parts. Provides an understanding of anatomy and physiology that will help students interpret biomedical terminology.

BIOLOGY 20806206 General Anatomy and Physiology 4 Credits/Units

General Anatomy and Physiology features lectures and laboratory dealing with the human body as an integrated structural and functional unit, including the circulatory, respiratory, digestive, excretory, reproductive, nervous, endocrine, muscular and skeletal systems, in addition to cell structure and physiology. It includes dissection of fresh and preserved material as well as examination of a human cadaver. This course is not acceptable in programs requiring two semesters of Anatomy and Physiology. General Anatomy and Physiology is a one semester course. Students in programs that require two semesters of anatomy and physiology should take Anatomy and Physiology 1, 20-806-207 and Anatomy and Physiology 2, 20-806-208. Introductory college-level biology course recommended.

BIOLOGY 20806207 Anatomy and Physiology 1 4 Credits/Units

Features lectures and lab (including dissection) dealing with the human body as an integrated structural and functional unit, including anatomical terminology, fundamental concepts of cell biology, histology, integumentary, skeletal, muscular, endocrine, and nervous systems, and the special senses. This course is the first semester of a two-semester sequence.

BIOLOGY 20806208 Anatomy and Physiology 2 4 Credits/Units

Anatomy and Physiology 2 features lectures and laboratory exercises dealing with the human body as an integrated structural and functional unit including the cardiovascular system, lymphatic system and immunity, respiratory system, digestive system and metabolism, urinary system, fluid/electrolyte balance and acid/base balance, and reproductive system. It includes dissection of a cat as well as examination of a human cadaver. Note: this is the second semester course of a two-semester sequence and is not acceptable where a one-semester Anatomy and Physiology course is required.

BIOLOGY 20806215 Botany 5 Credits/Units

Botany deals with a wide variety of organisms that are of great interest and are basic to our survival. This course covers the basic biology of plants, emphasizing evolution, ecology, taxonomy, physiology, plant breeding and horticulture to provide an overall understanding and appreciation of plant life. A survey of plants and plant-like organisms is presented in this general education, natural science, biology class.

BIOLOGY 20806219 Biology for Innovators 1 Credits/Units

Biology for Innovators is designed to serve students interested in pursuing an undergraduate degree in biology. The course is structured to serve as an introduction to a variety of disciplines and associated careers in the biological sciences. In addition, students will have the opportunity to participate in a semester-long service-learning experience benefiting the local high school academic community. In consultation with biology faculty mentors and high school educators, students will select a biological concept or issue, conduct literature research on the topic, and use the "creator space" to design curriculum for area schools. Students will present their developed curriculum to cooperating area high schools.

BIOLOGY 20806226 Introduction To Human Biology 5 Credits/Units

This is an introductory course designed for students who want a laboratory science, but are not majoring in biology. It emphasizes the structure of the human body and the functional interrelationships of the body's systems. Consideration is also given to human genetics, human evolution, ecology, and the role that humans play in the environment. This course includes three hours of lecture per week, two hours of laboratory and a one-hour discussion session. Note: this course does NOT meet the requirements for 20-806-207 or 208, Anatomy and Physiology 1 or 2, or 20-806-206, General Anatomy and Physiology.

BIOLOGY 20806261 Human Nutrition 3 Credits/Units

This introductory course covers the biological basis of nutrition. Students will explore the function of nutrients as well as utilization of nutrients including digestion, metabolism, and excretion. Social and psychological factors will be discussed and include body wellness and fitness, nutritional needs across the lifespan, food safety & security, and eating disorders.

BIOLOGY 20806262 Anatomy and Physiology for Exercise Lab 1 Credits/Units

Anatomy and Physiology for Exercise Lab is designed to provide a hands-on learning environment where students master the basic structure and function of the respiratory, cardiovascular, skeletal, nervous, endocrine and muscular systems and relate those systems to exercise. Students will also learn basic nutrition principles. The course is designed to be a co-requisite of Body Structure and Function for students pursuing a Fitness/Health Club Specialist Certificate.

BIOLOGY 20806271 Cellular and Molecular Biology 5 Credits/Units

This course addresses concepts in cellular and molecular biology, genetics and mammalian anatomy and physiology.

BIOLOGY 20806272 Organismal Biology 5 Credits/Units

This course addresses concepts in evolution and diversity of organisms, plant anatomy and physiology, and ecology. The Biology courses, BIO 271 and BIO 272 can be taken in any sequence. Students that take 272 before 271, should learn about the independent projects, which are writing intensive and provide Communication B credit at UW -Madison.

BIOLOGY 20806273 Microbiology-University Medical 5 Credits/Units

Microbiology addresses pathogenic and normal flora microbes (bacteria, fungi, parasites, and viruses), their structure and function, metabolism, nutrition, genetics, growth and their relationship to humans and the environment. This course examines human infectious disease including general diagnosis and treatment, transmission, host defense mechanisms, and processes used to control the growth and spread of infectious agents. This course includes an introduction to standard techniques and procedures used in the microbiology laboratory.

BIOLOGY 20806274 General Microbiology 5 Credits/Units

General Microbiology gives a broad overview of the structure, function, ecology, nutrition, physiology and genetics of microorganisms. The course looks at the many roles microorganisms play in our lives, including their association with various diseases (including cancer), and the importance of the human microbiome. The course also covers microbial fermentation and recombinant DNA technologies. Due to the constantly changing information as to how microbes play a vital role in our everyday lives, this course is regularly updated.

BIOLOGY 20806276 Principles of Genetics 4 Credits/Units
An introduction to the basic concepts of heredity and cytogenetics including Mendelian, molecular, developmental, and population genetics, genetic engineering and chromosome behavior. Topics include complementation and linkage analysis, gene mapping, library screening, bacterial transformation, plaque assay, restriction analysis, PCR, and sequencing. Lab complements the lecture and provides experiences in molecular genetics laboratory techniques as well as utilization of analytical and simulation model systems.

BIOLOGY 20806280 Environmental Issues 3 Credits/Units
Environmental Issues is an introductory (non-laboratory) survey course entirely appropriate for first-year students. Environmental Issues explores diverse problems of human impact on natural systems. Though fundamentally grounded on the basic principles of biology and ecology, this course is designed to encourage interdisciplinary thinking about critical environmental problems. Students explore chemical, biological, political and ethical interactions of environmental systems on scales that range from local to international. The course prepares students for Principles of Ecology and other more advanced courses in Environmental Studies. This course transfers to UW–Madison at the elementary level.

BIOLOGY 20806281 Ecology/Conservation Biology 3 Credits/Units
Ecology and Conservation Biology is an intermediate-level (non-laboratory) course, most appropriate for second-year students. A basic knowledge of ecosystem structure and function is used as a springboard to grasping the impact of human activities on natural populations. Emphasis is on computer modeling of endangered species, dwindling populations of endemics, species under threat of over-harvesting, and other groups at risk. This course requires the background knowledge of an introductory environmental science course. This course transfers to UW Madison at the intermediate level as Zoology/Wildlife Ecology 360. Offered during the fall semester.

BIOLOGY 20806286 Environmental Science 4 Credits/Units
Environmental Science is an introductory survey course appropriate for first-year students. This course includes a laboratory component and field trips designed to engage students in exploring environmental systems in the modern world. It emphasizes the interpretation of environmental data presented in graphs and figures and will sharpen student analytical skills through exercises based on both quantitative reasoning and reading comprehension. This course transfers to UW–Madison at the elementary level as IES 126.

BIOTECH 10007103 Biotechnology Laboratory Skills for a Regulated Workplace 3 Credits/Units
Covers basic concepts and techniques necessary to work effectively in a biotechnology lab. The importance of quality regulations and standards and the role of the technician in producing quality results are emphasized. Laboratory math is introduced and applied. Students learn basic techniques including: measuring, weighing, mixing solutions, following and writing procedures, keeping records, making observations, and using instrument manuals and catalogues. Principles of metrology (measurement) are introduced and students practice using, calibrating and verifying the performance of instruments. Lab included. Co-requisite: 10-806-127 or 10-806-134, and 10-007-136 or consent of instructor.

BIOTECH 10007104 Chromatography Techniques 3 Credits/Units
Introduces the basic concepts involved in separation of biomolecules. Students complete lab work using a variety of chromatographic methods including: paper, thin layer, gel permeation, gas and high performance liquid chromatography. Students also learn to interpret chromatographic results and practice documentation and reporting skills. Lab included.

BIOTECH 10007105 Bioprocess Technology 3 Credits/Units
Covers basic techniques of fermentation technology, including the principles of isolation, identification, improvement, preservation and growth of industrial microorganisms. Emphasizes the use of fermentation equipment to obtain products.

BIOTECH 10007108 Hazardous Materials - Biotechnology 1 Credits/Units
Surveys potential laboratory hazards and safety procedures. Covers regulation of chemicals: flammable, reactive, corrosive and toxic substances.

BIOTECH 10007110 Biotechnology Applications 1 Credits/Units
Provides a broad introduction to biotechnology including the scientific basis of the technologies and their historical development with an emphasis on current applications in the areas of agriculture, medicine, forensics and the environment.

BIOTECH 10007111 Biotechnology Career Seminar 1 Credits/Units
Includes a discussion of national, state and local biotechnology industries, career options, the ethical, legal and societal issues raised by the use of biotechnology and the regulatory agencies that oversee the industry.

BIOTECH 10007112 Biotechnology Employment Skills 1 Credits/Units
Discusses the specific skills needed for particular areas and careers, ethical issues and the business of biotechnology including the basics of intellectual property law. Each student gives a presentation on their occupational work experience.

BIOTECH 10007115 General Cell Biology 4 Credits/Units

Introduction to cells, emphasizing their structure, diversity, chemistry and physiology. Processes of cellular respiration, photosynthesis and division are discussed. Describes genetic principles and molecular activities involved in DNA, RNA and protein synthesis. Lab included.

BIOTECH 10007117 Advanced Human Stem Cell Methods 3 Credits/Units

Students will continue to maintain and characterize the hESC embryoid bodies generated in Course I. Observations and relevance for spontaneous hESC differentiation will be discussed in detail. Methods for directed differentiation of hESC, iPSC, and adult stem cells into neurons and cardiomyocytes will be introduced. An emphasis on photo-documentation and assembly of a portfolio of results and observations will be submitted for evaluation.

BIOTECH 10007118 Introduction to Human Stem Cell Concepts 1 Credits/Units

Provides an historical perspective on the identification and use of stem cells, emphasizing practical applications towards regenerative biology in research and industry. Review and discuss scientific articles that establish the foundation for working with stem cells for regenerative medicine, applied and basic research. Prerequisite: General Cell Biology, 10-007-115, or consent of instructor.

BIOTECH 10007119 Advanced Human Stem Cell Concepts 1 Credits/Units

Introduction of emerging methodologies in the stem cell field, to include adult stem cells, iPSC technologies, relevant cell signaling pathways, and cell differentiation. Current research and industry applications will be discussed. Survey the scientific and popular press to introduce emerging themes and applications in the field of stem cells. Prerequisite: Introduction to Human Stem Cell Concepts, 10-007-118, and General Cell Biology, 10-007-115, or consent of instructor.

BIOTECH 10007121 Applied Biochemistry 3 Credits/Units

Introduction to major chemical constituents of cells including proteins, carbohydrates, lipids and nucleic acids. The structure and kinetics of enzymes, reaction mechanisms and metabolic pathways are also included. Lab included.

BIOTECH 10007122 Protein Bioseparations Methods 3 Credits/Units

Introduces the strategies to purify proteins as part of a biotechnology process. Methods include: specific activity assays for enzymes, extraction of proteins from bacterial cells, salting out, dialysis, ion exchange chromatography and polyacrylamide gel electrophoresis. Lab included. Prerequisites: Biotechnology Labatory Skills, 10-007-103; Chromatography Techniques, 10-007-104; and Chemistry 2, 10-806-129 (or Chemistry for Biotechnology, 20-806-216); or consent of instructor.

BIOTECH 10007123 Cell Culturing 3 Credits/Units

Covers the basic techniques of plant and animal cell culture. Plant unit includes media preparation isolation of explants and establishment of callus from suspension cultures, growth factor bioassays, regeneration of whole plants from tissue and plant genetic engineering techniques. Mammalian cell unit includes media preparation, maintenance of cultured cells, transfection of cultured cells, cloning, monoclonal antibody production, and ELISA assays. Lab included. Prerequisite: 10-007-115 or consent of instructor.

BIOTECH 10007124 Molecular Biology 1 3 Credits/Units

This is the first course of a two-part series. This course will teach modern molecular biology techniques including: basic recombinant DNA techniques and DNA analysis and purification. The polymerase chain reaction and DNA fingerprinting will also be introduced. This course will include classroom instruction to appreciate the importance of these techniques in life sciences research.

BIOTECH 10007125 Research Methods in Molecular Biology 3 Credits/Units

This is the second course of a two-part series. This course will teach advanced techniques in molecular biology including: Various applications of PCR, PCR-based cloning, RT-PCR, qPCR, site-directed mutagenesis, RNA isolation, screening techniques, and an introduction to bioinformatics. The course will combine practical laboratory experience with discussion of current research problems and techniques.

BIOTECH 10007126 Occupational Work Experience 3 Credits/Units

Students work in a biotechnology laboratory. Emphasizes the integration of academics and practice experiences. Pre-requisite: successful completion of all program courses in the first three semesters of the program, or consent of instructor and successful completion of a performance exam.

BIOTECH 10007136 Laboratory Math for Biotechnology 1 Credits/Units

This course introduces mathematical tools that are used in the biotechnology laboratory. Students apply mathematical concepts to solve problems such as: calculating amounts of chemicals required to make solutions, graphing and interpreting data, and calibrating instruments. Basic statistical concepts may also be introduced.

BIOTECH 10007137 Selected Topics in HPLC 1 Credits/Units

The course covers fundamental concepts of HPLC analysis including hardware basics, analysis modes, column chemistry, sample preparation and quantitation, as well as protein analysis and peptide mapping. Troubleshooting, interrogation of poor peak shape and retention problems are a fundamentally important part of the course, as well as method validation and data analysis.

BIOTECH 10007152 **Making Biotech Products in a Quality Environment** **2 Credits/Units**
Proposed to review and further illustrate the importance of quality in a laboratory environment, with special emphasis on how a quality system directly impacts laboratory scientists. This laboratory-based course will revolve around the creation of a product to be used in other courses in the biotechnology curriculum. Students will create the product, as well as monitor the quality of the process. Time constraints would mean that not every aspect of a quality system could be modeled or discussed; however, even a single course in this area would be invaluable to our students for both review of concepts and employability.

BIOTECH 10007155 **Quality Regulations and Standards for Biotechnology** **2 Credits/Units**
This course will cover the history of quality systems (cGMP, GLP, GCP, ISO 9000) and their implementation in the workplace. Emphasis will be placed on the impact of these quality systems on the laboratory technician. Students will also have the opportunity to study regulations and examine the process of disciplinary action under these systems. Current case studies will illustrate the role of governmental and non-governmental oversight in ensuring the quality of the products of regulated workplaces.

BIOTECH 10007174 **Applied Microbiology** **4 Credits/Units**
This survey course includes the structure, function, ecology, nutrition, physiology, and genetics of microorganisms in industrial, agricultural, food and medical microbiology. It also includes an introduction to standard techniques and procedures used in the microbiology laboratory.

BRCKMSN 50408510 **Tech Brick Sem 1** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

BRCKMSN 50408511 **Tech Brick Sem 2** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

BRCKMSN 50408512 **Tech Brick Sem 3** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

BRCKMSN 50408513 **Tech Brick Sem 4** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

BRCKMSN 50408514 **Tech Brick Sem 5** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

BRCKMSN 50408515 **Tech Brick Sem 6** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

BUSADM 10102104 **Business Statistics** **3 Credits/Units**
Introduces the theory of and application to basic statistical methods. Emphasizes solving practical business problems. Topics include basic measures, probability, sampling and time series analysis. Knowledge of Excel strongly recommended.

BUSADM 10102114 **Business Communication** **3 Credits/Units**
Develop and apply business and managerial communication skills and tactics. Topics include active listening; concise business writing; concise business speaking; non-verbal communication and body language; adapting social styles; successfully managing difficult ("crucial") conversations and conflict; customer interactions including handling customer complaints; working with diverse others; bias, stereotypes and workplace harassment;negotiation tactics; and conducting coaching/performance evaluations. Activities include preparing for, and conducting a business job interview; exploring business networking by creating a LinkedIn profile and creating and editing a shared digital document.

BUSADM 10102131 **Project Management and Sustainable Change** **3 Credits/Units**
In Project Management and Sustainable Change, the learner extends their learning from Project Management – Fundamentals by looking deeper into how to affect change by understanding change management models, tools and current principals to realize successful and sustainable changes to enhance business value.

Each learner will demonstrate the application of assessing the current change environment and develop change management strategies and process. In addition students will analyze the effect of perceptions, attitudes, biases, and organization culture on project outputs and outcomes, dealing with barriers, and develop strategies for managing a diverse workforce to affect sustainable change.

BUSADM 10102132 **Strategic Leadership** **3 Credits/Units**

This capstone course for the Business Management program is designed to integrate and enhance skills and behaviors learned throughout the curriculum. Students gain insights from key leadership experts related to leading oneself, others, and organizational change, and apply these insights through an In-Box simulation where they are responsible for all aspects of "turning around" a failing business. A computer business simulation, where students compete against each other, reinforces learnings from prior courses and enhances an overall business perspective. Course includes an exercise in deep self-reflection, designed to build student resolve and ability to be a "high-integrity" ethical leader.

BUSADM 10102133 **Topics in Tactical Management** **3 Credits/Units**

Focuses on refining and building students' operational management skills. The use of data analysis and research tools to solve business problems and improve performance is emphasized. Students learn tools to "listen to the customer" and use data to recommend strategies and tactics to improve and exceed customer expectations. The course explores quality systems and continuous improvement tools including Lean, Six Sigma, ISO, CQI, with an emphasis on their application to improve business processes.

BUSADM 10102134 **Introduction to Business** **3 Credits/Units**

This foundation course covers core concepts related to business strategy, marketing, operations and finance, as well as their interrelationships within an organization. Case studies and a computer business simulation are used to deepen student understanding. Corporate culture and the International dimension of business are also covered. An Ethics framework, which will be further explored in upper-level Program classes is introduced, along with a focus on the means businesses use to promote and enforce ethical behavior.

BUSADM 10102135 **Project Management - Fundamentals** **3 Credits/Units**

This is introductory Project Management class develops skills to manage a project from start to finish using the following project management skills: defining projects; planning projects; scheduling projects; monitoring and controlling projects; project closure; and leading projects. Emphasis will be placed on applying these fundamentals, as both a participant and project leader, in case studies and group projects, using worksheet templates, project software tools and Microsoft Project software. Skills covered include but are not limited to project charters, Gantt Charts, critical paths, milestones, risk control and prioritization, project acceptance and closeout, teamwork and problem solving.

BUSADM 10102143 **Management Techniques** **3 Credits/Units**

Focuses on the two keys to effective management: results and relationships, in the context of the traditional managerial elements of planning, organizing, directing and controlling. Students learn techniques for problem solving, critical thinking, decision-making, delegation, motivation, change management, and political savvy behavior, and apply these techniques through simulations, role-plays, and case studies. The course also emphasizes development of Emotional Intelligence ("EI"), including self-assessment, as well as learning and applying specific techniques to improve each element of EI.

BUSADM 10102154 **International Business Procedures** **3 Credits/Units**

How to get help with international transactions. Topics include terminology, agencies and publications, dealing with agencies and complying with legal requirements, terms of sale and terms of payment, transportation and documents.

BUSADM 10102160 **Business Law 1** **3 Credits/Units**

This survey course covers legal principles used in the business world. Major emphasis is placed on contracts along with torts, federal and state courts, criminal law, marital property and bankruptcy and wills. The course is taught on a level suitable for an associate degree student. Federal, state and case law serve as the basis of study.

CABMIL 31409100 **Laminates 2** **1 Credits/Units**

This course covers the process of fabricating custom plastic laminate countertops including seaming and inlaying. Students will learn a variety of tooling and fabrication techniques to produce solid wood, decorative, miter-fold, custom-bevel, and post-formed edge treatments.

CABMIL 31409101 **Surfaces 1** **1 Credits/Units**

This course will take the learner through the process of fabricating a countertop with solid surface (Corian). Students learn about the advantages and limitations of solid surface material in different applications, and types of adhesives for seaming and installation. Students will learn tooling and fabrication techniques for various edge treatments, fabricate a coved backsplash, make a cut-out for an appliance, as well as inlay and repairing solid surface.

CABMIL 31409102 **Surfaces 2** **1 Credits/Units**

This course covers the process of working with fiber phenolic resin and wood countertops. Students will learn how to fit, seam, fabricate edges, install and finish fiber resin countertops, and fabricate butcher-block and breadboard-end wood surfaces.

CABMIL 31409328 **Woodworking 1A: Machinery & Methods** **2 Credits/Units**

Introduces the operation of traditional woodworking equipment. Students perform numerous exercises to gain familiarity with portable power tools and industrial woodworking machinery while building their skills and familiarity with wood. Units include layout, sawing, surfacing, boring, and sanding.

CABMIL 31409329 **Woodworking 1B: Machinery & Methods** **3 Credits/Units**
Introduces the operation of traditional woodworking equipment. Students perform numerous exercises to gain familiarity with portable power tools and industrial woodworking machinery while building their skills and familiarity with wood. Units include sawing, surfacing, boring, sanding, and a completed final project.

CABMIL 31409331 **Woodworking 2: Materials and Processes** **5 Credits/Units**
Building on skills acquired in Woodworking 1, students incorporate an understanding of wood as a material to properly execute joinery and cabinetry projects. Instruction includes units in shaping, adhesives, joinery and face-frame cabinetry.

CABMIL 31409332 **Cabinetmaking, Millwork & Furniture 1** **5 Credits/Units**
Planning and execution of cabinet, millwork and furniture projects are explored in this class. Standards for kitchen cabinetry and design are applied as students work together in teams on a group project. Additional areas of study include: jigs and fixtures, 32mm cabinetmaking and leg and rail furniture.

CABMIL 31409333 **Cabinetmaking, Millwork, and Furniture 2** **5 Credits/Units**
Preparation for employment is emphasized in the final quarter of this program as students propose and execute projects of their choice. Students have the opportunity to experience a real work environment while completing an internship with an area employer. Areas of exploration include veneering, CNC technology and curved and circular work.

CABMIL 31409337 **Workplace Safety** **1 Credits/Units**
A safe working environment is not only essential, it is the law. This course covers several key areas of OSHA workplace safety, including: proper procedures for locking out and tagging equipment to be serviced, HASCOM (Hazardous Materials Communication), PPE (Personal Protective Equipment) and proper machine guarding.

CABMIL 31409340 **Tool & Machine Maintenance** **1 Credits/Units**
Proper maintenance is essential in order to obtain accurate and repeatable results. This course focuses on keeping machinery in proper working order and maintaining sharp cutting tools. Students learn to troubleshoot problems and to establish routine maintenance procedures.

CABMIL 31409341 **Wood Finishing Applications and Methods** **1 Credits/Units**
Finishing is both an art and a science. This course demystifies the process of finishing wood and explores the materials used. Hand applied, brushed and sprayed finishes are covered. Proper finish selection and safe use of finishing products are emphasized.

CABMIL 31409342 **Laminates 1** **1 Credits/Units**
This course will take the learner through the process of working with high pressure decorative laminate (plastic laminate). Students learn about selecting proper grades and textures of plastic laminate, types of adhesives, equipment, and tooling used for properly fabricating laminate products.

CABMIL 31409345 **Wood Finishing Processes and Colorants** **1 Credits/Units**
This course explores multi-step finishes, including stains, washcoats, and glazes. In addition, this course will expose students to methods for color matching and repairing damaged finishes.

CABMIL 31409381 **Drawing 1** **1 Credits/Units**
Drawing is essential for quickly and accurately communicating three-dimensional ideas. This class will introduce the learner to drawing it relates to woodworking occupations. Areas of instruction include sketching techniques, orthographic and isometric projection, and hand drafting.

CABMIL 31409382 **Drawing 2** **1 Credits/Units**
Building on skills acquired in Drawing 1, this course provides additional experience with hand drafting, as well as an introduction to Computer-aided Design (AutoCAD).

CABMIL 31409383 **AutoCAD for Cabinet Drawing 1** **1 Credits/Units**
Expanding on concepts introduced in Drawing 1 & 2, this class builds competence in using AutoCAD as a tool to communicate. 32mm cabinetry, architectural layout and cabinet design are emphasized. Students learn to develop working drawings and details for cabinet, millwork and furniture projects.

CABMIL 31409384 **AutoCAD for Cabinet Drawing 2** **1 Credits/Units**
Expanding on concepts covered in AutoCAD for Cabinet Drawing 1, this course focus on developing proficiency with AutoCAD, as well as improving understanding of cabinetry and furniture design. Students learn to develop working drawings and details for cabinet, millwork and furniture projects.

CHEM 10806127 **Chemistry 1** **4 Credits/Units**

The first of a two-semester sequence, Chemistry 1 gives the fundamental concepts of inorganic chemistry that includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, thermochemistry, chemical bonding and solution chemistry. It emphasizes the basic principles and quantitative measurements used on chemistry. It consists of three hours of lecture and one, two-hour laboratory period per week. This course is not intended for transfer.

CHEM 10806129 Chemistry 2 4 Credits/Units

Chemistry 2 is the continuation of 10-806-127. Further study of basic chemical principles including chemical kinetics and equilibria, acid/base chemistry, and electrochemistry. It introduces properties, structures, and reactions of organic compounds. Elementary aspects of biochemistry are considered.

CHEM 10806134 General Chemistry 4 Credits/Units

This course covers the fundamentals of chemistry. Topics include: the metric system; problem solving; periodic relationships; chemical reactions; chemical equilibrium; acids bases and salts; and gas laws.

CHEM 20806200 Chemistry for Non-Science Majors 5 Credits/Units

This is a course for non-science majors, intending to take only a single semester of chemistry to fulfill the college-level lab science requirement. Emphasis on application of chemical concepts to phenomenon observed in everyday life, technology, and related social issues. Includes discussion of measurement, classifying matter, physical and chemical changes, chemical symbols, writing equations, atomic structure, nuclear changes, periodicity, states of matter, chemical bonding, the mole, solutions, acids and bases, redox reactions, fossil fuels and the history and methodology of chemistry.

CHEM 20806201 General, Organic & Biological Chemistry 5 Credits/Units

This course covers a broad range of topics suitable for many allied-health fields. Topics covered during the general chemistry portion of the course include measurement, problem solving, periodic table, chemical reactions, radioactivity, gases, solutions and acid-base behaviors. The organic chemistry portion introduces the structure and chemical behavior of major types of organic molecules. Also introduces the structure and function of major biological molecules such as carbohydrates, lipids and proteins. Although suitable for many programs, this course will generally not substitute for College Chemistry 1 if a program specifically requires that course or its equivalent.

CHEM 20806209 College Chemistry 1 5 Credits/Units

The first semester of a two-semester sequence in college chemistry that includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, gas laws, thermochemistry, chemical bonding and solution chemistry. This course is for students who need one or two semesters of what is typically considered freshman college chemistry. Laboratory work assists in understanding chemical concepts and developing problem-solving skills. Students may complete the year of general college chemistry with 20-806-212.

CHEM 20806212 College Chemistry 2 5 Credits/Units

College Chemistry 2 is a continuation of 20-806-209. This course covers the principles and applications of organic chemistry, reaction kinetics, equilibrium, thermodynamics, electrochemistry, coordination compounds, nuclear chemistry and environmental chemistry. Lab activities explore traditional analytical chemistry techniques, making extensive use of computer-assisted data analysis. This course involves rigorous quantitative problem solving, and a solid mathematics background is recommended.

CHEM 20806216 Chemistry for Biotechnology 3 Credits/Units

This course is meant to serve as a review of foundational general chemistry to help comprehension of chemical topics encountered in biotechnology. As such it includes topics in organic chemistry and intermolecular interactions, kinetics, chemical equilibrium, including acid/base and buffer equilibrium, and basic thermodynamics.

CHEM 20806256 Organic Chemistry 1 Lecture 4 Credits/Units

The first semester of a two-semester organic chemistry sequence. Includes the electronic structure and bonding of atoms and molecules; the nomenclature, mechanisms, reactions and properties of the following classes of compounds - alkanes, alkenes, alkynes, alkyl halides, alcohols, ethers, thiols, and sulfides; instrumental (IR, NMR) methods of analysis and their interpretation. Includes a three hour per week laboratory component as well as four hours per week lecture/discussion.CrLfCrLfThe first semester of a two semester organic chemistry sequence. Includes the electronic structure and bonding of atoms and molecules; stereochemistry; acids and bases; oxidation and reduction; the nomenclature, reactions, and properties of the following classes of compounds - alkanes, alkenes, alkynes, alkyl halides, alcohols, ethers, and epoxides. Includes the theory and interpretation of IR spectrophotometry and mass spectrometry.

CHEM 20806257 Organic Chemistry 2 Lecture 4 Credits/Units

Continuation of Organic Chemistry 1. Includes the theory and interpretation of NMR and UV-VIS spectrophotometry; the nomenclature, mechanisms, reactions and properties of the following classes of compounds alkadienes, aromatic, aldehydes, ketones, enols/enolates, carboxylic acids, carboxylic acid derivatives, amines, aryl halides, and phenols. Includes multiple-strip syntheses involving all organic classes of molecules. This course completes the lecture portion of 1-year long sequence of basic organic chemistry curriculum.?

CHEM 20806266 Organic Chemistry 1 Lab 2 Credits/Units

This course covers traditional material taught in Organic Chemistry, as well as basic organic laboratory techniques, including correct documentation of work in a laboratory notebook, thin layer chromatography, distillation, recrystallization and separations. It will also include various characterization techniques, including IR, gas chromatography, melting point determination, and refractometry. Lastly, it will cover many of the organic transformations and mechanisms covered in most basic organic chemistry lecture courses, including: substitution and elimination reactions, esterification, and a multi-step extractions. This course will also include a presentation component.

CHEM 20806267 Organic Chemistry 2 Lab 2 Credits/Units

This course covers traditional material taught in Organic Chemistry, as well as basic organic laboratory techniques, including correct documentation of work in a laboratory notebook, thin layer chromatography, distillation, recrystallization and separations. It will also include various characterization techniques, including NMR, IR, gas chromatography, melting point determination, and refractometry. Lastly, it will cover many of the organic transformations and mechanisms covered in most basic organic chemistry lecture courses, including polymerizationn, Diels-Alder, Aldol, Grignard syntheses, green chemistry, unknown characterization with multiple techniques and multi-step synthesis. This course will also include written and oral presentation components.

CHINESE 20802230 Intro to Mandarin Chinese 1 3 Credits/Units

Introduction to Mandarin Chinese. This course will introduce students to the fundamental phonetic system and grammar of standard spoken Chinese and written language including 400 Chinese characters. This course will teach modern standardized simplified Chinese characters rather than the more complex traditional characters. The course will meet for four hours each week for three credits.

CHINESE 20802231 Intro to Mandarin Chinese 2 3 Credits/Units

This course builds on the introduction to the fundamental phonetic system and grammar of standard spoken Chinese and written language and Chinese characters provided in Introduction to Mandarin Chinese I. This course will teach modern standardized simplified Chinese characters rather than the more complex traditional characters. The course will meet for four hours each week for three credits.

CIVILET 10607120 Methods In Civil Engineering 2 Credits/Units

An introductory engineering course that familiarizes students with the civil engineering and construction processes from project concept to completion. Provides new students opportunity to develop and improve their problem-solving skills and prepare for subsequent technical courses.

CIVILET 10607125 Intro To CAD for Civil Engineering 2 Credits/Units

This course introduces computer aided drafting (CAD) and will utilize software related to civil engineering design. This course will focus on: basic drawing techniques, creating and editing objects and text, proper utilization of layers, and creating blocks and templates.

CIVILET 10607133 Estimating 3 Credits/Units

Stresses estimating for general civil engineering work. Covers the preparation of detailed estimates as prepared by contractors for bidding purposes, the general estimate as prepared by engineers, and approximate estimates. Areas covered: highways, water and sewer lines, bridges, culverts, streets and general construction grading. Prerequisite: 10-607-177, fourth-semester standing or consent of instructor.

CIVILET 10607140 Strength of Materials for Civil Engineering 2 Credits/Units

An analysis of the principles of strength of materials as they apply to various fasteners, welded joints, beams and shafts through practical design and analysis problems. Topics covered include simple stresses, mechanical properties of materials, center of gravity, moment of inertia, shear force and bending diagrams and beam design. Related engineering analysis software is utilized throughout the course.

CIVILET 10607147 Civil Drawing 1 3 Credits/Units

Emphasis on development of graphical communication. Begins with basic manual drafting skills including line work, lettering, drafting tools use and free hand sketching of construction details. Transition in the last half of the semester to a CAD-based environment stressing geometric construction principles and simple engineering drawings.

CIVILET 10607148 Civil Drawing 2 2 Credits/Units

Applications-oriented class with CAD emphasis. More complex drawing projects including mapping, roadway design elements and structural detail applications. Drawing organization and standards, data conversion and sharing, third-party add-ins. Prerequisites: 10-607-147 and 10-607-156.

CIVILET 10607149 Aggregates And Concrete 2 Credits/Units

Introduces the fundamental principles of aggregates, Portland cement concrete and bituminous concrete. Emphasizes standards-based sampling and testing in laboratory and field environments. Tests are performed according to standards set by the American Society for Testing and Materials (ASTM) and American Association of State Highway and Transportation Officials (AASHTO). Students communicate results in written reports. Prerequisites: 10-804-114, and 10-103-137.

CIVILET 10607155 **Survey 1** **3 Credits/Units**
Basic measurement concepts, procedures, errors and computations underlying the technical aspects of surveying. Students use modern instrumentation to perform elevation, distance, and angular measurements. Coordinate geometry is introduced as a computational tool. Computations are done both manually and on computer using commercial software.

CIVILET 10607156 **Survey 2** **3 Credits/Units**
Principles, computations and field methods, from design to stakeout, involved in three-dimensional curvilinear survey applications. AASHTO and WisDOT vertical and horizontal alignment standards; geometric and volumetric calculations. Field work reflecting different construction surveys are performed utilizing modern instrumentation. Prerequisite: 10-607-155. Corequisites: 10-607-147 and
10-804-107.

CIVILET 10607158 **Survey 3** **3 Credits/Units**
Advanced concepts and procedures building on knowledge and skills attained in previous surveying classes. Concepts include geodetic applications, spatial reference systems, equipment adjustment, digital data collection and photogrammetry. Fieldwork includes total station calibration, control leveling, control network establishment and digital topographic data collection. Prerequisites: 10-607-156 and 10-607-147.

CIVILET 10607160 **Soils** **2 Credits/Units**
Introduces the basic principles of soil mechanics and their application in engineering practice. Topics include soil composition and texture, subsurface investigation, classification, moisture-density relationships, permeability and seepage, consolidation, settlement, shear strength, lateral earth pressures, fundamentals of retaining structures, shallow and deep foundations, slope stability and erosion loss calculations. Prerequisites: 10-806-154, 10-607-149. Corequisite: 10-801-197.

CIVILET 10607161 **Project** **3 Credits/Units**
Project-driven course through which civil engineering technicians gain firsthand experience with design by developing plans, specifications and reports for a "real-world" project while working in a team environment. Students present written and oral reports to reinforce technical communication skills. Prerequisites: 10-607-148 and 10-607-158. Corequisites: 10-607-133 and 10-607-182.

CIVILET 10607171 **Construction Materials** **2 Credits/Units**
Introduction to the design, specification and detailing of steel and reinforced concrete in typical civil engineering projects. Emphasis on infrastructural applications. Prerequisite: 10-607-160

CIVILET 10607172 **Stormwater Management** **2 Credits/Units**
Introduces principles involved in the design of storm sewer systems, culverts, and detention/retention basins. Covers the basic concepts of hydraulics and hydrology. Pre-requisite: Third semester standing.

CIVILET 10607177 **Legal Elements Engineering** **2 Credits/Units**
Emphasizes contract relationships. The first half of the semester is spent studying the elements of a valid contract along with a study of the court system. The remainder of the semester concentrates on specifications, contracting procedure and the relationship between the three main parties involved in a construction contract: owner, engineer and contractor. Other topics include professional liability, professional ethics, product liability, discharge and remedies for non-completion. Prerequisite: third-semester standing or consent of instructor

CIVILET 10607178 **Statics and Mechanics for Civil Engineering** **2 Credits/Units**
Introduces students to the basics of statics. Learners study and analyze forces and loading conditions applied to structures and mechanical devices. Areas of study include resultant and equilibrant of forces, moments, nonconcurrent-coplanar forces (trusses), concurrent-noncoplanar forces and static friction. Related engineering analysis software will be utilized throughout the course.

CIVILET 10607179 **Intro to Geographical Information Systems (GIS)** **2 Credits/Units**
Basic terminology and components of geographic information systems. Capturing and organizing spatial data; integrating graphic and tabular information. Using spatial relationships to answer geographic queries. Civil engineering applications of GIS technology.

CIVILET 10607182 **Water Supply and Sewerage** **2 Credits/Units**
This course will provide the student with an understanding of the principles involved in the design of municipal water supply, municipal sanitary sewerage and private on-site waste treatment (POWTS) systems.

CIVILET 10607193 **Career Development** **1 Credits/Units**
Prepares students for work in a professional engineering environment by providing them with a knowledge and understanding of themselves and others. This course also guides students through the etiquette required for success in the job market and assists them in assembling the materials and information necessary for effective job applications and interviews.

COLLSUCC 10890101 **College Success and Study Skills 1cr** **1 Credits/Units**

This course provides learners with strategies to develop skills for success in college and in life. Learners will practice study skills, and learn ways to improve decision-making to promote success in college and the work place. This course is usually paired with a specific program and may include added content focused on program student needs.

COLLSUCC 20890200 **College Success** **3 Credits/Units**

This course provides learners with strategies to develop skills for success in college. Learners will work on academic skills such as test taking, note taking, reading etc. And, learners will work on other success strategies such as motivation, goal setting, interdependence, and self-awareness. Learners will apply self-management techniques, explore resource management strategies, practice study skills, and learn about ways to improve personal effectiveness.

COLLSUCC 20890202 **Career Development** **1 Credits/Units**

This course provides learners with strategies to develop skills necessary to make satisfying career development decisions. Learners will have an opportunity to participate in self-awareness activities and standardized assessments that focus on the areas of personality, interests, skills, and values. In addition, this course will explore researching career paths, market research, planning, goal setting and decision making. Students will leave with a better understanding of themselves, career paths, and our current job market.

COMM 10801196 **Oral/Interpersonal Communication** **3 Credits/Units**

Focuses upon developing speaking, verbal, and nonverbal communication and listening skills through individual presentations, group activities, and other projects.

COMM 20810205 **Small Group & Interpersonal Communications** **3 Credits/Units**

This course explores verbal and nonverbal concepts, theories, and practical skills necessary to become competent in interpersonal and small group settings. Students explore dependent, independent and interdependent relationships with others in personal and work-related settings.

COMM 31801356 **Communications 1** **1 Credits/Units**

Communications 1 improves critical thinking, speaking, listening and writing skills. Where possible, the course is tailored to employment situations. It differs from 31-801-351, Communications 1 (2 credits), primarily in depth.

COMPSOFT 10103121 **Windows 10** **1 Credits/Units**

Introduces the Windows 10 operating system - the basis for working in many businesses or organizations. Learn and practice file management skills, work with common elements (start menu, taskbar, shortcuts, help and apps), use accessory programs, customize windows, and search for information. This course provides the foundational knowledge for anyone seeking to advance their skills in Microsoft 365/Office 2019. Students are required to have access to a computer that uses the Windows 10 operating system. Before enrolling, students must be competent in using the mouse, finding information on the internet, sending email messages with attachments, and adhering to file management practices. If lacking, students should enroll in the Basic Skills Education Course, "Computer Basics" prior to Windows 10.

COMPSOFT 10103133 **Excel Beginning** **1 Credits/Units**

Within the Microsoft Office Suite, Excel Beginning is an introduction to Microsoft Excel spreadsheet software used to effectively manage data to make better business decisions. Create and format worksheets and workbooks; analyze data using formulas and functions; create charts to display data visually. Work with functions such as SUM, IF, AND, OR, AVERAGE, MIN, MAX, COUNT, and Date functions. This course will use Office 365/Excel 2019. Prerequisite: Competency in Windows including file management skills.

COMPSOFT 10103136 **Word Intermediate** **1 Credits/Units**

This intermediate course is a continuation of the Microsoft Word Beginning class. Use Microsoft Word within the Microsoft Office suite software to transform documents into professional business communication resources. Learn more advanced skills including mail merge and integration with other Microsoft Office programs, such as embedded and linked files, objects, charts, and links. Create illustrating documents using columns, SmartArt, WordArt, text boxes, charts, and graphics. Customize styles, themes, and Building Blocks. Utilize Word's collaboration features including track changes, manage reviewers, and compare documents. This course will use Microsoft Office 365/Word 2019. Required: Word Beginning, 10103137 or consent of instructor.

COMPSOFT 10103137 **Word Beginning** **1 Credits/Units**

Within the Microsoft Office Suite, Microsoft Word helps you create effective business documents. Format documents with fonts, text appearance, line spacing, styles, themes, borders and shading, bulleted and numbered lists, page breaks, and page numbers. Effectively align text using indents, tab stops, paragraph alignment, sections, and columns. Insert comments, headers and footers, graphics, WordArt, SmartArt, shapes, and text boxes. Create and format tables, modify rows and columns, perform calculations, sort table data, and customize tables. Work with footnotes, endnotes, citations, and bibliographies. This course will use Microsoft Office 365/Word 2019. Required: Competency in Windows, solid file management skills, and suggested keyboarding speed of 25 words per minute.

COMPSOFT 10103139 **Excel Intermediate** **1 Credits/Units**

Continuation of the Microsoft Excel Beginning course. Using the Microsoft Office Suite, focus on the higher-level concepts of Microsoft Excel spreadsheet software. Use Excel tables to analyze and manipulate data; create data validations. Work with multiple worksheets; protect worksheets and workbooks; create and save custom views. Work with images and integrating Excel with other program data. Summarize and analyze data using subtotals, PivotTables, PivotCharts and PivotReports. Work with functions such as VLOOKUP, DSUM, GETPIVOTDATA. This course will use Microsoft Office 365/Excel 2019. Pre-requisite: Excel Beginning or consent of instructor, and competency in Windows including file management skills.

COMPSOFT 10103143 PowerPoint 1 Credits/Units

Within the Microsoft Office Suite, Microsoft PowerPoint presentation software helps you to create effective and engaging presentations. Create and edit presentations, use pictures and graphics to illustrate key points, prepare presentations for effective delivery, and use images, illustrations, themes, and templates. Work with text, pictures, graphics, icons, SmartArt, slide layouts, design themes, Design Ideas pane, tables, and charts. Incorporate video, animation, and transitions. Prepare to give a polished presentation using speaker's notes, rehearsal techniques, timings, and narration. Utilize the Slide Master to create custom templates. This course will use Microsoft Office 365/PowerPoint 2019.

COMPSOFT 10103145 Access 1 Credits/Units

Within the Microsoft Office Suite, Microsoft Access database software can help manage your information, data, and records. In this beginning level course, you will create, edit, and manipulate databases to harness the power of important business information; add tables to store and organize data; create relationships to take advantage of a relational database; perform queries to extract meaningful information; add calculations to tables and queries to determine values; create and use forms to assist with data entry and online data management; develop reports for data analysis and reporting out to stakeholders; use settings within Access to ensure efficient and accurate data entry. Prerequisite: Competency in Windows including solid file management skills. This course will use Microsoft Office 365/Access 2019.

COMPSOFT 10103165 Outlook 1 Credits/Units

Within the Microsoft Office Suite, Microsoft Outlook is a messaging and personal information management program that allows you to communicate by email; schedule appointments, meetings and events; manage the Inbox, contact lists, tasks, notes, and to-do lists; categorize and flag messages; track and archive messages. You can also configure and customize Outlook; manage Outlook components; integrate Outlook options; create quick steps and rules; configure autoarchive settings, and work with news feeds. This course will use Microsoft Office 365/Outlook 2019.

COMPSOFT 10103169 Collaboration Tools 1 Credits/Units

Learn, compare, and analyze the successful use of collaboration and social media tools used in organizations today. Organize notes, images, files, and correspondence with Microsoft OneNote; build a customized online calendar to track meetings and tasks; explore and participate in social media applications from a business perspective; examine video conferencing systems and take part in a live web meeting; utilize SharePoint to store and manage files. This course uses Microsoft Office 365/OneNote 2019.

COMPSOFT 10103186 MS (Microsoft) Project 2 Credits/Units

Within the Microsoft Office Suite, Microsoft Project is a project management software used to plan a project, create a project schedule and Gantt Chart, communicate project information, assign resources and costs, track project progress through completion, and share project information with other programs. This course will use Microsoft Office 365/Project 2019.

Prerequisite: Competency in Windows including file management skills.

CONST 31410301 Introduction to Construction 5 Credits/Units

This course provides instruction in the fundamentals of floor, wall, ceiling and roof framing. A variety of building methods are discussed in the context of current understanding of how buildings work and why they fail.

CONST 31410302 Plans, Site and Formwork 2 Credits/Units

This course provides instruction in interpretation of plans, specifications and building codes, site preparation, the layout of footings and foundations and setting concrete forms.

CONST 31410308 Construction Industry Codes and Regulations 2 Credits/Units

Units of instruction include zoning requirements, residential and commercial building codes, sanitary regulations, permit applications, building permits and inspection procedures. Contract documents and office practice are also discussed.

CONST 31410309 Plan Reading and Drawing 1 Credits/Units

This course provides instruction in the interpretation of construction drawings and documents. Specific areas of emphasis include architectural scale, symbols, abbreviations and specifications, and how drawings are translated to create the built world. Areas of drawing instruction include sketching techniques, orthographic projection, and isometric drawings.

CONST 31410310 Materials and Estimating 2 1 Credits/Units

This course builds on material and estimating skills learned in Materials and Estimating 1. Students will create estimates using Excel spreadsheets. In the capstone project, students will create a bid for building one of the student project homes. The bid will then be used as the basis of a sales presentation delivered to professionals from the home building industry.

CONST 31410311 **Commercial Construction** **1 Credits/Units**
This course focuses on construction techniques and materials that are used primarily in commercial construction settings. Students will frame with steel, install metal framed doors, erect concrete forms and install suspended ceilings. Entry into apprenticeship and other commercial construction career pathways will be explored.

CONST 31410324 **Remodeling Techniques** **1 Credits/Units**
Explores the differences between new building construction and remodeling existing buildings. Topics covered include site protection, safe demolition techniques, lead and asbestos hazards, removing existing walls, replacing windows and doors, and tying into the existing structure.

CONST 31410328 **Construction Techniques 1** **5 Credits/Units**
This course continues instruction on roof framing and introduces installation methods for roof shingles, windows and doors, soffits and fascia, exterior trim and siding. Basic stair construction is also included. Building science topics of insulation, drainage planes and greener building techniques are also discussed.

CONST 31410329 **Construction Techniques 2** **5 Credits/Units**
This course emphasizes interior finish including, but not necessarily limited to, installing wall board, hanging interior doors, installing interior trim, installing kitchen and bathroom cabinets, and completing a punch list.

CONST 31410335 **Intermediate Carpentry Lab** **2 Credits/Units**
Students will practice carpentry skills learned in Introduction to Construction and Construction Techniques 1. They will continue to work, under faculty supervision, on the sheds and the home that they began in the fall semester. They may also complete a small remodeling project. Carpentry tasks will include framing, roofing, window and door installation and exterior finishing.

CONST 31410337 **Workplace Safety** **1 Credits/Units**
This course will cover several key areas of OSHA workplace safety, including: erection of ladders and scaffolds, HASCOM (Hazardous Materials Communication), selection and use of PPE (Personal Protective Equipment), proper machined guarding, and prevention of slips, trips and falls.

CONST 31410338 **Nailin' It--Success in Construction & Remodeling** **1 Credits/Units**
This course introduces students to the skills needed to be a successful Construction & Remodeling student. It also gives students an introduction to construction careers, basic construction safety and a campus and program orientation. Students who complete this course with a C or better will have completed their College Success requirement towards the Construction program.

CONST 31410345 **Materials and Estimating 1** **1 Credits/Units**
This course introduces students to using building plans to create materials and labor estimates. Material selection and methods for calculating labor rates will also be covered.

CONST 31410363 **Building Science and Sustainability** **1 Credits/Units**
In order to design and build quality, energy efficient and resource efficient homes, it is important to understand the interaction of building systems. In this course, students explore the structural, HVAC, electrical and plumbing systems in a home and how their performance can be measured and optimized to create sustainable homes.

CONST 31410379 **Construction Math** **1 Credits/Units**
Construction Math is a review of basic mathematics that consists of an introduction to using a scientific calculator, order of operations, fractions, decimals, use of percentage, units of measurement including the metric system, the reading of analog instruments for length measurement, and practical plane geometry.

CONST 31410385 **Introduction to 3D Computer Assisted Drafting** **1 Credits/Units**
In this course, students create three dimensional building models using Sketch Up and a building information modeling software such as Chief Architect. Those models will then be used to create construction documents.

CONST 31410399 **Fundamentals Of Construction** **3 Credits/Units**
This course provides an introduction to the identification, safe use and care of hand and portable power tools. Lab work includes the construction of sawhorses using techniques learned in class.

CONST 31410410 **Fundamentals of Construction 1** **2 Credits/Units**
This course provides an introduction to the identification, safe use, and care of hand and portable power tools. Lab work includes the construction of sawhorses using techniques learned in class. Students must also complete Fundamentals of Construction 2 (one credit) to fulfill the Fundamentals of Construction (total 3 credits) requirement for the Construction & Remodeling Program.

CONST 31410411 **Fundamentals of Construction 2** **1 Credits/Units**

This course provides an introduction to the identification, safe use and care of hand and portable power tools, especially those used for finish carpentry. Lab work includes the construction of cornhole games using techniques learned in class. This course fulfills the third and final credit of the Fundamentals of Construction program requirement for students in the Construction & Remodeling program.

COSMET 10502330 **Making the Cut** **1 Credits/Units**
Making the Cut is an orientation course designed to maximize the students understanding of the Barber/Cosmetology Academy which is offered to waitlisted individuals prior to enrollment in the program. Students are introduced to the industry, receive an orientation to the program competencies, assessed on their preparedness, skill and abilities to ensure an educational match and increase the chance of successful program completion.

COSMET 31502329 **Hair Lightening Techniques** **1 Credits/Units**
Highlighting, balayage, and foiling.

COSMET 31502331 **Basic Hair Color** **4 Credits/Units**
Beginning hair color, verbiage and color wheel.

COSMET 31502332 **Haircutting Concepts** **4 Credits/Units**
Basic haircutting, solid form, layered and clipper cutting.

COSMET 31502333 **Nail Technology** **2 Credits/Units**
Nail theory, manicures and pedicures.

COSMET 31502334 **Cosmetology Science** **1 Credits/Units**
Salon Ecology, Chemistry and Trichology.

COSMET 31502335 **Aesthetic & Makeup Artistry** **2 Credits/Units**
Skin theory, facials, hair removal and makeup.

COSMET 31502336 **Long Hair Design** **1 Credits/Units**
Upstyling and braiding.

COSMET 31502337 **Chemical Texturizing** **2 Credits/Units**
Permanent waving, hair smoothing and chemical relaxing.

COSMET 31502344 **Industry Trends** **1 Credits/Units**
Hair color correction, advanced hair coloring, haircutting trends, wigs and hair extensions.

COSMET 31502351 **Introduction to Salon Services & Infection Control** **2 Credits/Units**
Introduces students to a closed lab service setting on Manikins, peers, and models. Students will apply introductory knowledge of cosmetology science, infection control, safety and sanitation procedures, hair analysis, shampooing, haircutting techniques, scalp and hair conditioning treatments, nail services and retail methodology and practices.

COSMET 31502352 **Basic Hair and Nail Services 1** **2 Credits/Units**
Emphasizes salon services demonstrating basic knowledge of theory subjects on clientele with instructor supervision. Students will apply knowledge of infection control, safety and sanitation procedures while performing basic haircutting, basic hair color, basic hair design, nail technology and retail methodology and practices.

COSMET 31502353 **Basic Hair and Nail Services 2** **3 Credits/Units**
Students will continue to apply knowledge of infection control, safety and sanitation procedures while further demonstrating their skills in basic haircutting, basic hair color, basic hair design, nail technology and retail methodology and practices on clientele with instructor supervision.

COSMET 31502354 **Intermediate Hair, Nail, and Facial Services 1** **4 Credits/Units**
Students will build on their foundational hair skills by providing color highlighting services to clientele with instructor supervision. Students will also demonstrate their knowledge in skin theory by practicing basic aesthetics including facials, facial hair removal, and makeup artistry.

COSMET 31502355 **Intermediate Hair, Nail, and Facial Services 2** **4 Credits/Units**
Students will continue their intermediate hair skills including cut, color, design and highlighting to clientele with instructor supervision. Students will also continue to demonstrate their intermediate skills in skin theory by practicing intermediate aesthetics in facials, facial hair removal, and makeup artistry.

COSMET 31502356 **Advanced Hair, Nail and Aesthetic Services** **4 Credits/Units**

Student demonstrates advanced cosmetology training with hair, skin and nail techniques. Students will also demonstrate infection control, safety and sanitation, practices in preparation for the state board examination.

COSMET 31502357 **Mastery Hair, Nail, and Aesthetic Services** **4 Credits/Units**
Student demonstrates mastery of training with hair, skin and nail techniques while practicing infection control while preparing for the state board examination.

COSMET 31502392 **Sales and Advertising** **1 Credits/Units**
Salon sales and advertising.

COSMET 31502393 **Salon Marketing** **1 Credits/Units**
Salon marketing involving social media, direct marketing and promotions.

COSMET 31502395 **State Board Review** **1 Credits/Units**
Review state board subjects in preparation for practical and written exam.

COSMET 31502396 **Advanced Haircutting** **1 Credits/Units**
Razor haircuts, texturizing and clipper cutting.

COSMET 31502397 **Basic Hair Design** **2 Credits/Units**
Wet and thermal hair styling.

COSMET 31502398 **Client Relations** **1 Credits/Units**
Customer service, emotional intelligence and professional development.

COSMET 50502521 **Trichology, Bacteriology, Sterilization and Sanitation** **2 Credits/Units**
Examine topics related to the structure and disorders of the hair and scalp. Become familiar with the proper selection of shampoos, conditioners and treatments for providing hair care and scalp services. Study design decisions and become familiar with the techniques associated with basic hair cutting. Identify dexterity, procedures and techniques in hair cutting and hair styling needed to provide client satisfaction. Understand bacteriology and sanitation as it relates to providing hair care services. Introduction to cosmetology laws and rules.?

COSMET 50502522 **Hair Cutting, Design and Chemical Services** **2 Credits/Units**
Gain an understanding of hair cutting and receive and introduction to chemical services. Study the physical and chemical changes that must take place in all chemical services performed. Practice the application of chemicals and the placement of permanent wave rods to achieve the desired chemical services. Become familiar with use and care of tools used in a salon setting?.

COSMET 50502523 **Advanced Chemical Services and Salon Business** **2 Credits/Units**
Continued study of tools and equipment used in a salon setting. Learn about advanced chemical services including coloring and chemical texturizing. You will also study cosmetology salon industry business operations.?

COSMET 50502524 **Facial Anatomy, Skin & Nail Care, and State Regulations** **2 Credits/Units**
Learn to recognize various nail irregularities, disorders and diseases in order to determine when to continue service or refer the client to a physician. Practice different procedures that are used to provide nail care services. Study the anatomy of the face in order to be able to accurately perform related services. Become familiar with skin care, hair removal and make-up. Review barber/cosmetology laws and rules and its application to providing services to the client's in a safe and sanitary manner. Review for State Exam and the final exam for your apprenticeship training.?

CRIMJUST 10504105 **Professional Development for Criminal Justice** **3 Credits/Units**
This course is designed for second year criminal justice students who are preparing to enter into the job search process. Prepares the student for the hiring process for a Criminal Justice career including applications, resumes, interviews, and hiring process standards. This course is also based on the Office of Community Oriented Policing, "Innovations in Police Recruitment and Hiring" manual?

CRIMJUST 10504143 **Criminology for Law Enforcement** **3 Credits/Units**
Exposes criminal justice students to these questions: what is crime and why is it a problem? Focusing on those questions, the course will look at what is known about crime and how it is known. Also touches on crimes, criminals and theories, while focusing on the police in the criminal justice system. Prerequisite: completion of first-year courses

CRIMJUST 10504170 **Introduction to Corrections - Criminal Justice** **3 Credits/Units**
Examines the concept of punishment and its form, functions, and enforcement throughout history, with an emphasis on the operation, structure, clientele, and issues confronting the institutions, agencies, and programs encompassing the corrections system including jails, prisons, and probation and parole.

CRIMJUST 10504171 **Private Sector Security** **3 Credits/Units**

This course is a comprehensive examination of the relationship of the criminal justice system to business and industrial security. It also provides an overview of the administrative, personnel, and physical aspects of the private security field.

CRIMJUST 10504180 Internship 3 Credits/Units
Integrates learned classroom theory and skills with real-life experience under the direct supervision of practitioners. Students are placed within an agency to interact, observe and participate to a limited degree with practitioners during the performance of their regular duties. Students receive intense one-on-one instruction in developing useful skills based on field experience. Prerequisites: Instructor approval, completion of two semesters (30 credits and all 1st year core program courses) in the Criminal Justice Program and a 2.5 GPA. Travel to internship site is the responsibility of the student. Students may need to pass a criminal background examination by the supervising agency.

CRIMJUST 10504900 Introduction to Criminal Justice 3 Credits/Units
This course explores the Criminal Justice system while focusing specifically on the three primary components of that system: Law Enforcement, the Criminal Court system and the Corrections System.

In the Law Enforcement Unit, students will study the police and their role within the system and society-at-large while focusing between the roles and functions of federal, state and local law enforcement agencies. Learners will explore contemporary issues, police procedures, and ethical dilemmas to acquire critical insight.

In the Court System Unit, learners will distinguish between the roles and functions of court personnel and various courts with jurisdiction in Wisconsin and federal courts with jurisdiction throughout the United States.

In the Corrections Unit, students will examine the various ways that punishment and rehabilitation are practiced within the corrections system. Learners will study and discuss the five primary goals of sentencing and evaluate their application and success.

CRIMJUST 10504902 Criminal Law 3 Credits/Units
This course covers the evolution of substantive and procedural criminal law and its impact on society. Students will analyze the basic elements of criminal offenses and the fundamental concepts of due process and fairness underlying American criminal procedure both before and after arrest.

CRIMJUST 10504905 Report Writing 3 Credits/Units
In this course, the learner will explain the context of report writing, take effective field notes, organize information in reports, write narratives, describe what information should be included in certain types of reports, prepare for court, describe how to be an effective witness, and testify as a witness in court. This is part of the criminal justice courses.

CRIMJUST 10504906 Criminal Investigation Theory 3 Credits/Units
In this course, the learner will describe the role evidence plays in criminal investigations and prosecutions; apply the steps for processing crime scenes; apply appropriate strategies to locate, handle, and package evidentiary items; document the crime scene; recognize the unique investigative issues for crimes against life; apply appropriate strategies to secure the scene, collect and preserve evidence, and investigate a death; recognize the dynamics of victimization; apply knowledge of the definitions and responsibilities for law enforcement; apply appropriate interview techniques with adult or child victims; analyze the role of law enforcement in responding to domestic abuse; intervene and apply appropriate investigative strategies; respond to an officer-involved domestic violence incident; analyze the role of law enforcement in responding to sexual abuse; demonstrate investigative techniques in a simulated sexual assault case; and identify other resources that can assist in sexual assault cases. This is part of the criminal justice courses. Prerequisites: 10-504-902.

CRIMJUST 10504909 Foundations of Policing 3 Credits/Units
Examines the roles and functions of police; includes police history and organization, challenges and expectations within the field; addresses police operations and critical issues such as technology, drug investigations and homeland security.

CRIMJUST 10504910 Diversity and Criminal Justice 3 Credits/Units
An examination of race in the context of the criminal justice system. Emphasis on the treatment of racial minorities as victims and offenders by law enforcement, courts, and corrections. The main purpose of this course is to assist students build their analytic and critical skills necessary to gain deeper, understanding of the important issues of race and the criminal justice system.

CRIMJUST 10504911 Interviewing 3 Credits/Units
Examines the principles of effective interviewing as applied to investigative reporting, research, persuasion, counseling, employment, and the investigation of crime. Addresses the theory and practice of interviewing and interrogation as applied to gaining information from complainants, witnesses, victims, informants, and suspects.

CRIMJUST 10504912 Ethics in Criminal Justice 3 Credits/Units
Ethical issues relevant to law enforcement, the courts, and corrections are examined.The basis for ethical dilemmas and decision making at all stages of the criminal justice system are presented. Actual ethical dilemmas are presented and analyzed for hands-on discussion and resolution. Topics include developing moral and ethical behavior, analyzing policy and management issues, professionalism, and ethics for practitioners in criminal justice.

CRIMJUST 10504914 **Juvenile Justice** **3 Credits/Units**

INACTIVATED COURSE ID - DO NOT USE. Students in the course will examine the history of the juvenile justice system, and the nature and extent of juvenile delinquency in the U.S. Students will also compare biological, psychological and sociological theories and analyze the impact of social issues related to delinquency. In addition to outlining case law regarding the legal rights of juveniles, students will distinguish between the roles of the Police, Juvenile Courts, and Juvenile Aftercare within the juvenile justice system and how they interact with and influence each other.

CRIMJUST 10504917 **Police Community Relations** **3 Credits/Units**

This course examines the history of community policing, problem-oriented policing, community responsibilities, media relations, and evolving strategies. Students analyze criminal justice organizations including human resources management, research studies, environmental factors, centralized authority, and other issues.?

CRIMJUST 10504923 **HPS Health & Fitness Readiness** **3 Credits/Units**

This course prepares HPS students for their physical agility and physical readiness tests. It also addresses and offers support to strengthen the physical and psychological health of our future first responders.

CRIMJUST 30504310 **Application of Investigations** **1 Credits/Units**

Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase III topics of the Department of Justice 720 Academy curriculum framework: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Interrogations, Testifying in Court, Crimes III and Physical Evidence. The Department of Justice Phase III written examination will be administered at the conclusion of this course.

CRIMJUST 30504311 **Application of Traffic Response** **3 Credits/Units**

Through classroom lecture, and on-campus lab, students will learn and apply skills addressed in the following Phase III topics from the WI Department of Justice 720 Academy curriculum framework: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations & Incident Management, Operating a Motor Vehicle While Intoxicated (OMVWI), Standardized Field Sobriety Tests (SFST), and Report Writing. The Department of Justice Phase III written examination will be administered at the conclusion of this course.

CRIMJUST 30504312 **Health and Fitness** **1 Credits/Units**

Through classroom lecture and on-campus lab students will apply Phases I-III Health Fitness WI Department of Justice 720 Academy curriculum framework program requirements and Officer Wellness Suicide Prevention. The Department of Justice Phase III written examination will be administered at the conclusion of this course.

CRIMJUST 30504313 **Overview of Criminal Justice** **1 Credits/Units**

Through classroom lecture and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following WI Department of Justice 720 Academy Phase I curriculum framework topics: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communication.The Department of Justice Phase I written examination will be administered at the conclusion of this course.

CRIMJUST 30504314 **Overview of Investigations** **2 Credits/Units**

Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Constitutional Law I, Crimes I, Juvenile Law I, Interviews, Report Writing, and Physical Evidence. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

CRIMJUST 30504315 **Overview of Patrol Response** **2 Credits/Units**

Through classroom lecture, and on-campus lab, and WI Department of Justice integration exercises students will learn and apply skills addressed in the following WI Department of Justice 720 Academy curriculum framework Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, Introduction to TraCS, Traffic Law Enforcement, and First Aid/CPR/AED. This course will also include the WI DOJ 720 Academy Integration Exercises. This course will also include the WI DOJ 720 Academy Integration Exercises. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

CRIMJUST 30504316 **Overview of Tactics** **1 Credits/Units**

Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Fundamentals of Firearms, Vehicle Contacts I, Officer Wellness, and DAAT. The Department of Justice Phase I written examination will be administered at the conclusion of this course.

CRIMJUST 30504317 **Principles of Emergency Vehicle Response** **2 Credits/Units**

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy Phase II topics: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II. The Department of Justice Phase II written examination will be administered at the conclusion of this course.

CRIMJUST 30504318 Principles of Investigations 1 Credits/Units

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase II topics of the WI Department of Justice 720 Academy curriculum framework: Constitutional Law II, Physical Evidence Collections, and Crisis Management. The Phase II Written Exam will be given in this course. The Department of Justice Phase II written examination will be administered at the conclusion of this course.

CRIMJUST 30504320 Principles of Tactics 5 Credits/Units

Through classroom lecture and on-campus lab and integration exercises, students will learn and apply skills addressed in the following Phase II topics from the Department of Justice 720 Academy curriculum frameworks including: Professional Communication Skills II, DAAT, Firearms II, Tactical Response, and a Tactical Emergency Casualty Care. The Department of Justice Phase II written examination will be administered at the conclusion of this course.

CRIMJUST 30504321 Sensitive Crimes 2 Credits/Units

Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase III topics: Domestics, Juvenile Law, Victims, Sexual Assault, and Child Maltreatment. The DOJ Phase III Written Examination will be administered in this course.

CRIMJUST 30504352 Basic Jail Officer Academy 5 Credits/Units

Jail Officer Certification Academy provides the curriculum required for jail officer certification required by the Wisconsin Law Enforcement Standards Board. This course focuses on the philosophical and tactical principles of working as a correctional officer in Wisconsin. It includes a skills-assessment examination prior to completion to verify student competence. Topics covered include state law and administration code provisions governing county jail operations, the basic constitutional rights of prisoners, as established by Federal Courts, and basic guidelines regarding effective correctional practices and procedures. Upon the successful completion of the program, a student will be eligible for certification with the Wisconsin Department of Justice, Law Enforcement Training and Standards Board as a jail officer.

Students seeking admission to the Jail Officer Certification must be at least 18 years of age; possess a high school diploma or equivalent; complete the Wisconsin Department of Justice Application for Enrollment - Jail Officer Training (DJ-LE-327); possess a valid Wisconsin Driver's License; complete a criminal history records check; and complete a satisfactory oral interview. Students accepted into the Jail Officer Certification Course must undergo a physical assessment by a Wisconsin licensed physician.

Enrollment is regulated by the Wisconsin Department of Justice.

CUL ARTS 10314130 Dessert Plating 2 Credits/Units

Students learn the art of plating desserts in modern contemporary format. Working with various dessert components, students will gain a hands on experience on how to apply plating techniques to desserts.

CUL ARTS 10316101 Principles Of Sanitation 1 Credits/Units

Covers food service sanitation principles and the role of food service personnel in the prevention of contamination and food borne illness. Certification through the National Restaurant Association Educational Foundation is a requirement for completion and can be used to apply for state certification.

CUL ARTS 10316104 Advanced Skills Lab 1 3 Credits/Units

Provides students with an introduction to classical and ethnic cooking techniques common to full-service restaurants. Students will have an opportunity to apply and develop skills in the MATC Gourmet Dining Room, a simulated restaurant environment.

CUL ARTS 10316106 Food Theory 2 Credits/Units

This course provides the opportunity for the learner to develop the knowledge, skills, and understanding of food preparation in commercial kitchens that will enhance their careers.

CUL ARTS 10316108 Culinary Baking Fundamentals 1 Credits/Units

Provides a general understanding of basic baking principles and knowledge of the functions and appropriate usage of the major ingredients used in production baking. Different types of bakery products are classified according to their characteristics. Ingredient cost-outs are calculated.

CUL ARTS 10316111 Professional Cooking 1 4 Credits/Units

Students will learn basic skill sets and foundation block of professional cooking in a practical environment. The class develops foundation skills that are used in every kitchen. Emphasis of the class is: sanitation, knife skills, heat transfer, protein cooking, working in teams, Mise en place, sauce production and starch cookery.

CUL ARTS 10316112 **Cuisines of the World** **2 Credits/Units**
Students will explore foods from North America and other prominent regions of the world. Gives students the opportunity to further practice and reinforce cooking techniques and knife skills needed to produce stocks and sauces, starches, meats, and other food items. Protein fabrication and heat transfer techniques are also covered.

CUL ARTS 10316115 **Culinary Baking Lab** **2 Credits/Units**
A chef who develops a basic understanding of the baking process will be better able to manage any kitchen situation, including the pastry department. Mastery is not the goal of this course, but rather to develop a foundation in baking principles through hands-on application in a modern baking lab using production equipment. Students will prepare a variety of standard bakery products to obtain knowledge about the many processes of baking. Prerequisites: Culinary Baking Fundamentals, 10-316-108 or concurrent enrollment.

CUL ARTS 10316118 **Meat Cutting** **2 Credits/Units**
Provides hands-on experience of cutting and fabricating wholesale cuts of meat. The importance of safety and hygiene, equipment utilization and yield costing are also discussed.

CUL ARTS 10316121 **Professional Cooking 2** **4 Credits/Units**
Further continuation of 316-119 lab with emphasis placed on the demands of running a kitchen and developing quality products and sticking to details. Students will elevate their skills; heat transfer, sanitation, critical thinking, team work, and sauce production. The last eight weeks of the class are devoted to fish & shellfish cookery. The final segment is interpreting menus from the students.

CUL ARTS 10316130 **Advanced Skills Lab 2** **4 Credits/Units**
Expanding on the first semester of Intro to Advanced Skills Lab 1, students will incorporate the culinary skills they have learned over the last one-and-a-half of the culinary arts program. Utilizing up to date cooking techniques and following industry standards for high-end foods students will maintain all aspects of the kitchen with the utmost care. With an emphasis on working on presentation, flavors, cooking skills and time management students will gain a real work environment with the lab component of learning to prepare high-end foods. Students are expected to have completed the first semester of Intro to Gourmet before entering the Gourmet Foods class.

CUL ARTS 10316132 **Waitstaff Training** **2 Credits/Units**
Waitstaff training encompasses the art of service and the importance of front of the house work in the culinary program. Students learn how to properly interact with guest and provide high quality service to guest. They learn the fundamentals of table service and proper techniques for service. Along with gaining insight on guest service students learn the procedures for entering guest orders and interacting with the kitchen staff. They will be provided with management opportunities that will require critical thinking and make important decision on how to handle specific situations.

CUL ARTS 10316133 **Garde Manger/Decorative Foods** **2 Credits/Units**
This course is designed to give the students a fundamental working knowledge of the cold kitchen. Students will have hand on working experiences and be tested for their knowledge of Garde Manager using quizzes, a written midterm, final exam and one cold platter as a capstone group project. Students will be required to work on projects independently and in-group settings. Students will begin the class by learning the history of Garde Manager and produce products that are made every day on the cold side of our industry to include; ice carving, charcuterie, sandwiches, crackers, cheese and even pickles.

CUL ARTS 10316134 **Cost Control** **3 Credits/Units**
This course will present concepts and tequniques of cost control in the culinary industry. Studetns select and apply methods, procedures, and systems to control costs and analyze the application, theory and concepts. Focuses on concepts for culinary managers who are responsible for making strategic and proactive decisions to maximize revenues in a cost-efficient way; fixed product supply and varying consumer demand make this a challenge. Focuses on concepts for paying critical attention to core product revenue maximation due to the perisible nature of a service-based product.

CUL ARTS 10316135 **Dining Room Operations** **2 Credits/Units**
Dining Room Operations focuses on the spirit of hospitality, guest service and the importance of front-of-the-house work in the culinary program in a leadership position. As a dining room manager, students will learn how to
properly coach, mentor, and enforce the importance of hospitality & service to guests. Students will stress the fundamentals of table service, proper techniques for service, & lead fellow students in their roles as servers. Students learn from the experience of running a live operating restaurant dining room from a management prospective. Students gain leadership confidence, communication & interaction skill with both front-of-the-house & back-of-the-house staff. They will be provided with management opportunities that will require critical thinking & decision making on how to handle specific situations.

CUL ARTS 10316139 **Catering** **2 Credits/Units**
Provides an understanding of catering concepts through demonstration and hands-on experience by completing various food functions. The events vary from black tie multi-course dinners for the community to BBQ lunches.

CUL ARTS 10316140 **Menu Planning** **1 Credits/Units**

This course provides the fundamentals of menu planning. Topics include menu trends, the market survey, nutrition, menu planning, foodservice menus, yield tests, standard recipes, recipe costing, menu development and design, sale history, merchandising, and equipment analysis. Emphasis is placed on developing the skills necessary to effectively create a professional menu.

CUL ARTS 10316144 **Global Studies Culinary - Italy** **3 Credits/Units**

This course provides the opportunity for the learner to develop the knowledge, skills, process and understanding of the International Slow Food Movement through attending a 3-day symposium in Turino, Italy. The course will take students through the largest outdoor market in Europe to purchase, plan, and construct a meal using local, sustainable organic products at a wine estate, converted into a 30-room agriturismo hotel. Day excursions will include tours and lectures and important wine-making facilities in the area.

CUL ARTS 10316152 **Nutrition** **1 Credits/Units**

Provides information about nutrition as it applies to the food service industry. The six classes of nutrients are discussed as well as the latest guidelines set forth by governmental agencies and health organizations. Students learn about healthful cooking methods needed to modify and create menus for specific health concerns. The role of diet in disease prevention also is discussed.

CUL ARTS 10316158 **Food Purchasing Analysis** **1 Credits/Units**

The goal of this course is to enable you to understand all the mechanics of buying food, beverages and goods for a food service establishment. It will also focus on building relations with suppliers, how to use technology to properly store and record goods purchased. Pre-requisite: Appropriate Math Placement test score or equivalent course. This course is offered in an online format only.

CUL ARTS 10316160 **Pasture to Plate** **3 Credits/Units**

Studies the farm-to-table journey from pasture to plate. Develop a culinary philosophy, examine menu design and ingredient sourcing consistent with the pasture to plate philosophy. Onsite visits to established farm-to-table practitioners.

CUL ARTS 10316161 **Protein Identification, Fabrication, and Utilization 1** **3 Credits/Units**

Introduction to the muscle and bone structure of beef, veal, pork, lamb, game, and poultry; fabrication methods for sub-primal and foodservice cuts; and proper tying and trussing methods. Analyze national meat identification systems, carcass inspection, quality and yield grading, costing and yield testing, purchasing specifications, and the farm-to-table trail. Learn proper cooking methods for all meats, knife selection, and use of butchery equipment.

CUL ARTS 10316162 **Slaughtering** **3 Credits/Units**

Witness how animals are transported, unloaded, and processed as part of a live animal slaughter; perform animal identification, and document the custody chain, including tagging and trace-ability information.

CUL ARTS 10316163 **Protein Identification, Fabrication, and Utilization 2** **3 Credits/Units**

Identify animal carcasses and the process to cut, portion, label, and transfer meat to storage. Assess meat for quality and follow all safety and sanitation procedures. Determine process for highest value of meat, perform meat grinding, smoking, curing and brining. Create meat sausage and portion prepared meats. Use knife skills and maintain butchering equipment.

CUL ARTS 10316164 **Retail Butcher Shop Operation and Sales** **4 Credits/Units**

Actively participate in the management, serving, and operations of Madison College's retail butcher shop. Sell cuts of meat to the community over the counter. Practice all aspects of meat production, inventory turns, and customer service skills. This is a non-compensated learning experience.

CUL ARTS 10316178 **Americana Cuisine** **2 Credits/Units**

Students will learn the thin line that intersects Americana Cuisine throughout North America--from southwest to Cajun and how certain foods have similar ingredients that carry through to the other cooking styles. Students will also learn the history or roots of each particular style of cooking.

CUL ARTS 10316189 **Breakfast Cookery** **1 Credits/Units**

Students will learn the principles and techniques of breakfast food preparation in a simulated work environment. Products will include eggs, omelets, batters, and starches.

CUL ARTS 10316194 **Culinary Internship** **2 Credits/Units**

The internship program is designed to provide students with an opportunity to relate current educational material from the college classroom to practical experience under the direction of professionals in extended work assignments.

CUL ARTS 10316195 **Hazard Analysis Critical Control Point (HACCP) for Business** **2 Credits/Units**

Butchers, chefs, and food manufacturing companies all need to have Hazard Analysis Critical Control Point (HACCP) plans if they are going to package goods to sell or utilizing specific cooking and storing techniques. The class will explore how to create, develop, and implement a useable HACCP plan.

DENTAST 31508302 **Dental Chairside** **5 Credits/Units**

Prepares dental assistant students to chart oral cavity structures, dental pathology and restorations and to assist a dentist with basic dental procedures including examinations, pain control, amalgam restoration and cosmetic restoration. Student will also develop the ability to educate patients about preventive dentistry, brushing and flossing techniques, and dental procedures, using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. Prerequisites: completion of, or concurrent enrollment in, 10-508-101.

DENTAST 31508307 Dental Assistant Professional 1 Credits/Units

Prepares dental assistant students for professional success in a dental practice or another dental health care environment. Students develop professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the work force, dental assistants customize or develop their portfolios and lay out an on-going professional development plan. Prerequisite: acceptance into the Dental Assistant program.

DENTAST 31508312 Dental Assistant Clinical Lab 1 Credits/Units

Students apply skills developed in Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, and Professionalism in on-campus, mock-clinical experience.

DENTAST 31508313 Dental Assistant Clinical 2 Credits/Units

Students apply skills developed in Dental and General Anatomy, Dental health Safety, Dental Chairside, Dental Materials, Dental Radiography, Professionalism in a clinical setting with patients. Emphasizes integration of core abilities and basic occupational skills.

DENTHYG 10508101 Dental Health Safety 1 Credits/Units

Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medica/dental histories. CPR certification is prerequisite: students will be required to show proof of certification before beginning the course.

DENTHYG 10508102 Oral Anatomy, Embry, Histology 4 Credits/Units

Prepares Dental Hygienist students to apply detailed knowledge about oral anatomy to planning, implementation, assessment, and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head, and neck anatomy and its relationship to tooth development, eruption, and health.

DENTHYG 10508103 Dental Radiography 2 Credits/Units

Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extra oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer, role-play patient. Students gain further experience in exposing radiographs on patients in the clinical portion of their program. This course also provides the background in radiographic theory required for students to make informed decisions and adjustments. Pre-requisites: completion of, or concurrent enrollment in, Dental Health Safety, 10-508-101, and Dental and General Anatomy, 31-508-304.

DENTHYG 10508105 Dental Hygiene Process 1 4 Credits/Units

Introduces Dental Hygiene students to the basic technical/clinical skills required of practicing Dental Hygienists include the use of basic dental equipment, examination of patients, and procedures within the dental unit. Under the direct supervision of an instructors, students integrate hands-on skills with entry-level critical thinking and problem-solving skills. The course also reinforces the application of Dental Health Safety skills.

DENTHYG 10508106 Dental Hygiene Process 2 4 Credits/Units

This clinical course builds on and expands the technical/clinical skills student dental hygienists began developing in Dental Hygiene Process 1. Under the direct supervision of an instructor, students apply patient care assessment, planning, implementation, and evaluation skills to provide comprehensive care for calculus case type 1 and 2 patients and perio case patients. This course also introduces the application of fluoride and desensitizing agents, whole mouth assessments, comprehensive periodontal examinations, application of sealants, and patient classification. Students also begin performing removal of supragingival stain, dental plaque, calcified accretions, and deposits. In addition, they gain further experience in exposing radiographs on patients.

DENTHYG 10508107 Dental Hygiene Ethics & Profes 1 Credits/Units

Helps student dental hygienists develop and apply high professional and ethical standards. Students apply the laws that govern the practice of dental hygiene to their work with patients, other members of a dental team and the community. Emphasis is placed on maintaining confidentiality and obtaining informed consent. Students enhance their ability to present a professional appearance.

DENTHYG 10508108 Periodontology 3 Credits/Units

This course prepares student dental hygienists to assess the periodontal health of patients, plan prevention and treatment of periodontal disease, and to evaluate the effectiveness of periodontal treatment plans. Emphasis is placed on the recognition of the signs and causes of periodontal dfisease and on selection of treatment modalities that minimize risk and restore periodontal health.

DENTHYG 10508109 Cardiology 1 Credits/Units

This course focuses on the characteristics and contributing factors of dental decay. Dental Hygiene students help patients minimize caries risk by developing treatment plans, communicating methods to patients, and evaluating treatment results. Prerequisites: satisfactory completion of all first semester, second year Dental Hygiene courses and concurrent enrollment in 10-508-124.

DENTHYG 10508110 Nutrition and Dental Health 2 Credits/Units

Prepares student dental hygienists to counsel patients about diet and its impact on oral health. Students learn to distinguish between balanced and unbalanced diets and to construct diets that meet the needs of patients with compromised dental/oral health Students also learn to counsel patients about the effect of eating disorders on dental health.

DENTHYG 10508111 General and Oral Pathology 3 Credits/Units

This course prepares the student dental hygienist to determine when to consult, treat or refer clients with various disease, infection or physiological conditions. Students learn to recognize the signs, causes, and implications of common pathological conditions including inflammatory responses, immune disorders, genetic disorders, developmental disorders of tissues and cysts, oral tissue trauma, and neoplasm of the oral cavity.

DENTHYG 10508112 Dental Hygiene Process 3 5 Credits/Units

This clinical course builds on and expands the technical/clinical skill student dental hygienists developed in Dental Hygiene Process 2. In consultation with the instructor, students apply independent problem-solving skills in the course of providing comprehensive care for calculus case type 1, 2, and 3 patients and perio case type 0, I, II, and III patients. This also introduces root detoxification using hand and ultra-sonic instruments, a selection of dental implant prophylaxis treatment options, and administration of chemotherapeutic agents. Students also adapt care plans in order to accommodate patients with special needs.

DENTHYG 10508113 Dental Materials 2 Credits/Units

Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable applicances. This course is aligned to serve accepted students of Dental Hygiene and Dental Assistant programs.

DENTHYG 10508114 Dental Pharmacology 2 Credits/Units

Prepares student dental hygienists to select safe and effective patient premedication and within the scope of dental hygiene practice. Students will also learn to recognize potential pharmacological contraindications for specific patients and to take measures to avoid negative impact or alert other members of the dental team to possible negative impact.

DENTHYG 10508115 Community Dental Health 2 Credits/Units

This coruse prepares the Dental Hygienist student to play a proactive role in improving the dental health of community members of all ages. Students perform and interpret dental health research to determine community dental health needs.

DENTHYG 10508117 Dental Hygiene Process 4 4 Credits/Units

This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process 3. With feedback from the instructor, students manage all aspects of cases in the course of providing comprehensive care for calculus case type 0, 1, 2, and 3 patients and for perio case type 0, I, II, and III patients. Emphasizes maximization of clinical efficiency and effectiveness. Prepares student dental hygienists to demonstrate their clinical skills in a formal examination situation.

DENTHYG 10508118 Dental Anxiety and Pain Management 2 Credits/Units

This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage anxiety and pain for dental patients. Students learn to prepare and administer local anesthesia and nitrous oxide safely. The course also addresses the recommendation of alternative pain control measures.

DENTHYG 10508304 Dental & General Anatomy 2 Credits/Units

Prepares Dental Assistant students to apply fundamentals of general and dental anatomy to informed decision making and to professional communication with colleagues and patients. Prerequisites: acceptance into the Dental Assistant program.

DIESEL 10412100 Diesel Shop Skills Fundamentals 2 Credits/Units

Includes a discussion of the job requirements, skills needed, career options and employment opportunities in diesel equipment repair and maintenance. Introduces shop procedures, safety practices, tools and using service manuals.

DIESEL 10412112 Mobile Hydraulics 3 Credits/Units

Prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair mobile hydraulic systems found on trucks and construction equipment.

DIESEL 10412125 Cab Climate Control and Refrigeration Systems 3 Credits/Units

Lectures/labs provide skills to diagnose, maintain and service air conditioning and transport refrigeration equipment found on truck trailers and off-road equipment.

DIESEL 10412137 Preventive Maintenance Inspections 4 Credits/Units

This course will provide the opportunity to perform preventive maintenance inspections and conduct minor repairs on heavy-duty trucks and equipment. An overview of the Federal Motor Carrier Safety Regulations as they relate to the inspection, repair and maintenance of commercial motor vehicles will also be included.

DIESEL 10412138 Diesel Shop Management 2 Credits/Units

The student will gain the knowledge needed to function in a typical service department setting. The student will learn what it takes to manage a service department, the costs involved in running the department and the day-to-day problems that arise in the service department. General business operational procedures, record keeping and cost effectiveness will also be part of this course.

DIESEL 10412144 Fundamental Diesel Electrical/Electronics Systems 3 Credits/Units

Theory and laboratory experiences in this course are designed to introduce the student to the diesel electrical/electronic systems used on today's modern trucks and construction equipment. Fundamental theory of electricity and electronics, troubleshooting techniques, use of digital multimeter and current clamp, types of electrical circuits, wiring, components, batteries and the use of wiring diagrams will be covered.

DIESEL 10412145 Electrical/Electronics Systems Diagnostics 3 Credits/Units

Theory and laboratory experiences in this course are designed to give the student the knowledge and skills needed to diagnose, service, and repair heavy-duty electrical systems found on today's modern trucks and off-road equipment.

DIESEL 10412155 Heavy Duty Drivetrains 4 Credits/Units

This course prepares the student with the knowledge and skills needed to adjust, diagnose, maintain, service and repair heavy duty drivetrains found on trucks and construction equipment.

DIESEL 10412164 Brake and Suspension Systems 4 Credits/Units

Prepares the student with the knowledge and skills needed to adjust, diagnose, service and repair heavy duty brakes and suspension systems. Students will also perform vehicle alignment procedures and utilize various alignment equipment.

DIESEL 10412175 Fuel Systems 2 Credits/Units

Lectures and labs allow students to diagnose, service, and repair diesel fuel systems found on trucks and agricultural equipment.

DIESEL 10412177 Diesel Engine Diagnostics 3 Credits/Units

Lectures and labs use the latest in diagnostic equipment to evaluate engine performance and diagnose power complaints on mechanical and computer controlled diesel fuel injection systems.

DIESEL 10412184 Diesel Engine Technology 2 Credits/Units

Study in this course will allow the student to develop a basic knowledge of design, construction and operating principles of the diesel engine. Service, maintenance and the types of repairs made on diesel engines and diesel engine support systems will be a major emphasis of the course.

DIESEL 10412185 Diesel Engine Repair 4 Credits/Units

Teaches students to maintain, service and repair diesel engines and engine support systems. The course also includes precision measuring, failure analysis and parts inspection.

DIESEL 10412188 Electronic Control Systems 3 Credits/Units

This course provides the student with the experience needed to diagnose and service modern electronic control systems used on trucks and construction equipment. The course includes electronic controlled diesel engines, ABS brake systems, electronic controlled transmissions and other computer controlled electronic vehicle systems.

DIESEL 10412189 Heavy Duty Emission Control Systems 3 Credits/Units

Teaches students to maintain, service, and repair emission control systems found on heavy duty diesel and alternate fueled engines. The course also includes fault diagnosis, failure analysis, and component inspection for reusability.

DIESEL 10412190 Diesel Equipment Laboratory Experience 1 1 Credits/Units

Students service various trucks, construction and industrial equipment. Emphasizes daily shop operations, procedures and safe work habits. Simulated on-the-job experiences develop and apply students' knowledge and skills. Prerequisite: all first year courses.

DIESEL 10412195 Occupational Experience 1 - Diesel Equipment Technology Program 2 Credits/Units

As interns, students work on electrical/electronic systems, vehicle and equipment maintenance, heavy duty brakes, suspensions, drive trains and general shop maintenance. Types of jobs and competencies employed may vary depending on what area of the industry the employer represents. Technical competencies for this course may be performed either alone, as an experienced technician's helper or a combination thereof. Prerequisites: all first year program courses.

DRAMA 20810230 Intro To Theatre 3 Credits/Units

This is a beginning study of theatre especially as it relates to modern audiences. Students will examine and experience theatre in its various forms. A survey of theatre history from a global perspective provides the foundation for a greater understanding and perspective of the art. This course is an opportunity to explore playwriting, acting, directing and design leading to critical analysis of production. Students are expected to analyze scripts and attend performances turning in written reviews. The sequence of this course begins with audience perspective layered with historical and performance perspectives.

DRAMA 20810232 **International Arts Intensive-Theatre** **3 Credits/Units**

Provides a unique immersion in which participants will study the interdisciplinary nature of the arts. Students will travel to an international arts center to explore the connections that exist among the disciplines of music, theater, and visual art. Historical, geographical, and cultural perspectives will be examined to enhance understanding of live performance experiences in both theater and music. Based on site-specific study, students will apply aesthetic values to the description of music and theater styles.

DRAMA 20810235 **Stagecraft 1** **3 Credits/Units**

Stagecraft 1 is an overview of the backstage elements involved in theatrical production. It provides basic knowledge of scenery, lighting, rigging, sound, props, costumes and stage management. Students have the opportunity to mix classroom with practical experience.

DRAMA 20810236 **Stagecraft 2** **3 Credits/Units**

Develops the skills introduced in Technical Theater 1 and explores the design aspects of scenery, lighting, sound and costumes for the stage. Students are encouraged to develop interest in theory, design execution and portfolio preparation.

DRAMA 20810238 **Cultural Diversity in Contemporary American Theater** **3 Credits/Units**

Cultural Diversity in Contemporary American Theater investigates the representation of gender, ageism, sexual identity and racial stereotypes in written and performance forms. The course explores how popular images are created and reinforced by writers, directors, and performers. Students will analyze performance, scripts, and video documentation, as well as developing an original work of theatrical expression.

DRAMA 20810260 **Drama Practicum (1 cr)** **1 Credits/Units**

Drama Practicum is designed to engage and challenge students actively involved in theatre programming at Madison College or with a partner theatre organization from the community. This practicum stresses the self-development of artistic proficiency of theatre students. There is a minimum of 36 hours of service required for a 1 credit practicum.

DRAMA 20810261 **Drama Practicum (2cr)** **2 Credits/Units**

Drama Practicum is designed to engage and challenge students actively involved in theatre programming at Madison College or with a partner theatre organization from the community. This practicum stresses the self-development of artistic proficiency of theatre students. A minimum of 72 service hours are required for the 2 credit practicum.

DRAMA 20810262 **Acting 1** **3 Credits/Units**

Acting 1 explores the actor's process in preparing for a role. It covers basic acting principles, including action, objective, obstacles, conflict, beats and being in the moment. It incorporates fundamentals of movement, voice and improvisation essential to the art of acting. Students will examine scripts, do character analysis, maintain actors' journals and perform five graded exercises.

DRAMA 20810263 **Acting 2** **3 Credits/Units**

Acting 2 continues the actor's preparation and execution of believable roles as a member of an ensemble. Particular attention is addressed to script analysis, character development, and ensemble performance in relation to theatrical genre.

DRAMA 20810270 **Movement Theory & Training for Actors** **1 Credits/Units**

Movement Theory and Training for Actors is an introductory course designed to assist acting students to better understand physical movement, the relationship between training and energy, and the use of physical movement in character development.

EARLYCHL 10307108 **ECE: Early Language and Literacy** **3 Credits/Units**

This course explores strategies to encourage the development of early language and literacy knowledge and skill building in children birth to 8 years of age. Learners will investigate the components of literacy including; literacy and a source of enjoyment, vocabulary and oral language, phonological awareness, knowledge of print, letters and words, comprehension and an understanding of books and other texts. Theories and philosophies regarding children's language and literacy development will be addressed. Dual language learning will be examined within the context of developmentally appropriate practices. Assessment tools for early language and literacy acquisition will be reviewed.

EARLYCHL 10307110 **ECE: Social Studies, Art, and Music** **3 Credits/Units**

This 3-credit course will focus on beginning level curriculum development in the specific integrated content areas of social studies, art, music, & movement (SSAMM).

EARLYCHL 10307112 **ECE: STEM (Science, Technology, Engineering, and Mathematics)** **3 Credits/Units**

This 3-credit course will focus on beginning level curriculum development in the specific integrated content areas of science, technology, engineering, and mathematics (STEM).

EARLYCHL 10307115 ECE: Infant Toddler Capstone 3 Credits/Units

The capstone is the last course all students take prior to completing the Infant Toddler Credential. This course integrates the theory, practice, and reflection of courses 1-3 and requires demonstration of best practices. Supervised demonstration in the learner's own infant/toddler setting. Student portfolio development is required. Students must be in an early childhood setting with infants or toddlers during this course.

EARLYCHL 10307148 ECE: Foundations of Early Childhood Education 3 Credits/Units

This 3-credit course introduces you to the early childhood profession. Course competencies include: explore the concepts of diversity, cultural responsiveness, and anti-bias as it relates to early childhood education, investigate the history of early childhood education, examine regulatory requirements for early childhood education programs in WI, summarize types of early childhood education settings, identify the components of a quality early childhood education program, summarize responsibilities of early childhood education professionals, explore early childhood curriculum models and examine the critical role of play as it relates to developmentally appropriate practice.

EARLYCHL 10307151 ECE: Infant & Toddler Development 3 Credits/Units

In this 3-credit course you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; analyze development of infants and toddlers (conception to thirty-six months); correlate prenatal and postnatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine culturally and developmentally appropriate environments for infants and toddlers, examine the role of brain development in early learning (conception through thirty-six months); examine caregiving routines as curriculum; and examine developmental and environmental assessment strategies for infants and toddlers.

EARLYCHL 10307167 ECE: Health, Safety, & Nutrition 3 Credits/Units

This course examines the topics of health, safety and nutrition within the context of the early childhood educational setting. Course competencies include: follow governmental regulations and professional standards as they apply to health, safety and nutrition; provide a safe, healthy, and nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety and nutrition concepts into the children's curriculum.

EARLYCHL 10307169 ECE: Infant Toddler Group Care 3 Credits/Units

EARLYCHL 10307174 ECE: Introductory Practicum 3 Credits/Units

In this practicum course you will learn about and apply the course competencies in an actual childcare setting. The first of four training experiences develops skill in interacting with children and staff. Madison College faculty help students through periodic observation and conferences. In addition, there is a weekly discussion which focuses on what students are observing and learning in their practicum sites and on developing skills as team members. Students taking Introductory Practicum must also be enrolled in at least one other Early Childhood Education course. The preferred course would be Health, Safety, and Nutrition.

EARLYCHL 10307175 ECE: Preschool Practicum 3 Credits/Units

In this course you will be placed or working in an early childhood setting with 3-5 year old children and create a portfolio. You will be implementing activities that meet regulations and standards for quality early childhood education, applying knowledge of child development and positive guidance, utilizing observation and assessment techniques, and assessing developmentally appropriate environments for preschoolers. This course will also apply as the capstone course in The Registry Preschool Credential.

EARLYCHL 10307177 ECE: Intermediate Practicum 3 Credits/Units

In this 3-credit course you will be implementing regulations and standards for quality early childhood education, applying knowledge of child development and positive guidance, utilizing observation and assessment techniques, and assessing developmentally appropriate environments for children.

EARLYCHL 10307179 ECE: Child Development 3 Credits/Units

The 3-credit course examines child development within the context of the early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children ages three through five; analyze development of children ages five through eight; relate child development research findings to teaching practice; analyze the role of heredity and the environment; examine the role of brain development in early learning (ages 3-8); examine developmental and environmental assessment strategies for children ages 3-8.

EARLYCHL 10307187 ECE: Children w diff Abilities 3 Credits/Units

This 3-credit course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; promote inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; examine the consultation process to embed intervention in natural based settings; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; identify community and professional resources; interpret an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; examine strategies for cultivating partnerships with families who have children with developmental differences.

EARLYCHL 10307188 ECE: Guiding Children's Behavior 3 Credits/Units

This 3-credit course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; analyze techniques for and effects of strong relationship-building with children and families; identify positive and proactive guidance principles and techniques to support children; analyze environmental influences on child behavior; identify strategies that support children's active engagement in the learning environment; identify strategies that proactively teach emotional literacy and regulation techniques; identify strategies that proactively teach friendship skills; identify strategies that proactively teach children calming, relaxation, and problem-solving techniques; utilize observation and assessment techniques to assess and interpret behavior; create a behavior support plan based on a functional behavior assessment; create a guidance philosophy. This course meets the requirements of the "24 hour Wisconsin" Pyramid Model training.

EARLYCHL 10307195 ECE: Family & Community Relations 3 Credits/Units

In this 3-credit course you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity, cultural responsiveness, and anti-bias perspectives when working with families and community; analyze contemporary family patterns and trends; identify strategies to strengthen and support families; explore effective communication strategies; discover strategies for developing respectful and reciprocal relationships with families; analyze strategies to promote family engagement in early childhood education programs; explore a variety of formats for meeting with families in their contexts; advocate for children and families; and explore community resources that provide a range of services for children and families.

EARLYCHL 10307199 ECE: Advanced Practicum 3 Credits/Units

In this final 3-credit practicum course you will demonstrate competence in supporting child development through observation, assessment and implementation of teaching strategies as you work in and learn about and apply the course competencies in an actual early childhood setting. You will demonstrate a high level of skill in fostering relationships with children, families and early childhood professionals, and use skills learned in a lead teacher role to develop a career plan to transition from student to early childhood education professional.

EARTHSCI 20806241 Earth Science 3 Credits/Units

Earth Science introduces the physical nature of the earth. The course covers topics in geology, geography, meteorology, oceanography and astronomy. Physical processes and an understanding of their causes and effects are investigated

EARTHSCI 20806244 General Geology 4 Credits/Units

This course introduces the student to the composition and structure of the earth, its surface features and the processes that have shaped and produced these features. The course consists of three one-hour lectures per week and a two-hour weekly lab session. The laboratory is meant to reinforce topics and concepts covered in lecture, and provide hands-on examination of geologic maps, rocks and minerals.

EARTHSCI 20806245 Weather And Climate 3 Credits/Units

This course discusses nature and variability of temperature, precipitation, clouds and wind. Topics include storm systems, fronts, thunderstorms, tornadoes, hurricanes and their predictions, climate, climactic change, seasonal changes, air composition, global winds and special problems related to meteorology.

EARTHSCI 20806246 Survey of Oceanography 3 Credits/Units

This course introduces the student to the ocean sciences. The student will investigate the origin of the oceans, ocean chemistry, ocean circulation, waves, tides, sediments and the biology of the ocean. An emphasis will be on the connections between the ocean and the atmosphere, the structure of the ocean basins and life in the oceans. To reinforce the course concepts, the students will interpret current data and maps during class assignments.

EARTHSCI 20806247 Earth Science Lab 1 Credits/Units

This is a one-credit introductory science lab course that investigates the physical aspects of the Earth System. This lab course is offered as a compliment to the 3-credit Earth Science lecture course (20-806-241). The course focuses on the interactions between the geosphere, hydrosphere, biosphere and atmosphere. Students will complete labs that focus on understanding landscape evolution and human interactions with the environment.

EARTHSCI 20806248 Weather and Climate Laboratory 1 Credits/Units

This course introduces weather and climate via hands-on means with three areas of emphasis: weather map analysis, atmospheric physics experimentation, and making weather observations. Weather map analysis will revolve around the construction of surface weather maps from plotting, isopleth analysis, and interpretation. Atmospheric physics experiments will demonstrate aspects of how the atmosphere works. Making weather observations and discussing weather instrumentation (where those observations come from!) will be part of the course via an online weather journal.

EARTHSCI 20806249 **Geologic Evolution of the Earth** **4 Credits/Units**

This four-credit lab science course introduces the student to the history of the Earth, with a focus on the evolution of the continents and the fossil record. Students will learn about geologic time, including how geologists built the geologic time scale. Basic aspects of geology, including plate tectonics, minerals and the rock cycle will be covered. Students will learn about the origin of life on earth, evolution and extinction, how fossil plants, invertebrates and vertebrates are classified. Students will gain an understanding of the Earth's geologic history as known from rock and fossil evidence.

EARTHSCI 20806250 **Climate and Climate Change** **3 Credits/Units**

Climate and climate change are topics that have been widely discussed and scrutinized by scientists, businesses, and governments over the last few decades. This class will focus on the science of climate and how climate can change on multiple temporal and spatial scales, both naturally and by human activity. Topics discussed include how climate is described, what controls climate, climate cycles and feedbacks, how climate is modeled, and observations of climate change.

EARTHSCI 20806251 **Undergraduate Geology Field Experience** **2 Credits/Units**

This course is a multi-day, hands-on learning geology experience for students who are interested in the earth sciences. Students will participate in a field trip to important geological locations and gain experience identifying minerals, rocks and fossils in the field. Students will practice making observations and interpretations on geology and will learn how to "see" geology in the field. Field trip destination may vary depending on the instructor leading the course.

EARTHSCI 20806252 **Natural Hazards** **3 Credits/Units**

The course will focus on the physical processes that create environmental hazards (e.g., earthquakes, volcanoes, severe weather), the primary controls on their frequency and intensity, and how human decision-making can influence the magnitude of impact that they have when they inevitably occur.

ECON 10809195 **Economics** **3 Credits/Units**

This course introduces basic economic principles to help you better understand the world in which you live. In addition to learning how the U.S. economy works and how it sometimes fails, you will develop a deeper understanding of issues such as why college tuition costs are rising; how wages for workers in your chosen field are determined; whether the minimum wage should be increased; why some people argue for, and others against, an expansion of international trade; how to maximize profits if you someday start your own business; and how federal government and banking system policies affect your life and the overall economy.

ECON 20809211 **Macro Economics** **3 Credits/Units**

This course provides an introduction to basic economic principles with applications to current economic problems affecting the overall performance of a nation's economy. The course begins with an analysis of the role of markets and prices in an economy. Topics include the causes and consequences of unemployment, inflation, and economic growth; the role of money and banking in the economy; the role of government taxing and spending policies to correct market failure and stabilize the economy; the implications of budget deficits and the national debt; and the implications of an increasingly global economy. This course is designed to meet the need for college transfer credit.

ECON 20809212 **Micro Economics** **3 Credits/Units**

This course provides an introduction to basic economic principles with applications to current economic problems affecting individuals and businesses. The course begins with an in-depth analysis of the role of markets and prices in an economy, with emphasis on when markets work well and when they fail to yield the best outcome for the society. Topics include how individuals choose to best use their limited resources; the causes and consequences of poverty and the distribution of income and wealth; the behavior of businesses in setting prices and production levels; problems of monopoly power; wage determination in labor markets; and the economics of environmental challenges. This course is designed to meet the need for college transfer credit.

ECON 20809214 **Intro International Econ** **3 Credits/Units**

Introduction to International Economics examines issues in international trade and international finance and the interconnectedness of the world's economies. Topics include the economic arguments for trade, current trade policies and practices, the effects of trade restrictions, free trade and fair trade, foreign exchange markets, and the role of international institutions such as the World Bank, the International Monetary Fund and the World Trade Organization. Current issues such as currency crises and free trade agreements will also be discussed.

ECON 20809228 **Environmental Economics** **3 Credits/Units**

This course prepares the student to analyze the interaction between economic activity and the earth's physical environment. Emphasis is placed on the impacts surrounding natural resource markets, including energy and minerals, agriculture, forests, fisheries and tourism. Economic concepts include social welfare analysis, externality costs, market failure, the time value of money, economic valuation of non-market goods, definitions of economic efficiency, risk analysis and definitions of "growth". Environmental impacts may include toxicity to ecosystems, species extinction, soil erosion, fresh water quality and availability, degradation of the marine environment, air pollution, ozone depletion and global warming. Political issues include, but are not limited to the trading of pollution credits, the debate over nuclear power, genetic engineering issues, land use planning, environmental racism, international dynamics and inter-generational equity.

EDFOUND 20809216 **Introduction to Education and Teaching** **3 Credits/Units**
Students are introduced to education and teaching through practical experience in school settings, group discussions, and individual reflection. We will explore the relationships among education, curriculum, and instruction across contexts of home, community, and school, connecting school practices with philosophical perspectives of education.

ELEC 50413528 **Electric Controls for Mechanical Equipment 2** **1 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413529 **Electrical Controls for Mechanical Equipment 3** **1 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413530 **Tech Electrical 1** **4 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413531 **Tech Electrical 2** **4 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413532 **Tech Electrical 3** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413533 **Tech Electrical 4** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413534 **Tech Electrical 5** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413535 **Tech Electrical 6** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413554 **Electric Controls of Mechanical Equipment 4** **1 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413570 **Tech Electrical 7** **2 Credits/Units**

ELEC 50413571 **Tech Electrical 8** **2 Credits/Units**

ELEC 50413580 **Trade Electrical Semester 1** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413581 **Trade Electrical Semester 2** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413582 **Trade Electrical Semester 3** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413583 **Trade Electrical Semester 4** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413584 **Trade Electrical Semester 5** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413585 **Trade Electrical Semester 6** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413586 **Trade Electrical Semester 7** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413587 Trade Electrical Semester 8 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

ELEC 50413701 Fundamentals of Electricity for Apprentices 1 Credits/Units
Explore the principles and applications of direct current and Ohm's Law, and examine the various types of circuits and meters during this apprenticeship course. Discuss additional topics such as electrical power, magnetism, relays, energy, and transducers. Electrical testing and measurement will be reviewed, and electrical safe work practices will be examined.

ELEC 50413750 DC Electricity for Industrial Electricians 2 Credits/Units
This course introduces the fundamental concepts of and computations related to DC electricity. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems. Competencies related to metering and safe use of measuring devices are included.

ELEC 50413751 AC Electricity for Industrial Electricians 2 Credits/Units
This course is designed to introduce the industrial electrical apprentice to the basic concepts of alternating current. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems.

ELEC 50413752 Codes for Industrial Electricians 1: Introduction to the NEC 0 Credits/Units
Introduces the apprentice to the layout and purpose of the National Electric Code. It also strives to teach the apprentice proper methodology to research a code question and correctly interpret what they are reading. Various examples in the textbook and activity sheets help guide the apprentice through this process. Apprentices will research the structure of the National Electric Code and define the requirements of the code that are common to all electrical installations. In addition, apprentices will examine the installation requirements for fire pumps, emergency systems and fire alarms. This is the first course module of 8 dealing with electrical codes applicable to the trade.

ELEC 50413753 Codes for Industrial Electricians 2: OCPD and Electrical Device Installations 0 Credits/Units
In this module of Codes for Industrial Electricians, apprentices will learn how to plan for the installation of overcurrent protection devices and how to select the proper boxes, cabinets and conduits for industrial electrical installations as called for in the NEC and other electrical codes. This is the second of 8 course modules on the NEC.

ELEC 50413754 Codes for Industrial Electricians 3: Article 250 Part A 0 Credits/Units
Course three of 8 examines the application of grounding to industrial electrical situations as required by the NEC and other electrical codes.

ELEC 50413755 Codes for Industrial Electricians 4: Article 250 Part B 0 Credits/Units
Course four of 8 on the NEC continues to examine Article 250 and grounding applications for industrial electrical installations. Apprentices will complete their review of this portion of the NEC and examine additional related electrical codes in effect across Wisconsin.

ELEC 50413756 Codes for Industrial Electricians 5: Article 300, Cords/Cables, and Hazardous Installations 0 Credits/Units
Course five of 8 examines article 300 of the NEC and wiring methods for industrial electrical applications. In addition, apprentices will determine sizing requirements for cords and cables for installations common to industrial facilities. Finally, the course will identify code requirements for equipment installations in hazardous locations.

ELEC 50413757 Codes for Industrial Electricians 6: Conductors, Raceways and Data/Communication Cables 0 Credits/Units
Course six of 8 covers the selection of proper conductors and raceways for industrial electrical installations as required by the NEC and other electrical codes. In addition, course competencies will include examining the installation requirements for data and communication cables.

ELEC 50413758 Codes for Industrial Electricians 7: Motors and Generators 0 Credits/Units
Course seven of 8 reviews the code requirements for the selection of electrical components for typical industrial electrical motor installations. Course module includes sizing of controls, conductors, switches, branches, and more.

ELEC 50413759 Codes for Industrial Electricians 8: Transformers 0 Credits/Units
Course eight of 8 reviews the electrical code requirements which provide for the protection of various industrial transformer installations. Course competencies include developing plans, sizing equipment and components, safety, and references to applicable sections of the NEC.

ELEC 50413760 Industrial Electrician Transformers 1 Credits/Units
Designed to introduce the Industrial Electrician Apprentice to the basic concepts of single and three-phase transformers. The course will cover transformer theory, turns, current and voltage ratios as well as proper connections and use of various transformers.

ELEC 50413761 **Industrial Electrician Motors & Generators** **1 Credits/Units**
This is the first course of 3 courses for industrial electrician apprentices to explore motor controls. This course introduces concepts, terminology, and safety. In addition, this is designed to give the Industrial Electrician Apprentice the knowledge required by industry to maintain electric motors and generators. This course material will cover DC motors and generators, single-phase and three-phase motors, as well as alternators.

ELEC 50413762 **Industrial Electrician Motor Controls 1** **1 Credits/Units**
Course will lead you through the fundamentals of electric motor control. You will learn to recognize and draw the basic symbols, the language of motor control, and how to apply these symbols, into current industrial format. You will also learn to draw and read ladder and wiring diagrams. You will be introduced to the logic used in motor control and be required to apply this logic in order to correctly interpret, design, and wire control circuits.

ELEC 50413764 **Industrial Electrician Motor Controls 3** **1 Credits/Units**
The third of three courses examining motor controls applicable to the industrial electrician trade. Applications and assessment activities are intended in this course.

ELEC 50413765 **Power Systems & Variable Speed Drives for Industrial Electricians** **2 Credits/Units**
Provides the opportunity for students to learn about power systems and variable speed drives (VSD's). Topics include electricity, electronics, power transmissions, motor operations, AC and DC motor drives, servo and stepper drives, peripherals and communication. Apprentices will also explore closed loop control, feedback devices, and drive maintenance and the troubleshooting of VSD's. Course includes lab/shop and classroom lecture-lab hours.

ELEC 50413766 **Fluid Power Systems for Industrial Electricians - Pneumatics** **0 Credits/Units**
This is a pneumatics course customized for industrial electrician apprentices who deal with fluid power systems. This course will relate the basics of pneumatic theory and pneumatic components. Safety and the interrelationship between pneumatic power with electrical control is emphasized.

ELEC 50413767 **Fluid Power Systems for Industrial Electricians- Hydraulics** **0 Credits/Units**
The hydraulics course is customized for Industrial Electricians and relates the basics of hydraulic theory and hydraulic components. Safety and the interrelationship between hydraulic power with electrical control is emphasized.

ELEC 50413768 **Industrial Electrician Solid State Electronics** **2 Credits/Units**
Provides the apprentice with the skills and knowledge for troubleshooting basic solid-state devices and circuits. The construction, identification, and operating characteristics of solid-state devices are investigated. The apprentice builds test circuits, gathers and analyzes data, and follows safety procedures. Methods for locating defective components are applied. The replacement of printed circuit board components is performed. Also examined is the effect of temperature on the operation of solid-state devices.

ELEC 50413769 **Industrial Electrician Programmable Logic Controllers 1** **1 Credits/Units**
Designed to teach the fundamentals of programmable logic controller and its programming software. The first course of 3 will introduce terminology, concepts, print reading and safety.

ELEC 50413770 **Industrial Electrician Programmable Logic Controllers 2** **1 Credits/Units**
The second of 3 courses for industrial electrician apprentices

ELEC 50413771 **Industrial Electrician Programmable Logic Controllers 3** **1 Credits/Units**
The third course of 3 for industrial electrician apprentices. PLC applications and assessment projects are planned.

ELEC 50413772 **Green Awareness for the E&I Trades** **1 Credits/Units**
Examines new and emerging technologies influenced by green trends which are impacting work processes today and in the future. Introduces apprentices to green related knowledge and skills. Green topics covered in this course include energy efficiency; energy conservation; changes in state, national and local codes; lighting alternatives; alternative energy generation; energy efficient motors, drives, controllers and equipment; eliminating toxic materials and reducing wastes; and specific 'green' applications for the various trades involved under the E&I trades.

ELEC 50413773 **Safety & Print Reading for Industrial Electricians** **0 Credits/Units**
This course will acquaint the apprentice with the interpretation of "Prints" (blueprints) and other engineering and manufacturing documentation. The primary focus of the course will be on the basics of prints and how they are used to convey information to technicians. Application of electrical prints from industrial settings will be studied.

ELECENG 10662112 **AC/DC Electronics 3** **3 Credits/Units**
Topics include analysis of series and parallel AC RLC circuits, utilizing series and parallel equivalent circuits, superposition, Delta-Wye transformations, and Nodal Analysis. Real, reactive, and apparent power in AC circuits along with ideal loads in both single and three phase circuits are studied. Lab work includes analysis, computer simulation and actual measurements.

ELECENG 10662124 **Advanced Circuit Analysis** **3 Credits/Units**
Topics include variable frequency analysis of RLC circuits, first order Bode plots and correlation of time and frequency response. Semiconductor devices and circuits, including diodes, bipolar transistors and field effect transistor are studied. The time and frequency response of single stage BJT and FET amplifiers is examined. Lab work includes analysis, computer simulation and actual measurements.

ELECT 10605101 **Electronics Internship Level 1** **3 Credits/Units**
This course provides the opportunity for students to apply classroom theory and skills in a business environment. Activities may include PCB assembly, embedded programming, troubleshooting, and repair. Students learn useful skills based on field experience.

ELECT 10605102 **Electronics Internship Level 2** **3 Credits/Units**
This course provides the opportunity for students to apply classroom theory and skills in a business environment. Activities may include PCB assembly, embedded programming, troubleshooting, and repair. Students learn useful skills based on field experience.

ELECT 10605107 **Certified IPC Application Specialist (CIS) A-610** **1 Credits/Units**
Certified IPC Application Specialist (CIS) training focuses on what line workers, operators, inspectors and buyers need to know to inspect or make acceptance/rejection decisions. IPC-A-610, Acceptability of Electronic Assemblies is the most widely used standard published by the IPC. Certification in this industry-traceable program demonstrates a commitment to continuous improvement of product quality and reliability. The CIS program provides individuals with a portable credential that represents their understanding of IPC-A-610.

ELECT 10605108 **Certified IPC Application Specialist (CIS) J-STD-001** **1 Credits/Units**
Certification in this industry-developed and approved hands-on solder training and certification program helps enhance employee skills and performance. The CIS program provides individuals with a portable credential that recognizes their soldering skills and understanding of this internationally recognized standard.

ELECT 10605112 **AC/DC Electronics 1** **3 Credits/Units**
Covers basic concepts of electric circuits including: Ohm's Law; Kirchhoff's Voltage, and Current Laws; power calculations; and components such as resistors, switches, fuses, conductors, insulators, capacitors, inductors, relays, and other basic electronic components. Also covers use of test equipment.

ELECT 10605113 **Analog Circuit Techniques** **3 Credits/Units**
This introductory electronics course covers devices, circuits and applications. This course uses analog electronics devices — diodes, field effect and bipolar transistors and operational amplifiers to learn basic theory and use of test equipment in testing and troubleshooting. Lab procedures emphasize the use of documentation (schematics, layout diagrams, parts lists, data sheets) and troubleshooting procedures.

ELECT 10605114 **AC/DC Electronics 2** **3 Credits/Units**
This course continues to develop the concepts learned in AC/DC Electronics 1, 10605112. This course covers RL, RC, RLC circuits; transformers; filters; series and parallel resonance; bridge circuits; Thevenin and Norton theorems; wave shaping; internal resistance; motors; generators; three phase power; power factor and corrections; reactive and apparent power; wye and delta systems. Lab sessions require in-depth technical lab reports.

ELECT 10605115 **Analog Circuit Principles** **3 Credits/Units**
This course continues to develop the concepts learned in Analog Circuit Techniques, 10-605-113. The theory and application of field effect and bipolar transistor amplifiers, operational amplifiers and oscillators are covered with an emphasis on circuits including gain, impedance and frequency response. Lab procedures emphasize increased proficiency with electronic test equipment.

ELECT 10605116 **Engineering Project Principles** **3 Credits/Units**
This is a project based course centering on analog circuit applications. This course emphasizes hands-on skills, assembly, testing and troubleshooting, documentation, group work and presentations.

ELECT 10605118 **Digital Circuit Techniques** **3 Credits/Units**
This introductory electronics course covers schematics, component identification, engineering notation, basic logic gates, numbering systems, component identification, and soldering techniques for through hole and surface mount components. IPC-A-610* Standard for Acceptance Criteria for Electronic Assemblies is followed for inspection of assemblies. Following the RoHS directive, lead free solder and assemblies are used in this course. *IPC certification is not automatic upon course completion. IPC certification is awarded separately from the academic credits.

ELECT 10605119 **Digital Circuit Principles** **3 Credits/Units**
Covers digital logic circuits including basic gates, flip-flops, decoders, counters, shift registers, multiplexing circuits, comparators and other similar devices. It also covers Boolean algebra and minimization techniques as well as Field Programmable Gate Arrays (FPGA). Lab work includes individual project design, including layout, construction, testing and documentation.

ELECT 10605123 Embedded Device Concepts 3 Credits/Units
Embedded Concepts focuses on embedded programming with a hardware emphasis. Arduino development boards are used heavily in this course to explore programming and troubleshooting. Variables, conditionals, mathematical operations, functions, loops, interrupts, libraries, event sequencing, flow charts, visual programming and general Embedded C programming are covered throughout this course. Students will engage with Arduino development boards to understand compilation, downloading, and troubleshooting of embedded code in a target microprocessor.

ELECT 10605131 Technical Calculus 1 4 Credits/Units
This introductory course studies analytic geometry, binomial series, differentiation of algebraic, exponential, log and trig functions and integration of algebraic functions. An emphasis is placed on the application of each of these topics to problems in science and engineering.

ELECT 10605132 Technical Calculus 2 4 Credits/Units
This course is a continuation of Technical Calculus 1. Topics include integration techniques, partial derivatives, graphing conics, double integrals, polar coordinates, and first and second order differential equations. Emphasis is placed on applications to problems in science and engineering.

ELECT 10605136 Biomedical Electronics 3 Credits/Units
Course covers the biological and medical applications of electronics. Topics include biological systems and signals (ECG, EEG, etc.); sensor and transducer circuits including: thermistors, therocouples, and strain gauges. Other topics include instrumentation amplifiers and circuits; noise reduction; passive and active filtering; medical imaging systems; and medical telemetry systems. Prerequisite: 10-605-112 or equivalent.

ELECT 10605143 Motors and Control Circuits 3 Credits/Units
This advanced course covers AC and DC motors, stepping motors, feedback systems, servo controllers, sensors, relays, SCRs, Triacs, MOSFETs, programmable logic controllers, industrial controllers, and applied systems and online microcomputer controls.

ELECT 10605145 Programmable Logic Controls 3 Credits/Units
Studies basic operation, interfacing and programming of PLCs and Human Machine Interfaces (HMI). Concepts, construction and troubleshooting of ladder logic and proprietary programming systems are covered.

ELECT 10605151 Instrumentation and Troubleshooting 3 Credits/Units
This advanced course covers the approach, methodology and techniques in trouble shooting electronic circuits and systems as well as the calibration, uses and limitations of common electronic test equipment.

ELECT 10605152 Digital Systems Analysis 3 Credits/Units
This is a project based advanced course focusing on digital circuits, embedded controllers and interfacing. The course emphasizes hands-on skills, assembly, testing and troubleshooting, documentation, working in groups and presentations.

ELECT 10605160 Virtual Reality 3 Credits/Units
Course covers the concept of virtual reality (VR); its history and development; human senses; hardware and important concepts and methods of software design and development. Course also covers sensors and actuators (visual, audio, tactile); displays including screens, goggles, headsets, etc.; telepresence and telerobotic systems; and applications in a variety of fields including entertainment, design, business, medical, telerobotics, remote control, education and others.

ELECT 10605172 Applied Electronic Math 2 2 Credits/Units
Continues to develop the mathematics skills needed by technicians to be successful in their field and is closely tied to the other second-semester electronics courses. Laboratory sessions continue to integrate math with electronic applications. Course is only offered in the last 8 weeks of each semester.

ELECT 10605173 Embedded Programming 3 Credits/Units
This introductory course covers the fundamentals of electronic computer language, systems and structure. Embedded processor hardware is studies from a system level perspective. Programming structures such as loops, branching, data storage, bit-level processing (masking), functions, arrays, pointers and structures will be covered. Languages include ANSI C, Embedded C Language and principles of assembly language.

ELECT 10605176 Microcontrollers 3 Credits/Units
This course covers microcontrollers and digital systems. Topics include Embedded C programming of Microcontrollers, Basic architectural concepts, parallel and serial I/O, Interrupts, Timer Subsystems, Analog to Digital conversion, Asynchronous Serial Communications (USART), CAN Bus communications, Synchronous Serial Communications (MSSP/SPI/IC2 Bus), Pulse Width Modulation (PWM), and basic control concepts.

ELECT 10605178 Networks, Interfacing and Programming 3 Credits/Units

This advance course focuses on networking fundamentals and implementation with an emphasis on Linux. Explores Network layers and Protocols, LabView and FPGA Programming, wireless standards, and Hardware Configuration and programming of various Ethernet connected devices (computers, microcontrollers, remote sensors, control equipment and other hardware).

EMS 10531102 Emergency Medical Technician 1 2 Credits/Units

Based upon the State of Wisconsin/U.S. Department of Transportation/National Highway Transportation Safety Administration curriculum, this approximately 54 hour course covers modules 1-3 and includes classroom instruction, lectures, discussion, demonstrations, skill practice on the roles and responsibilities of being an Emergency Medical Services Provider, as well as basic communication and documentation skills, anatomy and physiology, performing a patient assessment, critical thinking, and basic airway management. This course is a co-requisite of the EMT 2 course.

EMS 10531103 Emergency Medical Technician 2 3 Credits/Units

This course is a co-requisite of the EMT 1 course and continues the State of Wisconsin/U.S. Department of Transportation/National Highway Transportation Safety Administration curriculum. This approximately 130 hour course covers modules 4-8 and includes classroom instruction, lectures, discussion, demonstrations, online assignments, and skill practice on emergent medical and traumatic encounters, dealing with special populations, and EMS Operations. Ten real-life or high-fidelity patient care experiences are required. Successful completion of EMT 1 and EMT 2 prepares students to obtain licensure as an EMT Basic in the State of Wisconsin. This course is a co-requisite of the EMT 1 course.

EMS 10531911 EMS Fundamentals 2 Credits/Units

This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other health care professionals. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531912 Paramedic Medical Principles 4 Credits/Units

This course addresses the complex depth of anatomy, physiology, and pathophysiology of major human systems while also introducing the paramedic students to the topics of shock, immunology, and bleeding. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531913 Adv Patient Asses Principles 3 Credits/Units

This course teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531914 Adv Pre-Hospital Pharmacology 3 Credits/Units

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531915 Paramedic Respiratory Management 2 Credits/Units

This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531916 Paramedic Cardiology 4 Credits/Units

This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531918 Advanced Emergency Resuscitation 1 Credits/Units

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531919 Paramedic Medical Emergencies 4 Credits/Units

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531920 Paramedic Trauma 3 Credits/Units

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531921 Special Patient Populations 3 Credits/Units

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531922 EMS Operations 1 Credits/Units

This course provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531923 Paramedic Capstone 1 Credits/Units

This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531925 Paramedic Clinical 1 1 Credits/Units

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in health care environments such as the Emergency Department, Respiratory Therapy, and Operating Room, with actual patients under the supervision of clinical preceptors. Students will also participate in multidisciplinary high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531926 Paramedic Clinical 2 1 Credits/Units

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in health care environments such as the Emergency Department, Trauma-Life Support Center, Burns Center, and Cardiac Cath Labs, with actual patients under the supervision of clinical preceptors. Students will also participate in multidisciplinary high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531927 Paramedic Clinical 3 1 Credits/Units

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in health care environments such as the Emergency Department, Pediatric Care, and Birthing Centers, with actual patients under the supervision of clinical preceptors. Students will also participate in multidisciplinary high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531928 Paramedic Field Internship 3 Credits/Units

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine and EMS Operations in the field environment with actual patients under the supervision of an approved paramedic preceptor. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 10531929 Paramedic Clinical 4 1 Credits/Units

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Co-requisites are required with this course and are specific to the Paramedic daytime or evening track.

EMS 30531360 Advanced Emergency Medical Technician 4 Credits/Units

Students learn advanced patient assessment, communication skills and beginning advanced life support interventions. Prepares students to obtain licensure as an EMT Intermediate Technician in the State of Wisconsin. Prerequisite: valid EMT–Basic License.

EMTEC 10620100 **Introduction to PLCs** **1 Credits/Units**

Introductory study of PLC Programming overview (parts, principles of operation, size and applications), PLC components (I/O modules, specifications, CPU, memory, programming options), Number systems and codes (binary, decimal, hexadecimal, BCD, ASCII, binary arithmetic), Fundamentals of Logic (binary concept, AND, OR, NOT functions, Boolean algebra, logic gates, word level instructions), Basics of programming in RSLogix500 (memory organization, program scan, programming languages, instruction addressing, XIC, XIO, OTE instructions, creating ladder logic), PLC installation practices, editing, and troubleshooting (enclosures, electrical noise, grounding, voltages, program editing, program monitoring, preventive maintenance, troubleshooting, connecting to your PLC to your PC)

EMTEC 10620101 **Programmable Logic Controllers 1** **3 Credits/Units**

Fundamentals of programmable logic controller (PLC) installation, interfacing, operation, and programming. Students learn about PLCs connected to Windows-based PCs running state-of-the-art programming tools. Students study discrete and analog input and output; hardware sensor interfacing and troubleshooting techniques; fundamentals of digital systems and will program PLCs using timer, counter, latch, data movement, sequencing, integer arithmetic and other instructions.

EMTEC 10620102 **Programmable Logic Controllers 2** **3 Credits/Units**

Advanced programmable logic controller (PLC) installation, interfacing, operation, and programming. Students learn how to connect advanced PLCs in a typical industrial PLC network utilizing Ethernet, DH+, RS232 and RIO communication paths. Data sharing and distributed PLC programming techniques along with fundamentals of touch panel programming and operation are studied.

EMTEC 10620104 **Interfacing Sensors with Computer Controls** **3 Credits/Units**

Applies various sensors to analog input modules of programmable controllers and to A/D converters for computer systems.

EMTEC 10620106 **Robotics for Industrial Automation 1** **1 Credits/Units**

FANUC Robotics based introductory study of applications, operation, programming and troubleshooting of Industrial Robots. Prepares the learner to identify the component parts of a robot; describe teach pendant and robot functions; power up the robot control in proper sequence; jog in Joint and Cartesian movement; identify axis movements; navigate the teach pendant to set up the robot for desired movement; demonstrate working knowledge of arm speed and inching control; select the Frames of reference used by the coordinate system; edit an existing program.

EMTEC 10620108 **Robotics for Industrial Automation 2** **2 Credits/Units**

FANUC Robotics based advanced study of applications, operation, programming and troubleshooting of Industrial Robots. Prepares the learner to establish and modify robot axis soft limits; navigate the teach pendant to set up the robot for automatic operation; define the Frames of reference used by the coordinate system; create multiple Tool Frames; create a program file; write a functional motion instruction; edit, copy and delete an existing program; demonstrate the use of a wait statement; demonstrate the use of a Call statement; demonstrate the use of an Output statement; and upload and download program memory files. Backup and restore the Controller image

EMTEC 10620110 **Vision for Robotics in Industrial Automation** **2 Credits/Units**

This course prepares the learner to program a vision systems as a stand-alone solution and integrate into robotic systems.The student will receive instruction on general vision concepts, including camera setup, lighting, lensing, 2D Single & 2D Multiple View Process and perform hands-on programming with industrial vision systems.

EMTEC 10620112 **Integration Introduction** **2 Credits/Units**

The planning, documenting, fabrication, assembly and programming of electro-mechanical components is used to introduce students to the principles of integrating automated machines. This course applies the project management, and CAD 2D skills related to electro-mechanical automated systems. The study of motion sequences and control drawings as well as Gantt chart creation and application will be used within this class. Machine effeciencies and trouble-shooting of desktop electro-pneumatic controls is applied.

EMTEC 10620114 **Integration of Mechanisms and Controls 1** **4 Credits/Units**

The student will apply the concepts of robots and automation by building a small automation system. This automation cell will be accomplished within the framework of an assigned team of students. Student will apply learned concepts studied in previous classes. These concepts will assist in building, testing, and running their automated work cell. Student will develop, and apply project planning, time management and cooperative methods with their team members to build their work cell. Student will learn how to design and make parts for this project. Student also will specify and purchase parts as well as, analyze system malfunctions, which may occur to the modular level. Student will practice the skills needed to interface and make repairs.

EMTEC 10620116 **Integration of Mechanisms and Controls 2** **4 Credits/Units**

Focuses on integration of a complete manufacturing cell. Typical components include programmable controllers, robot, sensors, drives, conveyors, pneumatics, hard automation, control wiring and vision. Students plan, wire, program, troubleshoot and develop documentation for the whole system.

ENGLISH 10801195 **Written Communication** **3 Credits/Units**

Develops writing skills which includes prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.

ENGLISH 10801197 Technical Reporting 3 Credits/Units

Prepare and present written, oral, and visual communication products, including instructions, proposals, informal and formal reports. Produce clear, usable communication by incorporating information design principles, arranging content to satisfy diverse audience needs, and presenting visuals for various contexts. Designed as an advanced course to develop collaborative communication practices, information literacy skills, and ethically responsible professional communication strategies.

ENGLISH 20801201 English 1 3 Credits/Units

The first course in communication skills at the college level, developing student abilities in critical reading, writing, listening, and speaking, for both exposition and argumentation. The course emphasizes summarizing, analyzing, and synthesizing information from sources, and develops research and presentation skills. The class assumes competence in English grammar and paragraph structure.

ENGLISH 20801202 English 2 3 Credits/Units

This course is a continuation of English 1. Students will use advanced research skills to write papers from across the curriculum. Research papers will be informative and persuasive in nature and will be based on topics from academic disciplines (social sciences, literature and the humanities, or science and mathematics). Students will conduct research using primary and secondary library resources, surveys and questionnaires, observation, and interviews and will use the MLA format and one other format (APA, Chicago) to document their sources. Students will be asked to prepare 25-35 pages of polished writing.

ENGLISH 20801204 Introduction to Literature 3 Credits/Units

Recommended as a first course in literary analysis, this course introduces students to the major genres of literature and addresses issues related to writing about literature and/or other texts. Individual sections may focus on a particular literary theme or emphasis.

ENGLISH 20801207 World Indigenous Literatures 3 Credits/Units

World Indigenous Literatures studies indigenous issues in an international context by comparing literature and film produced by Native American and other indigenous writers and filmmakers in the U.S., Canada, New Zealand, Australia, and the Indigenous Pacific. The selection of authors represents indigenous people who have remained in their homelands as minority nations within First World countries.

ENGLISH 20801211 Gay & Lesbian Literature 3 Credits/Units

This course examines work by representative authors in American literature written by and about lesbian and gay people from the 19th century to the present, including short stories, novels, drama, poetry and film. Works will be analyzed in regard to both specific and universal messages they have to offer, for non-gay and gay readers alike.

ENGLISH 20801212 Ethnic Literature 3 Credits/Units

Special Topics in Ethnic Literature explores questions of identity within various cultural contexts. Writers represent one or more ethnic groups working in one or more genres of literature with emphasis on developments in voice, genre, and style over chronological and geographical periods. Individual sections may vary in particular emphasis.

ENGLISH 20801213 Native American Literature 3 Credits/Units

Native American Literature introduces students to rich, complex and varied literary traditions reflected in the works of contemporary Native American storytellers in fiction, poetry, drama, and film. Issues of language, cultural identity, historical witness, and current social and political experiences are reflected in these genres. The works are discussed in terms of specific cultural and universal themes, and their place in the emerging Native American literary canon.

ENGLISH 20801214 African American Literature 3 Credits/Units

African American Literature introduces students to the rich, complex and varied literary traditions reflected in the works of African American writers. Studies developments and achievements in voice, genre, and style and explores issues of language, cultural identity, historical witness, and social and political experience. Individual sections may focus on a particular theme, genre, or period for emphasis.

ENGLISH 20801215 British Literature 1 3 Credits/Units

This course examines major authors, works, and periods of British literature from its foundations to the early eighteenth-century within the context of historical, cultural, and philosophical developments.

ENGLISH 20801216 British Literature 2 3 Credits/Units

British Literature 2 examines British fiction, biography, autobiography, poetry, and drama from the 1740s through the late twentieth century.

ENGLISH 20801217 American Literature 1 3 Credits/Units

Examines major authors and works from the early 16th to the late 19th century in American prose, drama, and poetry.

ENGLISH 20801218 **American Literature 2** **3 Credits/Units**
Examines major authors and works from the late 19th century to the present in American prose, drama, and poetry.

ENGLISH 20801219 **Western World Lit: Classical Antiquity to the Middle Ages** **3 Credits/Units**
This course studies Egyptian and Sumerian myths and legends, and the outstanding literary masterpieces of Western literature, from the Old Testament and Homer to the end of the Renaissance (16th century). The first semester is not a prerequisite of the second.

ENGLISH 20801220 **Western World Lit: Early Renaissance to Present** **3 Credits/Units**
This is a study in the outstanding literary masterpieces of Western literature from the Neoclassic period to modern times.The first semester is not a prerequisite of the second.

ENGLISH 20801221 **Literature and Popular Culture** **3 Credits/Units**
Students analyze, interpret, and discuss literature and diverse forms of popular culture as artistic and cultural representation. Each offering of literature in popular culture will be organized in the same way: a) Four units that deal with four different aspects of the course topic. b) Each unit will ask students to read a selection of each of the following: critical works—usually an article or articles or excerpts from a book—that offer definition of the genre, provided historical context, establish a relation between the thematic content and culture, and fosters discussion and critical analysis. c) Each unit will have at least two primary "texts", including, but not limited to books, journal articles, films, sound recordings, graphic novels, electronic environments, blogs, & multimedia presentations. d) Written assignments will include, but will not be limited to: informal discussion board postings and responses to other postings, summaries and definitions, formal response papers and essays, one sustained project that brings together the themes and elements discussed in the class. e) Other assignments may include reading quizzes.

ENGLISH 20801222 **U.S. Latino Literature** **3 Credits/Units**
This course explores U.S. Latino texts, including poetry, fiction, drama, and autobiography by Mexican-American, Puerto-Rican American, Cuban-American and Dominican-American writers. Writers from other Latino groups may also be included. Class discussion examines the rich and varied literary traditions of Latino communities in the United States. Students analyze issues of theme, genre, language, cultural identity and social and political experiences, as reflected in the texts chosen for the course. Classes are conducted in English. All required texts were originally written in English or are offered in English translation.

ENGLISH 20801223 **Peace, Conflict, and Literature: The Arts of the Contact Zone** **3 Credits/Units**
Mary Louise Pratt defines Contact Zones as "social spaces where cultures meet, clash, and grapple with each other, often in contexts of highly asymmetrical relations of power." She goes on to describe the Arts of the Contact Zone as "exercises in storytelling ... collaborative work ... ways for people to engage suppressed aspects of history ... ground rules for communication across lines of difference and hierarchy." This course will introduce students to the arts of the contact zone by introducing them to 1) representations of peace and conflict in literature and film; 2) the theory of and strategies for conflict resolution and peace building. Through reading, writing, observations, presentations, discussion, and field and project work, students in this course will critically explore representations of peace and conflict at the personal, local, civil, and international levels. Students will explore across genres, media, time periods, cultures, and disciplines. Throughout this exploration, students will examine literature and film in order to 1) identify and describe sources of conflict; 2) analyze and explain how conflict is communicated, prevented, and/or resolved; and 3) discover how great writers and thinkers as well as ordinary citizens can work for peace.

ENGLISH 20801224 **Special Topics in International Literature** **3 Credits/Units**
Special Topics in International Literature provides the opportunity for students to study, in English, the great works of literature from other countries and other languages. The course focuses on writers representative of a particular language and/or culture working in one or more genres of literature, with emphasis on developments in content and style. Individual sections may vary in particular emphasis.

ENGLISH 20801226 **Introduction to African Literature** **3 Credits/Units**
Introduction to African Literature focuses mainly on the literature of Africa from before colonization to the present. It introduces students to the rich, complex, and varied literary traditions reflected in the works of African writers. It studies developments and achievements in voice, genre, and style and explores issues of language, cultural identity, historical witness, and social and political experience. Individual sections will focus on a particular theme, genre, or period for emphasis.

ENGLISH 20801227 **Children's Literature** **3 Credits/Units**
Introduces students to the major genres of literature for young people such as folklore, illustrated works, and short novels. Students will read a variety of works from different eras and study ways children's literature and the understanding of childhood have developed.

ENGLISH 20801229 **Contemporary Lit** **3 Credits/Units**
This course surveys contemporary literature (mainly British and American) in relation to contemporary society and to major developments in the arts of fiction, drama and poetry. Readings mainly cover material published in the last 25 years.

ENGLISH 20801230 **Classical Mythology** **3 Credits/Units**

Classical Mythology surveys principal myths and legends of Greek and Roman literature in relation to the historical and sociological context of ancient society as well as their importance and influence in modern times. The course will include the reading and analysis of translations of original classical works.

ENGLISH 20801231 19th c. Russian Literature in Translation 3 Credits/Units

19th c. Russian Literature in Translation will provide the opportunity for students to study, in English, the great works of literature from 19th c. Russia. While World Literature courses already provide a broad survey of literature from around the world, this course would focus on the specific culture and literature of Russia during the 19th century.

ENGLISH 20801232 20th c. Russian/Soviet Literature in Translation 3 Credits/Units

This course is designed to present a survey of Russian literature in a period of political, cultural, and aesthetic revolution, beginning with avant-garde movements before the Bolshevik Revolution and the dynamic literary response in the 1920s to the revolution itself, including examples of Socialist Realism, dissident and émigré literature, continuing through the periods of the Thaw and Perestroika. Readings include Chekhov, Zamyatin, Olesha, Bulgakov, Pasternak, Solzhenitsyn and others.

ENGLISH 20801240 Creative Writing 3 Credits/Units

Students learn to manage the creative process through exercises and activities that lead to short stories and poetry; drama and creative non-fiction may be addressed as well. Reading assignments allow students to become familiar with principles and practice of various genres of creative writing and classroom activities prepare students for participating in workshop discussions.

ENGLISH 20801241 Creative Writing/Fiction 3 Credits/Units

Students develop skills in writing prose fiction including character development, scene structure, dialogue and dramatic tension as they build toward the construction and revision of short stories, novellas, etc. Reading assignments allow students to become familiar with principles and practice of fiction. Class meetings follow a workshop format.

ENGLISH 20801242 Creative Writing/Drama 3 Credits/Units

Students write monologue and dialogue, develop characters and build scripted scenes and short dramas for stage, video, cinema, or docudrama. Reading assignments allow students to become familiar with principles of dramatic practice. Class meetings follow a workshop format. Course may be paired with 810-237, Creating Original Theatre to create a six-credit writer-performer workshop.

ENGLISH 20801243 Creative Writing/Poetry 3 Credits/Units

Students develop poetic technique in open and traditional forms as they draft, critique, and revise poems. Reading assignments allow students to become familiar with principles and practice of poetry and poetics. Class meetings follow a workshop format.

ENGLISH 20801244 Creative Writing/Non Fiction 3 Credits/Units

Students merge literary techniques with the skills or reportage to develop works of creative non-fiction. Reading assignments allow students to become familiar with principles and practice of literary non-fiction. Class meetings follow a workshop format.

ENGLISH 20801249 Film Writing 3 Credits/Units

Film Writing is an intermediate-level creative writing course for the aspiring writer who wants to learn the craft of scriptwriting for feature film and/or television. Because of its emphasis on narrative structure and visual storytelling, Film Writing is also an excellent training ground for fiction writers, poets, technical and business writers, and writers working in social media. Typical outcomes of the course include a better understanding of how to tell a story, improved dialog skills, and enhanced ability to "show" rather than "tell." Class sessions involve lecture, film viewing, and writing workshops.

ENGLISH 20801250 Women In Literature 3 Credits/Units

Women in Literature examines women as both subjects and writers of literature. Students read works from a number of genres and eras, studying ways female writers have contributed to, challenged and enlarged the literary tradition. Introduces readers to literary works by and about women and teaches analytical skills, especially feminist literary criticisms. The works are selected to represent varied perspectives in race, class and sexual preference.

EVTMGT 10109102 Fundamentals Of Meeting Mgmt 3 Credits/Units

Students explore the core issues of meeting planning from the fundamentals to the new trends shaping the meetings industry. Development of meeting timelines, checklists and request for proposal are introduced. Further focus includes the process meeting planners must use in site selections, the value of meeting objectives and format, and attendee expectations.

EVTMGT 10109104 Meeting Design 3 Credits/Units

Designing meeting experiences that engage participants and deliver return on investment is critical for meeting professionals. Students explore adult learning styles and theories as well as develop tools and techniques to ensure the meetings success and a positive return on investment is delivered. This course takes an in-depth look at identifying the stakeholder objectives and learner outcomes, designing effective meetings and events, and measuring return on investment.

EVTMGT 10109108 Mtgs Industry Budget/Finance 2 Credits/Units

Establishing a realistic and sound budget is vital to creation of successful meetings. This course examines the steps in developing a meeting budget. Students learn techniques for projecting and managing budgets including per person methodology and break-even analysis. Emphasis is placed on situations oriented to the meeting industry.

EVTMGT 10109109 Special Event Management 3 Credits/Units

Demonstrates professional practices used to create, market, plan and implement special events. Emphasis is on applying creativity to develop events with unique purposes and presentations combining elements such as site selection, décor, lighting, sound, and entertainment as well as food and beverage to reflect the theme of the event.

EVTMGT 10109110 Meeting Coordination 3 Credits/Units

Provides a solid understanding of the numerous tasks and details involved in developing and coordinating a meeting and/or event. Students explore meeting room design, commonly used audio-visual equipment, the use of speakers, and how effective management of food and beverage impact successful meeting and event planning.

EVTMGT 10109111 Registration/Housing Logistics 2 Credits/Units

Registration is the first impression that attendees have of your meeting. Careful planning in designing a registration process is critical to setting attendees expectations, perceptions and the tone of the meeting. Meeting participants want and need comfortable and convenient accommodations, to their exact requirements. Creating rooming lists, coordinating the housing logistics, and managing sleeping room blocks to reduce or eliminate attrition are critical success factors for the planner and the meeting. This course enables students to identify and develop tools that allow attendees a seamless meeting experience.

EVTMGT 10109112 Exhibition Management 3 Credits/Units

Provides the student with an understanding of the growing role of exhibitions and trade shows as a source of revenue for the organizer as well as an opportunity for buyers and sellers to interact face-to-face in an educational environment. Building an exhibition from the start of the planning process through the close of the show is presented. Students examine key elements in designing a show floor; careers within exhibition management, factors needed to take into account when selecting a site for an exhibition, identify contractors necessary for producing the show; and learn how to effectively interact and communicate with exhibitors throughout the process. As part of this course, a job-ready assessment will be given.

EVTMGT 10109113 Risk Management, Negotiations, and Legal Issues 3 Credits/Units

Includes crisis planning and risk management, the art and science of negotiations, and contract and legal issues in the meetings industry. Students learn how to identify issues that are negotiable, the steps in the negotiation process and commonly used negotiation techniques. The class also focuses on basic contract provisions and key clauses of a facility contract as well as the unique elements and differences of hotel and convention center contracts. Includes discussion of legal principles and precedents as they apply to the meetings industry.

EVTMGT 10109114 Meeting/Event Mgmt Internship 2 Credits/Units

Course provides both theoretical and hands-on experience planning, setting up and managing a meeting or event. Emphasis is on developing and implementing proper procedures to ensure professional results. The student is required to use their knowledge of finance, decision making, problem solving, organization and communication. Prerequisite: Third semester program student or consent of instructor.

EVTMGT 10109116 Fundamentals of Green Meetings and Events 2 Credits/Units

This course provides students with a solid foundation of what is a green meeting, commonly used terminology, and how to execute a socially responsible and environmentally responsible meeting or event. Through a green lens, students will explore core strategies and principles in planning a green meeting. Further focus includes green tools and resources available to plan a green meeting.

EVTMGT 10109117 Partnership Development 3 Credits/Units

Students learn how to analyze a meeting to identify sponsorship and fundraising opportunities. These partnerships build support for a meeting, increase marketing effectiveness, and increase meeting profitability.

EVTMGT 10109119 Event Professional Best Practices 3 Credits/Units

This course focuses on the core knowledge and skills that are crucial in the meetings and events industry. We will examine the factors involved with job success, including professional etiquette, ethics, communication and listening skills. Learn the foundation of customer service by implementing industry standards and expectations. Students will create a professional portfolio, as well as learn about proactive job search techniques, professional networking and interview skills.

FILM 20810250 Introduction to Film 3 Credits/Units

Examines techniques of film production and explores the relationship between film form and film meaning. Students view films that represent significant movements in the evolution of the medium and learn how to research and write analytical essays about these films.

FILM 20810254 History Of World Cinema 3 Credits/Units

History of World Cinema examines the history of the film medium, primarily as an art form but also as a form of communication, in the United States and internationally from its origin in the 1800s to the present, highlighting significant movements in its development. Students view domestic and foreign films as a basis for study.

FINANCE 10114126 Corporate Finance 3 Credits/Units
This intermediate-level course views finance from the perspective of the financial manager. Topics include techniques of financial analysis, forecasting and budgeting, operating and financial leverage, working capital management, the time value of money, cost of capital, long-term debt and stock financing, dividends and retained earnings. Students are expected to apply both principles of accounting and finance.

FINANCE 10114127 Financial Analysis 3 Credits/Units
A capstone course for the Finance program. Students work in teams to analyze an industry and work individually to analyze a specific company. The project familiarizes students with common sources of business and financial information and develops their analytical skills. A final oral and written report is required.

FINANCE 10114128 Financial Institutions 3 Credits/Units
Introductory-level course which considers the role of financial institutions in the economy. Topics include financial intermediation, the Federal Reserve System, financial markets and instruments, and non-bank financial institutions, including savings and loan associations, credit unions, finance companies, insurance companies, pension funds, mutual funds and governmental financial institutions.

FINANCE 10114130 Personal Finance 3 Credits/Units
This introductory course considers finance from the point of view of the individual or family unit. Topics include budgets, insurance, housing, borrowing, saving, investing and estate planning. Students complete personal finance projects applying the material learned.

FINANCE 10114140 Investments 3 Credits/Units
This advanced course considers alternative investment media and markets. Topics include the investment environment, fundamental and technical analysis, timing, selectivity and diversification, and computer-based investment management. Investment analysis will make use of a student-developed spreadsheet platform.

FIRET 10503100 Fire Recruit Academy 5 Credits/Units
200 hours of fire fighting training prepares students for the State of Wisconsin Firefighter I and Firefighter 2 certification examinations. Completion of the EMT Basic Course also will provide the student with a diploma in Fire Service Certification.

FIRET 10503141 Firefighter 2/Hazardous Materials Operations 1 Credits/Units
This course meets the NFPA requirements for firefighters. Provides the first responders with the awareness and knowledge to identify hazardous materials and to safely respond to hazardous materials (hazmat) emergencies.

FIRET 10503142 Fire Fighting Principles 4 Credits/Units
Describes basic fire behavior, and techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinquish fires and otherwise meet all requirements for Firefighter 1 certification with the State of Wisconsin.

FIRET 10503143 Building Construction 3 Credits/Units
Covers the basic principles of construction and specific classifications of construction as they relate to fire prevention, fire resistance, fire and smoke containment, and performance under fire conditions. Specific building styles, including high-rise and multi-family dwelling units, are also studied. and multi-family dwelling units, are also studied.

FIRET 10503144 OSHA for the Fire Service 3 Credits/Units
This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations.

FIRET 10503148 Principles of Fire & Emergency Service Administration 4 Credits/Units
This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer.

FIRET 10503151 Fire Prevention 4 Credits/Units
Provides functional information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, and identification and correction of fire hazards. Meets all requirements for Fire Inspector 1 certification with the State of Wisconsin.

FIRET 10503154 Hazardous Materials Chemistry 2 Credits/Units
This course provides basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services.

FIRET 10503156 **Strategies, Tactics & Inc Mgmt** **4 Credits/Units**
Provides an in-depth analysis of the principles of emergency response through utilization of an incident management system. Prepares students to pursue current national ICS training requirements.

FIRET 10503157 **Fire Investigation** **3 Credits/Units**
Provides learners with the fundamentals and technical knowledge needed for proper fire scene investigation. Prerequisites: all first, second, and third semester courses.

FIRET 10503191 **Principles of Emergency Services** **2 Credits/Units**
This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives.

FIRET 10503192 **Principles Emergency Services/Survival** **3 Credits/Units**
This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services. Prerequisite: all first, second, and third semester courses.

FIRET 10503193 **Fire Protection Systems** **3 Credits/Units**
Provides information relating to the features of design and operation of fire detection and suppression systems.

FIRET 10503194 **Fire Protection Hydraulics** **3 Credits/Units**
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.

FIRET 10503195 **Fire Behavior & Combustion** **3 Credits/Units**
This course explores the theories and fundamentals of how and why fires start, spread and are controlled.

FIRET 30503300 **Fire Recruit Academy - Fire Service Certification Program** **5 Credits/Units**
200 hours of fire fighting training prepares students for the State of Wisconsin Firefighter I and Firefighter 2 certification examinations. Completion of the EMT Basic Course also will provide the student with a diploma in Fire Service Certification.

FIT REC 10109103 **Leisure and Lifestyle** **3 Credits/Units**
Encourages a holistic and comprehensive understanding of the significance of leisure to the individual and society. Emphasizes concepts, theories, and the interrelationships between factors (social, economic, political, and environmental), which influence people's leisure attitudes and behavior.

FIT REC 10109106 **Fitness and Recreation Programming** **3 Credits/Units**
This course provides practical knowledge and experiences on the essential elements and design concepts of program planning. Emphasis is placed on student involvement in planning and directing programs for diverse populations in a variety of physical settings.

FIT REC 10109115 **Fitness and Recreation Administration & Management** **3 Credits/Units**
?Prepares students for entry-level management positions in the field. The course is project oriented and will focus on the areas of agency management, evolution of management, human resources, managerial leadership, employee empowerment, ethics, legal issues, evaluation, PR, and facility scheduling. Students will develop an agency manual.?

FIT REC 10109135 **Leadership Strategies in Fitness and Recreation** **3 Credits/Units**
This course focuses on the development of foundational leadership knowledge and skills within the field. Students will learn and apply various leadership and communication styles, motivational theories, and group dynamics. Students will develop and practice skills for organizing and leading specific activities, including cooperative games and group initiatives.

FIT REC 10109149 **Risk Management in Fitness and Recreation** **2 Credits/Units**
This course identifies and addresses tort law, negligence, standard of care, and risk mitigation in recreation. It prepares students to manage legal risks associated with recreational experiences and venues. Case studies and mock trials will be used to help illustrate the content. Possible certifications include: Heartsaver First Aid, CPR and AED, WSI, and Lifeguarding.

FIT REC 10109155 **Facility Operations and Maintenance** **3 Credits/Units**
Principles for planning, assessing and evaluating resources, areas and facilities. Topics include scheduling, planning and design, assessing resources, routine and preventative maintenance, care of outdoor and natural areas, and impact on the environment.

FIT REC 10109159 **Health Coaching and Wellness Promotion** **3 Credits/Units**

This course is designed to give students the knowledge and understanding necessary to prepare for the ACE Health Coaching Certification Exam and become effective health coaches. This course is designed to give you both the knowledge and skills needed to assess a client's lifestyle behaviors and support them through behavior change.

FIT REC 10109160 Inclusive Fitness and Recreation 3 Credits/Units

This course serves as an introduction to inclusion and an understanding of needs and program adaptations relative to recreational pursuits. Topics covered include history, philosophy, purpose, programming, as well as characteristics and needs of individuals with disabilities.

FIT REC 10109162 Introduction to Fitness and Recreation 2 Credits/Units

Introduces new students to the profession and its potential careers. Emphasis is placed on the career exploration and planning, informational interviewing, professional organizations and the development of the profession.

FIT REC 10109163 Trends & Topics in Fitness and Recreation 3 Credits/Units

This course content changes from semester to semester and is based on the hottest and most important recreation trends and topics. Students will explore cutting-edge theories and practices and have an opportunity to explore trends in which they have a particular interest. Course should be taken in the fourth or final semester of study in the program.

FIT REC 10109171 Internship Development and Community Partnerships 2 Credits/Units

Focus on preparing students for the internship experience through the identification of career goals and objectives in order to select an internship site. Topics include placement requirements and policies, resumes, interviewing, letters of application, and the role and issues of professional practice.

FIT REC 10109173 Group Fitness Development 3 Credits/Units

ACE PREP COURSE - This course is designed to give students the knowledge and understanding necessary to prepare for the exercise science portion of the ACE Certifications. We will cover human anatomy, exercise physiology, applied kinesiology, and nutrition. Students will begin to learn how to facilitate functional training assessments, programming, movement, core, balance, and flexibility.

FIT REC 10109175 Fitness and Recreation Internship Practicum 2 Credits/Units

Students must complete a 144-hours of internship with an approved fitness/recreation agency.The on-site practitioner and internship coordinator supervise the student's progress.This is a fully online course and does not require on-campus meetings. Prior to taking this course, it is recommended that students complete ???two full semesters of program coursework and have an overall GPA of 2.0 or higher.??

FIT REC 10109176 Personal Trainer Development 3 Credits/Units

ACE PREP COURSE - Students will gain knowledge and understanding necessary to prepare for the ACE Personal Trainer Certification Exam and become effective personal trainers. This course is designed to help students learn how to facilitate rapport, adherence, self-efficacy, and behavior change in clients, as well as designing programs to improve the five components of fitness.?

FIT REC 10109189 Foundations of Worksite Wellness 3 Credits/Units

Employers are showing increased commitment to developing wellness programs that help recruit and retain employees, enhance health and sense of well being, improve productivity and enrich quality of life. This course prepares you to help employers shape, implement and evaluate these programs through an understanding of the health promotion concept, management issues, theories of behavior change for motivation and skill building, core programming and emerging trends.

FIT REC 10109190 Fitness and Recreation Seminar 1 Credits/Units

Designed to assist the graduating student with portfolio building and creation. This course reviews how to target job possibilities, resume building, job placements and includes practical interviewing. Prerequisite: The course should be taken in the final semester of the program.

FIT REC 10109195 Industry Budget and Financial Management 3 Credits/Units

Financial methods and techniques utilized in the recreation industry. Emphasis on sources and methods of financing, forecasting cost and income, budgeting, pricing, grant seeking, sponsorship, fundraising and fiscal management.

FIT REC 10109196 Principles of Outdoor Pursuits 3 Credits/Units

This course provides the fundamental knowledge, skills and experience necessary to lead people in outdoor recreational activities. The course includes topics on trip planning, safety procedures, equipment, leadership methods and expedition behavior for a variety of outdoor trip activities. Classroom as well as experiential involvement required.

FIT REC 10109197 Challenge Course Programming 3 Credits/Units

Learn basic facilitation and technical skills to manage challenge course programs. Topics include philosophy of adventure-based initiatives, belay techniques, safety procedures, rescues, facilitation skills and methods, and team development. This course provides the skills and techniques needed for certification by the Association for Challenge Course Technology (Level 1 or 2). Certification test is included in the course fee.

FIT REC 10109297 **Exercise Science for Fitness Professionals** **3 Credits/Units**
This course is designed to give students the knowledge and understanding necessary to prepare for the exercise science portion of the ACE Certifications. We will cover human anatomy, exercise physiology, applied kinesiology, and nutrition. Students will begin to learn how to facilitate functional training assessments, programming, movement, core, balance, and flexibility.

FIT REC 10109298 **Introduction to Fitness and Wellness** **2 Credits/Units**
Students will explore the industry's history, current landscape and the scope of practice for Certified Group Fitness Instructors, Personal Trainers, and Health Coaches. Topics covered include: industry career paths, certifications, opportunities, and employment. We will investigate and implement social media presences, websites, and personal business materials.

FIT REC 10109299 **Precision Nutrition** **3 Credits/Units**
This course is designed for fitness and wellness professionals looking to further explore the relationship between fitness and nutrition. Students will learn the latest discoveries in nutrition science to help clients achieve lasting behavior change. Topics include: cellular biology, digestion, metabolism, macronutrients, micronutrients, and nutrition coaching.

FIT REC 10109300 **Fitness and Wellness Professional Development** **1 Credits/Units**
This course focuses on how to target job possibilities, resume and cover letter writing and includes practical interviewing. Self-evaluation and job-related skills, interests, attributes, and achievements are discussed. The concept of job networking is also stressed. Prerequisite: The course should be taken in the final semester of the program.

FIT REC 10109301 **Fitness and Wellness Practical Lab** **1 Credits/Units**
This is a capstone course in which students will work with assigned clients to expand their knowledge and skills in the industry. Students will be asked to develop, implement and evaluate individualized and/or group programming for the Madison College community to improve their overall health and well-being. Students will be supervised and evaluated on their practical skills by the instructor of this course.

FOUNHLTH 10501101 **Medical Terminology** **3 Credits/Units**
Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis is on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology, is included. Prequisite: COMPASS scores of Reading 80 & Writing 46-99 or comparable equivalent course courses.

FOUNHLTH 10501107 **Digital Literacy for Healthcare** **2 Credits/Units**
Provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasizes the use of common software packages, operating systems, file management, word processing, spreadsheets, databases, Internet, and electronic mail.

FOUNHLTH 10501153 **Body Structure & Function** **3 Credits/Units**
A concise introduction to human body structure and function. Normal and abnormal states of the body and basic disease processes affecting the body are emphasized. Common problems encountered in a variety of health care settings are presented.

FOUNHLTH 31501308 **Pharmacology for Allied Health** **2 Credits/Units**
Introduces students to medications and basic pharmacology principles. Students apply basic pharmacodynamics to identify common medications and calculate dosages in preparation for medication administration.

FRENCH 20802221 **French 1** **4 Credits/Units**
This course is for students beginning the study of French or those who need to review the basics before going on to French 2. Students will learn to participate in uncomplicated conversations on everyday topics and gain a better understanding of and appreciation for people and cultures other than their own.

FRENCH 20802222 **French 2** **4 Credits/Units**
This course is for students who have completed 1 year of high school French OR 1 semester of college French. Students will learn to understand more complicated conversations and readings and respond with longer, more complex sentences and even paragraphs. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

FRENCH 20802223 **French 3** **4 Credits/Units**
This course is for students who have completed 2 years of high school French OR 2 semesters of college French. Students will learn to speak and write at an intermediate level, with an ability to discuss topics that require higher level thinking and more complex structures. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

FRENCH 20802224 **French 4** **4 Credits/Units**

This course is for students who have completed 3 years of high school French OR 3 semesters of college French. Students will expand their ability to speak and write at an intermediate level, increasing both the quality and quantity of language produced. Emphasis will be placed on gaining a deeper understanding of and appreciation for other cultures.

FRENCH 20802226 French 5 3 Credits/Units

This course is for students who have completed 4 years of high school French OR 4 semesters of college French. Students will study advanced grammar with the objective of improving their ability to speak and write accurately in French. Readings of cultural, historical and literary significance will be used to advance students' proficiency.

FSHNMKTG 10104118 Store Operations 3 Credits/Units

Students in this course are responsible for planning and analysis in all aspects of store operations with special emphasis on selling, merchandising, pricing, loss prevention and visual presentation is stressed. Students participate in at least one trade show during the semester to help select merchandise for the bookstore apparel and assist in hands on work in the bookstore. Fall only. Recommended prerequisites: Retail Management, 10104124.

FSHNMKTG 10104120 Adobe Photoshop Fashion Design 3 Credits/Units

This course focuses on the key tools and processes using Adobe Photoshop and other computer software programs that are part of the design and marketing processes in the fashion industry. Students will be creating projects in major categories of fashion.

FSHNMKTG 10104122 Adobe Illustrator for Fashion 3 Credits/Units

This course focuses on the key tools and processes using Adobe Illustrator and other computer software programs that are part of the design and marketing processes in the fashion industry. Students will be creating projects in major categories of fashion.

FSHNMKTG 10104123 Merchandise Plan/Control 3 Credits/Units

Students analyze the buying and merchandising functions in various types of organizations. The principles, procedures and techniques practiced by merchandisers are studied. Students may have the opportunity to interview a buyer, visit a market, participate in a floor move in a local business, compile a resource folder of relevant tools for buyers, and/or complete a computer simulation. It is recommended that students have completed the math requirement, excel, and enrolled in the Retail Management course.

FSHNMKTG 10104124 Retail Management 3 Credits/Units

Upon successful completion of this course, the student should be able to describe and analyze retail store organization and operation including customer markets, store location and design, human resource management, merchandise planning and control, and retail promotion.

FSHNMKTG 10104127 Technical Design Specifications for Fashion 3 Credits/Units

Students will create garment sketches using Adobe software with product specifications and fit comments to apparel for a target market. Students will present a technical specifications packet of apparel based on research for a target audience as it is applied to the sketches.

FSHNMKTG 10104132 Fashion Show 1 Credits/Units

A step by step process for how to plan, organize, promote and execute an exciting fashion show. Aspects of fashion show production are covered including: planning, model selection, merchandise selection, staging and music, budgeting, show preparation, execution, and evaluation.

FSHNMKTG 10104157 Fashion Internship 2 Credits/Units

Internship offers practical work experience to third and fourth semester students in the fashion area. Experiences that cannot be acquired in the classroom environment provide the student with the opportunity to blend theory with practice in an approved work setting, offered in the summer semester.

FSHNMKTG 10104182 Portfolio Presentation 3 Credits/Units

This course includes an overview of methods to searching for a position in the fashion marketing field. We explore on and off line methods of personal and academic assessment. Mock interviews, including a viewing of your portfolio work, will be video taped. Resume writing and personal correspondence are included in a personalized approach.

FSHNMKTG 10104183 International Business in Fashion 2 Credits/Units

This course provides the student with the opportunity to interface with various aspects of the Fashion Business on an international level. Students gain exposure as to how marketing, design, and merchandising are approached abroad. An international trip is scheduled for approximately ten days to Italy in the Spring Semester every other academic year.

FSHNMKTG 10104186 History of Costume 3 Credits/Units

This course is an integration of how social, political, and economic factors relate to fashion trends from the past to the present. Students focus on key elements to help understand consumer behavior.

FSHNMKTG 10104194 Visual Merchandising 3 Credits/Units

The principles and elements of design are incorporated into a hands-on approach to interior and exterior merchandise presentation. Coordination of the total sales promotion effort is emphasized. Students are required to build many types of displays. Recommended prerequisites: Apparel Marketing, 10104197 and Fashion Analysis, 10104195.

FSHNMKTG 10104195 Fashion Analysis 2 Credits/Units

Students work with the elements and principles of design as they relate to fashion promotion and products. Forecasting, creativity and a grasp of the influences and sources of design are major components of the course. Computer-aided design is used to enhance the course. Highly recommend concurrent enrollment with either Fashion CAD Lab, 10104198, or Adobe Illustrator for Fashion Design, 10104122.

FSHNMKTG 10104196 Textiles 2 Credits/Units

Focuses on the technical information regarding fabrics and fibers required by apparel managers and merchandisers, and its application to merchandise buying and sales staff training. Highly Recommended pre-requisites Fashion Analysis 10104195, Adobe Illustrator for Fashion Design 10104122 and Apparel Marketing 10104197.?

FSHNMKTG 10104197 Apparel Marketing 3 Credits/Units

Students study the types of business enterprises, activities, operations, interrelationships and practices in the fashion industry. Careers in each of these areas are explored. This is a survey course with emphasis on terminology and key sources of information in the industry.

FSHNMKTG 10104198 Fashion CAD Lab 1 Credits/Units

This class focuses on fashion components using Adobe Illustrator. Students research and create projects related to the fashion industry.

GENENG 10605252 Introduction to Computer Engineering 3 Credits/Units

Presents logic components built with transistors, Boolean algebra, basic combinational logic design, basic synchronous sequential logic design, basic computer organization and design, and introductory machine-and assembly-language programming and its implementation on a Field Programmable Gate Array. The course introduces students to a team based project in assembly programming providing the experience of a real life computer engineering design project. (Designed to be a transfer course to the UW-Madison Electrical Engineering Program as ECE 252.).

GENENG 10605270 AC/DC Circuit Techniques and Principles 3 Credits/Units

Provides students with hands-on experiences with instruments such as oscilloscopes, digital multimeters, signal generators and other measuring equipment. Covers circuit analysis for series and parallel circuits, Ohms Law, Kirchoff's current and voltage laws, linearity, superposition, Thevenin's theorem, Circuit analysis using Nodal and Mesh Analysis and concepts of AC signals, RC, LC and RLC circuits, filters, resonance. Concepts are reinforced with hands-on experiments coupled with mathematical analysis.

GENENG 10606231 Introductory Engineering Graphics 3 Credits/Units

A freshman course which provides the undergraduate engineering student with a background in descriptive geometry, orthographic projection, engineering drawing techniques, and computer-aided engineering graphics. Topics covered include point-line and plane relationships in projection; multi-view engineering drawings; auxiliary and section views; mechanical fasteners; engineering drawing applications. (Designed for engineering transfer students as the equivalent of ME 231 at UW-Madison.)

GENENG 10606232 Reverse Engineering and Solidworks Assemblies 1 Credits/Units

Introduces the student to assembly modeling using SolidWorks, utilizing both bottom-up and top-down assembly modeling techniques. A complete set of working drawings will be created, through individual part drawing and assembly drawing techniques. Model creation will also take place by measurement of an existing part/assembly, allowing the student to practice the reverse engineering process to create model and drawing details. This course serves as a bolt-on to 20-606-231 Introductory Engineering Graphics; two courses taken together are equivalent to GE 2030 at UW-Platteville.

GENENG 10662121 Circuit Modeling 1 3 Credits/Units

This course explores electrical engineering concepts including voltage, current, resistance, impedance, Opamps, phasors, Ohms law, Kirchhoffs laws, superposition, Thevenins and Nortons theorems applied to the modeling of zero-order networks, Complex numbers and algebra.

GENENG 10662221 Circuit Modeling 2 4 Credits/Units

This course explores electrical engineering concepts including phasors and sinusoidal steady-state analysis and power. Resonant circuits. Mutual inductance. Transient response of linear networks with Laplace transform.

GENENG 10662252 Introduction to Computer Engineering 3 Credits/Units

Presents logic components built with transistors, Boolean algebra, basic combinational logic design, basic synchronous sequential logic design, basic computer organization and design, and introductory machine-and assembly-language programming and its implementation on a Field Programmable Gate Array. The course introduces students to a team based project in assembly programming providing the experience of a real life computer engineering design project. (Designed to be a transfer course to the UW-Madison Electrical Engineering Program as ECE 252.).

GENENG 20806232 **Statics** **3 Credits/Units**
Statics is the study of particle and rigid body equilibrium. The course will give students the tools required to calculate forces transmitted to different parts of a structure, given a set of loads acting on it. Vector mathematics is developed and used to analyze complex physical systems. Distributed loads are analyzed with the theory of centroids and moments of inertia.

GENENG 20806233 **Dynamics** **3 Credits/Units**
Dynamics introduces students to the motion of bodies subjected to forces. The course will give students the tools required to analyze the kinematics of systems of particles and rigid bodies. Students will determine the dynamic response of a system to applied loadings using Newton's Laws, the Principle of Work and Energy, and the Principle of Impulse and Momentum.

GENENG 20806234 **Mechanics of Materials** **4 Credits/Units**
Mechanics of Materials introduces students to simple stress and strain; design and investigation of joints, beams, torsion members and columns; evaluation of shear, moment, slope and deflection of beams and combined stresses.

GENENG 20806294 **Engineering Seminar** **1 Credits/Units**
The course offers students interested in engineering careers an orientation experience. Assignments and activities will be focused on academic and career planning and exploration. Students will become familiar with different engineering programs and career paths at Madison College and 4-year institutions.

GENENG 20806295 **Introduction to Engineering** **3 Credits/Units**
This course provides students with an overview of engineering based on a "hands-on" experience with a client-centered engineering design project, which includes: 1) a team-based design project, 2) a survey of engineering disciplines, 3) an introduction to computer tools and lab techniques, and 4) management of a project budget. Instruction will include an introduction to technical fabrication skills required to produce a prototype design product. This course is intended for students intending to transfer to four-year engineering degree programs. Prerequisite: Students must have previously completed a minimum of 12 credits of college transfer course work, including 20-804-231 Calculus and Analytic Geometry, with a cumulative GPA of 2.5 or more.

GLBL ED 10140107 **Perspectives on Study Abroad** **1 Credits/Units**
This course is required for all students accepted into a Madison College sponsored semester-long Study Abroad program. It is designed as an introduction to and support of residence and study in another country. Students will learn cultural theories, learning styles, cross-cultural communication skills, and strategies for development of cross-cultural competencies. The course will facilitate the intense learning process that occurs when individuals are placed in a new cultural context and will challenge students to explore their own cultural assumptions.

GRDSGN 10201102 **Design Fundamentals** **3 Credits/Units**
In this class you will be introduced to the elements and principles of design. This semester long class meets 6 hours a week, and introduces students to the design elements of line, shape, space, color, texture, color, and typography through hands on explorations and creative exercises. The supporting design principles and theories are taught, along with course materials that introduces students to Graphic Design history, and the role of Graphic Design in contemporary society.

GRDSGN 10201103 **Drawing Fundamentals** **3 Credits/Units**
An introductory course to build draftsmanship and confidence in basic observational drawing skills. It includes the study of proportion, line and tone, light source, composition, perspective, human anatomy and life drawing. This is a foundation course with emphasis on technical skill-building, class discussion of contemporary and historical art, daily sketchbook practice and hands-on learning.

GRDSGN 10201106 **Illustration** **3 Credits/Units**
An advanced course that explores diverse conceptual image making practices for a variety of illustrative disciplines. Emphasis is placed on creativity, style and media exploration, and producing full-color portfolio pieces using a combination of traditional and digital techniques. The course also introduces historical and contemporary usages of Illustration and elements of professional practice such as time keeping, invoicing and how to maintain and communicate effectively with clients.

GRDSGN 10201112 **Color** **2 Credits/Units**
Explores the fundamental components of color essential to all artists and designers. Lectures and exercises introduce color theory, psychology, perception, value, harmonies and trends. Various projects utilizing traditional and digital tools and media establish the impact of color in developing successful, contemporary, visual solutions to design and illustration assignments.

GRDSGN 10201121 **Graphic Design** **3 Credits/Units**
Explore the role, meaning and making of graphic design in our society. The course covers icons and symbols, logos and identity, pattern, texture, layout, design trends, design history, resources for designers as well as the professional practices and the field of graphic design today. Projects cover a range of applications, with emphasis on concept, process, presentation and communication.

GRDSGN 10201128 **Print & Digital Production** **3 Credits/Units**

Practical training in production of digital composition. The student learns to solve realistic print and digital design problems from rough layout through production by completing a variety of increasingly complex assignments.

GRDSGN 10201136 Concept Development 2 Credits/Units

Introduces exercises and processes to foster creativity and the development of unique ideas for graphic design, advertising and digital applications. Emphasis is placed on improving research, brainstorming, writing, speaking and critical thinking skills. Working individually, in teams and in groups, students will come up with unexpected solutions to realistic and contemporary industry problems. Visual presentations cover a wide range of levels of finish and incorporate traditional and digital media and rendering techniques.

GRDSGN 10201137 Survey of Design Communication 1 Credits/Units

This course focuses on the Graphic and Web/Interactive design professions, the personal qualities and aptitudes of a designer, and the broad range of career opportunities and tasks performed. The course also offers students an introduction to the requirements and demands of the program and a career in the design industry.

GRDSGN 10201142 Introduction to Letterpress Printing 1 Credits/Units

This course will provide students with an overview of, and introduction to, letterpress printing. Students will create artwork using metal and wood type, and photopolymer plates, and will print on cylinder and platen presses. Projects will introduce students to the use of traditional letterpress tools and techniques, the relationship between inks and papers, and finishing techniques. Items produced will include posters, cards, and/or other printed materials.

GRDSGN 10201144 Principles of Letterpress: Design and Printing 3 Credits/Units

This course introduces students to the art of letterpress printing. Projects provide a foundation in designing for letterpress, including typography, composition, image creation/selection, color separation, and ink and paper selection. Through a series of projects, students will be introduced to professional practices in a letterpress shop, terminology, prepress, registration, and locking up. Prints will be generated on a variety of presses, including a Vandercook cylinder proof press, a Chandler & Price platen job press, and an automated Heidelberg windmill platen press. Artwork will be created with metal and wood handset type, linoleum/other relief blocks, and photopolymer plates created using Adobe Illustrator software.

GRDSGN 10201145 Introduction to Screen Printing 2 Credits/Units

Investigation into the tools, techniques and technologies of serigraphy, also known as screen printing. Students learn the safety issues surrounding this printing format. Students investigate a variety of stencil methods and produce at least one project in each of four methods. Students are also introduced to the use of the variety of inks, fabrics and papers used for differing end products, as well as the use of solvents for diluting inks and cleaning up. Projects include the development of a retail product produced through screen printing that may be offered for sale in Madison College enterprise centers. Laboratory hours are allotted to provide flexible accumulation of credit hours. Budgets and production schedules are applied to projects.

GRDSGN 10201146 Advanced Screen Printing Workshop 2 Credits/Units

This course is focused on advancing the skills of learners who have completed the Introduction to Screen Printing course and/or work experience. Emphasis will be put on concept, planning, and high-quality production of a variety of print projects. Projects will focus on further investigation into the use of specific inks, multiple layers of ink, screen mesh and stencil issues, various substrates and archival considerations. At least one multiple color fabric (or T-shirt) project will be addressed employing Plastisol inks and heat set equipment.

GRDSGN 10201147 Advanced Letterpress Workshop 2 Credits/Units

This course will enable students who have completed the Principles of Letterpress course (or comparable coursework/experience) to continue to grow their knowledge and experience in letterpress printing. Projects will be both collaborative and self-directed. Students will become more familiar with press maintenance, set-up and the workings of a print shop. Amalgamation of printing processes (letterpress, screen printing, offset printing) will be introduced. Students

will gain entrepreneurial experience through creation of products

for sale in the college bookstore.

GRDSGN 10201148 Letterpress Independent Study 1 Credits/Units

This one-credit course enables advanced letterpress students to complete one or two independent projects (depending on size, scope, and time) with instructor guidance. Students will have access to cylinder and platen presses, wood and metal type, paper, ink and photopolymer plates.

GRDSGN 10201151 Typographic Design 3 Credits/Units

This class is an investigation of all things type related. Students will develop an eye for type and understand how to use it effectively in their design work. Topics include the principles of good typography, type terminology and history, font selection and pairing, letter, word and line spacing, typographic hierarchy, paragraphs and layout, character and paragraph styles, using a grid, trends in typography and the importance of type as the foundation of graphic design. Class projects cover a range of applications in print and digital media.

GRDSGN 10201152 Applied Drawing 2 Credits/Units
A variety of traditional and digital tools, techniques, styles and media are used to enhance the drawing skills of visual artists and designers. Levels of drawing from loose sketches to tightly finished art are explored, but the emphasis is placed on simplified, gestural and stylized drawing important to concept, composition, presentation and communication. Projects will be predominantly black and white, although some tone and limited color may be incorporated.

GRDSGN 10201153 Integrated Design 2 Credits/Units
In this course, students simulate the experience of helping a client launch a new business. Students produce a cohesive set of projects including logo and identity, brand standards guide, web presence, motion graphics, and unique print collateral materials appropriate to support this new venture. Smaller independent projects provide additional opportunities to include multi-piece collections for their portfolio. This is an advanced-level course. The level of work produced is expected to be portfolio quality. Technical proficiency with computer software is assumed. The ability to work independently and self-directed is a must.

GRDSGN 10201154 Design Project Management 3 Credits/Units
This class covers general business practices, work-flow and advance production techniques in the design field through applied projects. Collaboration is emphasized where teams apply business practice in developing a product from concept to actual launch. Students will work through the process of producing a photo shoot and prepare files for a variety of media channels. This is an advanced level course with an emphasis on portfolio level work and professionalism.

GRDSGN 10201156 Programming for Designers 3 Credits/Units
Students will continue to master HTML and CSS, while learning the basic concepts of Javascript, jQuery, and other programming languages. Creative, hands-on projects will be designed and programmed for a front-end, user interface context.

GRDSGN 10201157 Social Media Concepting 3 Credits/Units
Create campaignable content for platforms such as Facebook, Instagram, Snapchat and others. The focus will be idea based and will include writing, image making (illustration and photography), and video. Daily content, social media contests and ways to encourage user generated content will be covered.

GRDSGN 10201158 Interactive Design Lab 2 Credits/Units
This course introduces students to working in a contemporary digital workflow and provides a studio-like experience. Students will focus on concept, user experience, and most importantly, design execution. They will use the skills they have acquired and work to develop real-world design solutions for a variety of digital mediums.

GRDSGN 10201162 Portfolio Preparation 2 Credits/Units
Students prepare a portfolio of their work and various business materials to apply for employment. Students are supervised and assisted in choice and number of samples, and portfolio layout. Lectures are given on job interviewing and job markets. Faculty approval of a finished portfolio is required for graduation.

GRDSGN 10201163 UX Design 3 Credits/Units
User Experience (UX) Design is all about people–designing interfaces that people will use. Thinking about how they interact with intefaces. Students will learn how to apply user-centered design principles to improve websites, forms, mobile apps, etc. We will delve into user research, wireframing & prototyping, and user testing while using the latest software & tools.

GRDSGN 10201164 Advanced Portfolio 1 Credits/Units
This course is an elective for those students who have completed Portfolio Prep (10-201-162) in order to enhance their portfolio with instructor feedback and self-initiated projects. Students will participate in the employer focused Portfolio Show and promote their work on the college portfolio website.

GRDSGN 10201165 Design Studio 2 Credits/Units
Students will gain practical experience and valuable skills working with real clients. Under the leadership of an instructor working as a creative director, the course allows students to work within an agency environment. Projects could range from quick-turnaround pieces to multi-channel campaigns.

GRDSGN 10201169 Business of Graphic Design & Illustration 2 Credits/Units
This course introduces students to the business aspects of entrepreneurial and freelance design and illustration. Topics include setting up a business, creating a brand identity, finding your niche, targeting markets, developing a creative process, networking, portfolios, capability kits, writing business and marketing plans, tax and legal considerations, contracts, business forms, bookkeeping, pricing, referrals and writing estimates, proposals and invoices.

GRDSGN 10201177 Web Page Design 3 Credits/Units
Learn basic web coding skills using HTML5, CSS, and incorporating Javascript. Design, page layout, web typography, and graphic preparation will introduce user interface (UI) skills. Students will also learn about uploading files, server space, testing, usability, accessibility, and browser compatibility.

GRDSGN 10201178 Applied UI Design 3 Credits/Units
This course will utilize current methods for creating intentional user interaction and animation. Primary focus will be with HTML5, CSS, and JavaScript, as well as prototyping software to produce animated effects and interaction appropriate for screen, tablet and mobile.

GRDSGN 10201181 Introduction to Computer Graphics 3 Credits/Units
An introduction to professional software used in the preparation of digital files including photography, graphic design, layout, typography and illustration using Adobe Photoshop, InDesign, and Illustrator. This is a foundation course for web, print, new media and other communication graphics.

GRDSGN 10201182 Applied Computer Graphics 3 Credits/Units
The students enhance their knowledge and skill in the use of design, illustration and page layout software (Adobe Creative Cloud) through the creation of a variety of design and illustration projects. Emphasis on original, strong images and type integration, as well as preparing files for print and screen.

GRDSGN 10201183 Electronic Illustration 2 Credits/Units
Focuses on illustration creation and preparation for both print and interactive media. Drawing upon the student's understanding of rendering in vector (such as Adobe Illustrator) and raster (such as Adobe Photoshop) software applications, students create illustrations and graphics that demonstrate originality, creativity, conceptualization and technical skills. Students will be introduced to Flash 2D animation and its integration with the digital illustration process.

GRDSGN 10201184 Advanced Design & Layout 2 Credits/Units
This course focuses on concept and the creation of unique and unifying visual solutions to a wide variety of design applications. Students will learn how to create focal points and hierarchy across multiple-page publications, digital applications and other common branding elements. Projects are designed to give freedom to explore various styles and a range of ideas that mimic a typical agency setting.

GRDSGN 10201189 Web Design Project Management 3 Credits/Units
?Real client projects provide opportunities to work in teams, manage projects, organize and acquire content, develop site architecture, create a production plan, and practice strong communication skills. Creative, and client appropriate, web page design interfaces will also be a focus.. WordPress (or similar CMS) will be the primary platform for web site development.

GRDSGN 10201195 Advanced Web Page Design 3 Credits/Units
This course includes the three major parts of web design: UX, UI and Programming. Students will incorporate user experience planning, creative page design and layout, graphic preparation and the coding techniques necessary to create web projects from start to finish.

GRDSGN 10201198 Social Media/Web Design Strategies 3 Credits/Units
This course will introduce essential strategies that make for successful websites and social media campaigns. Topics covered include: User Experience, User Research, Content Strategy, Information Architecture, Search Engine Optimization, Analytics, Accessibility, Social Media, and the Mobile Web. Students work on real world case studies to learn and practice skills that can be applied in any profession that works with social media or websites.

HISTORY 20803204 Renaissance, Reformation, and Revolution 3 Credits/Units
Renaissance, Reformation, and Revolution introduces the major political, economic, social and cultural trends, which characterize European society from the Renaissance through the French Revolution. The primary focus is an examination of the changes and conflicts that mark the transition from medieval society to Modern European society, and the impact that this transition has for individuals, groups, institutions, and the world view of Europeans in the early modern period.

HISTORY 20803205 Europe and Modern World 3 Credits/Units
This is an introductory course in European history concentrating on the 19th- and 20th-century experiences of European societies through examination of major social, economic, political and intellectual development. One emphasis is on the changes that caused the transformation of Europe from a pre-industrial to a modern industrial society. A second emphasis focuses on a specific place and time period in order to understand how this process of transformation affected different European nations at different points in their history.

HISTORY 20803211 Am Hist 1607-1865 3 Credits/Units
In this course the origin and growth of the United States is studied. It also surveys American political, economic and social development from the founding of the colonies through the Civil War.

HISTORY 20803212 Am Hist 1865-Pres. 3 Credits/Units
American History 1865 to the Present is an introductory survey course covering political, social and cultural trends in the United States between the end of Civil War and the present. In addition to presenting what happened in the United States during this period, the course explores the diverse sources historians use to explain the past.

HISTORY 20803214 Native American History 3 Credits/Units

Native American History is a survey course focusing on Native American cultures and histories from early times to the present. Particular attention is placed on the variety of lifestyles of native peoples, their early reactions to Euro-Americans, outstanding native leaders, assimilation efforts and relations with the U.S. government. Completion of 20-803-211, American History 1607-1865; or 20-803-212, American History 1865 to Present, is recommended.

HISTORY 20803220 History Of West Civilization 1 3 Credits/Units

This course introduces students to the history of western culture using the materials from the humanities, including history, art, architecture, literature, drama, philosophy and religion, and music. Course examines the history of western societies from the earliest civilizations up to the Renaissance (approx. 3000 BC to 1500 AD). Class will discover and explore the cultural legacy created by past societies that we embrace as part of western culture and to evaluate the style or cultural essence of the different peoples who have made important contributions to that culture. Students explore historical materials that reflect the human response to physical and social experiences in order to discover what being human involves over time in different places and situations. We also explore the humanities materials to discover how humans have expressed their humanity.

HISTORY 20803224 History of Sub Saharan Africa 3 Credits/Units

History of Sub-Saharan Africa is an introduction to the civilizations of Africa from early man through the present that focuses on African society before western penetration, the basic nature of African institutions, the colonial experience of Africa and the development of Africa since independence in 1960.

HISTORY 20803225 World In 20th Century 3 Credits/Units

This course focuses on the emergence of a global society in the twentieth century through a chronological examination of the events and trends, which created a more closely connected world, resulting in a "global society" by the end of the century. The course approaches the history of this century through emphasis on themes of particular significance to the creation of global society. Themes include globalization, the growth of mass culture, technology, ideology/religion, and the varied responses of different cultures to the ideas and events of the century.

HISTORY 20803226 East Asian Civilization 3 Credits/Units

East Asian Civilization will explore the historical, cultural, social and philosophical roots of East Asia. East Asia or the Pacific Rim includes China (also Taiwan, Hong Kong and Macao), Japan, Korea and Mongolia. This area is expected to be the newest economic and political powerhouse and has led many scholars to already name the 21st century the "Pacific Century." The purpose of this course will be to introduce students to this vast, complex and strategic area by primarily using history and culture. It will stress major themes in East Asian civilization and these themes will connect to form a whole picture.

HISTORY 20803229 Vietnam/American-1945-Present 3 Credits/Units

This course will survey the intersection of Vietnamese and American history from 1945 to the present. It will examine the roots of our involvement in Southeast Asia after World War II through the defeat of the French in the 1950's. It will explore the principal causes and effects of the expanded war in the 1960's both in Vietnam and in the United States—upon Americans and upon Vietnamese. It will conclude with a section discussing the legacy of the war exploring continuing issues like U.S./Vietnamese relations, Southeast Asian refugees in the U.S. and the effect of the war on veterans.

HISTORY 20803230 Public Man, Private Woman: Bronze Age to Glass Ceiling 3 Credits/Units

Public Man, Private Woman: Bronze Age to Glass Ceiling introduces students to women's history, specifically the various roles played by and assigned to women in western societies and focusing on the question of how and why women's lives have changed during the past thirty centuries. Students will examine women's experiences and their images in the past by analyzing the lives of selected notable women as well as broad categories of women, e.g. prostitutes, peasant wives, noblewomen, feminists. The traditional historical periods covered include the Ancient (Greece and Rome), the Medieval (Europe) and the Modern (Europe and the U.S. since 1500).

HISTORY 20803233 Gender and Women's History in Cultural Representations 3 Credits/Units

Introduction to gender and women's history from pre-history to the 19th century from a humanities perspective. We will develop a critical analysis by studying cultural representations of women and men within the social and historical context of race, class, gender, sexuality. Our analysis will be shaped by an intersectional approach, which means that gender will always be examined in interaction with race, class, sexuality and dis/ability to reveal how identities and systems of power are shaped by multiple forces. We will study a range of cultural representations ranging from literary and visual arts, to mass media, to material, to political to explore how gendered representations produce social, political and personal implications.

HISTORY 20803234 Gender and Women's Global History 3 Credits/Units

Introduction to gender and women's history from the 19th century to the present with a global perspective. Students will be asked to think critically about the power relations that affect the lives of diverse women in the U.S.-diverse in terms of race, class, ability, sexuality and other markers of power-and will be asked to contemplate the positions of diverse women from around the world.

HISTORY 20803240 Afro-American History 3 Credits/Units

Broad introductory survey of significant experiences that have shaped U.S. race relations, beginning with the west coast of Africa during the Middle Ages and moving through the last 30 years of this century in the United States. Special attention is given to slavery, family, politics, education and civil rights.

HISTORY 20803241 **Introduction to Judaism** **3 Credits/Units**
The course will trace the development of Judaism from early antiquity through the present. Beginning with the origins of Rabbinic Judaism roughly 2000 years ago, the course will describe Judaism in the context of other Near Eastern religions of that era, and it will trace how Judaism has changed and remained consistent around the world.

HISTORY 20803242 **History Nazi Germany-1933-1945** **3 Credits/Units**
This course chronicles the rise and fall of the Third Reich. To accomplish this, the course will analyze National Socialism's historical roots, investigate Nazism's links with World War 1, chart Nazi Party growth in the 1920s and 1930s, explore the creation of the Nazi state, assess Germany's role in World War II, examine the Holocaust, and consider Nazism's legacy.

HOSPT 10109101 **Exploring Hospitality** **3 Credits/Units**
Introduces new students to the broad spectrum of the leisure services industry. Typical career areas include food service, lodging, travel/tourism, and recreation. The course explores educational options and program career opportunities as well as historical and operational perspectives of the career areas mentioned.

HOSPT 10109125 **Hospitality Leadership** **3 Credits/Units**
Introduces theories, principles and practical application of management skills in the hospitality and tourism industry. Students analyze their current skills and develop a personal management philosophy appropriate to the service industry.

HOSPT 10109131 **Rooms Division Operation** **3 Credits/Units**
Investigates the organization, performance and evaluation of the rooms division of a lodging facility (front desk, reservations, housekeeping and telephone systems) as essential components of operational success and guest satisfaction.

HOSPT 10109134 **Revenue Management** **3 Credits/Units**
Distinguishing between tactical and strategic revenue management, this course will explore foundational aspects of revenue management and develop a strategic revenue management focus by exploring current challenges for revenue managers, big data and market intelligence, the role of social media on revenue management and new market segmentation approaches.

HOSPT 10109136 **Hospitality Law** **3 Credits/Units**
A preventive approach to the laws and liabilities, as well as responsibilities of owners/operators of hotels, restaurants and travel facilities. Reviews precedent-setting court decisions, legal fundamentals, negligence doctrines, civil rights issues and the relationship between providers and the guests/clients.

HOSPT 10109157 **Hospitality Internship** **2 Credits/Units**
Provides on-the-job field experience required for graduation from the program. Requirements include fifteen hours per week of work experience, a written report analyzing four major management responsibilities, and a professional oral presentation of the written report.

HRMGT 10116145 **Introduction to Human Resources** **3 Credits/Units**
Topics include: the nature of human management, strategic human resource planning, issues in human resources, planning, equal employment opportunity, analyzing and staffing jobs, training and developing human resources.

HRMGT 10116147 **Wage, Salary & Benefits Admin** **3 Credits/Units**
Topics include: Basic systems and plans of compensating employees, incentives and executive compensation, principles and techniques in the administration of employee benefit programs.

HRMGT 10116148 **Labor Relations** **3 Credits/Units**
Topics include employee rights and discipline; union-management relations; collective bargaining and grievance management; and assessment systems.

HRMGT 10116149 **Effective Staffing** **3 Credits/Units**
This course provides a comprehensive approach to planning for staffing; employing a wide range of recruiting methods; and identifying optimal selection methods.

HRMGT 10116152 **Organizational Training and Development** **3 Credits/Units**
This course provides an overview of the Training and Development function in organizations. There will be many opportunities to design and practice methods for planning for training, needs analysis, management development, and organization development. Students will learn effective techniques for on-the-job training, developing job aids, and designing classroom instruction. Introductory information on topics such as embedded learning, e-learning, and simulations will also be included.

HRMGT 10116153 **Meeting Facilitation** **1 Credits/Units**

This course provides both information about meeting facilitation and an environment for practice. The ultimate goal is for students to learn to conduct effective meetings.

HRMGT 10116168 Employment Law 3 Credits/Units

Topics include: unemployment compensation laws; workers' compensation laws; hiring and firing practices; sexual harassment in the workplace; the Americans with Disabilities Act; and labor law basics under the National Labor Relations Act. Course examines current "black letter law" together with case decisions. Content is appropriate for persons whose career plans involve employee management.

HRMGT 10116169 Human Resources Capstone 1 Credits/Units

This final course in the Human Resource Management program integrates and enhances knowledge and skills developed throughout the program. Topics include staffing, labor relations, compensation, training and development, and employment law.

HUMAN 20801254 Media and Democracy 3 Credits/Units

This course examines the role of media and the free flow of information in a democracy. Music, news sources, and social media offer opportunities for citizens to engage and be informed at local and global levels. A variety of forces may compromise interactions between free flow of information and democracy. This course is discussion-based and includes project assignments.

HUMAN 20802261 Intercultural Experience Practicum 1 1 Credits/Units

The Intercultural Experience Practicum focuses on language field-related practice experience. Here, students can practice, advance and apply their target language skills to their field of interest and to a professional or community settings that are linguistically diverse. This provides language skills as well as non-academic practical experience necessary to successfully satisfy the demands of the workforce and the global market.

HUMAN 20802262 Intercultural Experience Practicum 2 1 Credits/Units

The Intercultural Experience Practicum focuses on language field-related practice experience. Here, students can practice, advance and apply their target language skills to their field of interest and to a professional or community settings that are linguistically diverse. This provides language skills as well as non-academic practical experience necessary to successfully satisfy the demands of the workforce and the global market.

HUMAN 20802280 Global Studies Capstone 2 Credits/Units

This course provides the framework for a student to complete the required individual capstone project for the Interdisciplinary Global Studies Certificate under the guidance of an approved faculty member. Faculty and student create a learning contract, establishing outcomes that align with that of the certificate.

HUMAN 20802802 Honors-Interdisciplinary Global Studies (2cr) 2 Credits/Units

Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

HUMAN 20802803 Honors-Global Studies Capstone (2cr) 2 Credits/Units

Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

This course provides the framework for a student to complete the required individual capstone project for the Interdisciplinary Global Studies Certificate under the guidance of an approved faculty member. Faculty and student create a learning contract, establishing outcomes that align with that of the certificate.

HUMAN 20802902 Honors-Interdisciplinary Global Studies (3cr) 3 Credits/Units

Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

HUMAN 20802903 Honors-Global Studies Capstone (3cr) 3 Credits/Units

Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

This course provides the framework for a student to complete the required individual capstone project for the Interdisciplinary Global Studies Certificate under the guidance of an approved faculty member. Faculty and student create a learning contract, establishing outcomes that align with that of the certificate.

HUMSVC 10520105 Introduction to Human Services 3 Credits/Units

Examines the scope, values and principles of the human service profession. Introduces the typical roles and duties of human service workers. Students assess their own motivations, attitudes and interests. In addition to the regular classroom hours, 45 hours of volunteer work in a community human services agency are required.

HUMSVC 10520106 Orientation to Human Services Populations 3 Credits/Units
Introduces social problems that contribute to the dysfunction of individuals, groups, families and communities. Addresses problems, needs, conditions and events that bring people to human service organizations. Prerequisites: Human Services Associate course prerequisites.

HUMSVC 10520116 Group Work Skills 3 Credits/Units
Students learn principles and techniques needed to lead informational and supportive groups based on the solution- focused model. Students practice group work skills during class. Prerequisite: 10-520-117.

HUMSVC 10520117 Interviewing 3 Credits/Units
Students learn principles and techniques needed to conduct informational and supportive interviews. Students practice interviewing skills during class. Prerequisites: Human Services Associate course prerequisites.

HUMSVC 10520120 Community Service Agencies 3 Credits/Units
Focuses on characteristics and functions of human services organizations and the roles of human service workers in those organizations. Covers organizational skills of assessment, planning, budgeting, grant writing, evaluation and consulting. Prerequisite: 10-520-105.

HUMSVC 10520130 Social Change Skills 3 Credits/Units
Introduces principles and strategies of planned change and the role of human services workers as community organizers. Covers how consumers affected by a social problem can clearly define an issue, set a goal and organize to bring about social change. Prerequisite: 10-520-106.

HUMSVC 10520135 Issues in Alcohol and Other Drug Abuse 3 Credits/Units
Provides students with a basic understanding of the use and abuse of alcohol and other drugs. Emphasizes historical and social perspectives on drug use, trends of use and legal and social responses to illicit drug use. Additionally, this course provides an accurate description of the effects of psychoactive drugs, identifies methods of substance abuse treatment and introduces the student to local treatment services. Prerequisites: Human Services Associate course prerequisites.

HUMSVC 10520136 Counseling Alcoholics and Other Drug Abusers 3 Credits/Units
Trains students in basic listening and responding skills, familiarizes students with the 12 core functions performed by AODA counselors (screening, intake, orientation, assessment, treatment planning, counseling, case management, crisis intervention, client education, referral, reports, record keeping and consultation) and provides a structured learning environment in which students can develop skills in these core functions.

HUMSVC 10520141 Introduction to Community Mental Health 3 Credits/Units
Introduces the major diagnostic categories of mental illness, with a focus on the psychiatric management of these mental illnesses. Examines the unique treatment needs of people who have a coexisting psychiatric-disorder and substance-abuse problem.

HUMSVC 10520142 Psychopharmacology 3 Credits/Units
This course uses a bio-psycho-social framework to explore the use and misuse of psychoactive drugs. We will learn about the interactions between chemicals and neurons, the psychological and physiological effects on the individual, the impact the individual has on society and the role culture may have on substance misuse and treatment. In addition,we will explore topics relating to biology, pharmacology, neuroscience, chemistry and further our understanding on history, law, sociology and the political climate. The intent of this course is to instill a better understanding of why people use drugs, what effects drugs have on people, the intersections of the individual within the larger systems and various treatment approaches.

HUMSVC 10520157 Human Services Counseling Skills 3 Credits/Units
Introduces basic concepts of ego counseling, Rogerian counseling, transactional analysis, rational-emotive therapy, reality therapy, narrative therapy and solution focused therapy. Covers how counseling theories identify and define problems, explain personality development and treat problem situations. Prerequisites: 10-520-116 and 10-520-117.

HUMSVC 10520188 Human Services Experience Conference 1 3 Credits/Units
A small-group seminar designed as a companion/supportive course to the agency experience. Relates theory and principles of practice to agency field-study experience. Students learn to develop supportive relationships with clients and apply the values of confidentiality and client self-determination. They learn how their values and personal experiences affect their work with clients. Prerequisites: 10-520-105, 10-520-116, 10-520-117 and concurrent enrollment in 10-520-190.

HUMSVC 10520189 Human Services Experience Conference 2 3 Credits/Units
Students develop skills specific to their fieldwork placement and complete a major project to enhance their cultural competence. Taken concurrently with: 10-520-120 and 10-520-191. Prerequisites: 10-520-188 and 10-520-190.

HUMSVC 10520190 **Human Services Agency Internship 1** **3 Credits/Units**
Students develop skills as human services workers by working directly or indirectly with clients in community agencies 12 hours per week. An agency supervisor and a faculty member closely supervise students. The human services staff makes field placement assignments. Taken concurrently with: 10-520-188.

HUMSVC 10520191 **Human Services Agency Internship 2** **3 Credits/Units**
Students continue their on-the-job training in community agencies for 12 hours per week. By the end of the course, students have the skills of an entry-level human services worker. Taken concurrently with: 10-520-120 and 10-520-189.

HVAC 10601330 **Refrigeration Fundamentals** **2 Credits/Units**
This course is an introduction to basic refrigeration systems. Topics include terminology, the refrigeration cycle, safety, refrigerants, lubricants, and environmental issues. Presents applications of HVAC components, refrigeration controls, condensers, heat exchangers, dampers, blowers, and compressors. Use common and high tech tools of HVAC industry to aid in preventive maintenance/repair. Use of virtual interactive troubleshooting programs to reinforce troubleshooting skills. Reinforce documentation of work procedures and complete refrigerant tracking reports. Cover in depth existing and newly developed refrigerants. The learner will operate, evacuate, charge and repair basic refrigeration units.

HVAC 10601332 **Heating and Air Conditioning Advanced** **3 Credits/Units**
Advanced environmental equipment installation, trouble shooting and maintenance course which puts theory into practice including commercial cooling application equipment such as chiller systems, heat pumps, heat recovery systems, geothermal, and air distribution systems. Discuss special work areas and considerations such as clean rooms and hospitals. Gain skills in using high tech diagnostic equipment such as inferred and laser alignment in order to trouble shoot or as a predictive maintenance process. Also covers indoor air quality guide lines and strategies.

HVAC 10601334 **Commercial Refrigeration Systems** **3 Credits/Units**
Students will learn how to operate troubleshoot and maintain refrigeration equipment used in commercial applications like ice machines, rack style parallel refrigeration equipment used in grocery store applications, walk in and reach in coolers and freezers, specialty equipment such as refrigerated trucking equipment.

HVAC 10601336 **EPA 608 Training & Certification** **1 Credits/Units**
This course covers review of the preparatory material, and includes the testing itself. According to the EPA clean air act, section 608, in regards to CFCs, in order to purchase refrigerant or handle or repair any refrigeration system, you must take and pass the EPA certification exam. Students also complete R410 safety training.

HVAC 10601340 **Forced Air Heating Systems** **2 Credits/Units**
This course is an introduction to basic forced air heating systems. Topics include terminology, the forced air heating cycle, humidification, safety, fuels, maintenance, troubleshooting, and air distribution systems and applications. Hands on includes; assembly, disassembly, maintenance, and repair of Residential and commercial heating systems. Discuss and complete common documentation of work procedures.

HVAC 10601342 **Hydronic and Steam Systems** **3 Credits/Units**
Participants will design hot water steam systems, select circulating pumps and other accessories used for proper operation and balancing of hydronic systems. Operating, maintaining, and troubleshooting boilers efficiently and safely will be emphasized.

HVAC 10601361 **Industry Competencies 1** **1 Credits/Units**
Students will practice necessary customer service skills, such as communication, listening and conflict management, complete project work that will allow them a hands on means to put all they have learned into practice.

HVAC 10601362 **Industry Competencies 2** **2 Credits/Units**
Continuation from Industryy Competencies 1 with the addition of project work. Students will practice necessary customer service skills, such as communication, listening and conflict management, complete project work that will allow them a hands on means to put all they have learned into practice.

HVAC 10601370 **Building Automations 1** **3 Credits/Units**
This course will assist the student in developing the skills required to analyze, modify and calibrate HVAC control systems. The fundamentals of control systems will be studied and applied to common control strategies most often found in commercial HVAC systems. Studies computer-based energy and building control systems in detail to include wireless technology. Students will perform control system install using industry accepted practices. Will set up inputs and outputs and perform a proper commissioning on all hardware.

HVAC 10601372 **Building Automations 2** **3 Credits/Units**

Students learn how to analyze and develop control strategies taking in account efficiency, security / safety, comfort as well as indoor air quality guide lines and strategies. Students will write sequence of operations for control strategies used in typical commercial applications. Students will learn how to program and commission control systems for several commonly used automation platforms such as tritium etc.

HVAC 10601410 HVAC/R Systems Design 3 Credits/Units
Students will Learn to calculate heat and cooling loads for commercial buildings. Design and document heating and air conditioning systems for commercial buildings. To include boiler and forced air systems. Design and document a refrigeration system for product storage. Computer programs will be used in component selection and system design.

HVAC 50401550 HVAC Fundamentals of Refrigeration 2 Credits/Units
This course is designed to help the apprentice understand heat flow between substances. Basic theory of heat transfer methods is discussed. The basic refrigeration cycle and system components and functions is stressed. Refrigerant chemistry and pressure/temperature relationships of substances is also covered. There will also be hands-on lab work performed on actual operating refrigeration systems. Required safety procedures and proper use of tools used in the field is always of utmost importance. ?

HVAC 50401560 Commercial Refrigeration 1 1 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401561 Commercial Refrigeration 2 1 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401570 Refrigeration Service Mathematics 1 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401572 Related Business 1 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401580 HVAC Refrigeration Drawing & Layout 1 Credits/Units
The student will be able to perform the basic drafting skills needed to make pipe drawing and sketches. The student will be able to interpret, solve and analyze typical piping offsets and draw and layout problems in the field of refrigeration.

HVAC 50401590 Trade HVAC Semester 1 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401591 Trade HVAC Semester 2 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401592 Trade HVAC Semester 3 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401593 Trade HVAC Semester 4 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401594 Trade HVAC Semester 5 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401595 Trade HVAC Semester 6 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401596 Trade HVAC Semester 7 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401597 Trade HVAC Semester 8 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50401598 Digital Energy Management Systems 2 Credits/Units
This course description is unavailable at this time. Please contact the center offering the course for more information.

HVAC 50413527 HVAC Electrical-Mechanical Equipment Servicing 1 1 Credits/Units
This course is Part 1 of the UA Basic Electricity curriculum. Fundamental concepts of electricity that involve direct current (dc), alternating current (ac), series and parallel inductive and resistive circuits and magnetism as applied to the HVAC/R industry. Labs & activities are focused on meter usage and troubleshooting common HVAC/R components. Introduction to wiring diagrams and conductor sizing are also included.

HYDPNEU 50419501 **Hydraulics for Apprentices** **1 Credits/Units**
Gain the knowledge of the uses and applications of hydraulics required in the apprentice trades. Hydraulic systems, devices and components will be examined. Job duties and tasks related to safety, inspection, testing, maintenance and repair will be included.

HYDPNEU 50419502 **Pneumatics for Apprentices** **1 Credits/Units**
Gain the knowledge of the uses and applications of pneumatics required in the apprentice trades. Pneumatic systems, devices and components will be examined. Job duties and tasks related to safety, inspection, testing, maintenance and repair will be included.

IND MECH 10462100 **Safety for Industry** **1 Credits/Units**
This course reviews basic safety standards for industry as outlined by OSHA. Designed for general industry workers, it focuses on identification, avoidance, control, and prevention of safety and health hazards a worker may encounter on a general industry site. Those who successfully complete the hourly and course requirements receive an OSHA 10-hour completion card. The Manufacturing Skill Standards Council MSSC) safety standards are also reviewed.

IND MECH 10462102 **Introduction to Logic & Troubleshooting** **1 Credits/Units**
The course introduces basic troubleshooting tools, methods and techniques. Students will learn about interpreting schematics, Boolean logic, truth tables, and number systems. The course uses software simulations and labs to introduce relays and relay ladder logic. Students apply common troubleshooting techniques and root cause analysis.

IND MECH 10462104 **Fluid Power 1 for Industry** **1 Credits/Units**
Provides students with the fundamentals of fluid power (hydraulic and pneumatic) and a considerable literacy in the principles of pneumatics and hydraulics. Students will attain an understanding of basic pneumatics principles and practical circuits applying the recently learned principles. The course is intended to gain a general understanding of components and terminology as well as principles and functions. This course has a heavy emphasis on recognizing fluid power components, component symbols, units, equations, and terminology.

IND MECH 10462105 **Fluid Power 2 for Industry** **2 Credits/Units**
Intended to develop an understanding of basic Fluid Power Circuits. Covers the application of basic fluid power systems to various machines along with maintenance and troubleshooting. The maintaining and design considerations of both hydraulic and pneumatic systems will be explored in this course with an emphasis on component selection and circuit efficiencies.

IND MECH 10462106 **Mechanisms for Industry 1** **1 Credits/Units**
This course is an introduction to the mechanical systems, with lab exercises in safety procedures, Lock-out Tag-out (LOTO), key and setscrew fasteners, speed and torque measurements, efficiencies, shafts and pillow block, shaft alignment, flexible and rigid motor soft foot detection and correction. The course will survey precision measurement, lubrication, bearing types and applications, vibration analysis, and fasteners.

IND MECH 10462107 **Mechanisms for Industry 2** **1 Credits/Units**
Studies basic principles of physics specific to electro-mechanical systems. Emphasizes measurement, lubrication, energy, power, machines and fluid and chemical properties, as well as installation, timing and synchronization of machine drive components. Includes hands-on disassembly and assembly of industrial components.

IND MECH 10462109 **Maintenance Management Part A** **1 Credits/Units**
?This course provides an understanding of how an organization or plant can improve how they do maintenance, how to keep their equipment running longer, and create a more efficient and streamlined structure so they can be competitive in today's market. Various case studies will be studied, showing the value of maintenance management within any size organization and the pitfalls that may be encountered during TPM implementation and how to avoid or correct these problems.

IND MECH 10462304 **Industrial Fluid Distribution Systems** **2 Credits/Units**
Covers installation and repair of fluidic systems. Includes fittings, thread cutting, pipe sweating, roll grooving, solder, plastic cementing, repair equipment and tools. Pumps, valves, water supply systems and fire protection distribution systems covered.

IND MECH 10462309 **Maintenance Management** **2 Credits/Units**
Emphasizes maintenance management and quality control techniques to give maintenance students an understanding of their roles in an organization. Covers maintenance record keeping, parts ordering and shop operation.

IND MECH 10462321 **DCAC 1 DC Theory** **1 Credits/Units**
Introduces the practical DC concepts including electrical quantities and components and measurement instruments for DC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase DC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components.

IND MECH 10462323 **Industrial Electricity and Controls 1** **2 Credits/Units**

Studies basic principles related to electro-mechanical systems as well as DC Controls. Introduce various electro-mechanical devices used in Industrial Control applications including Relay controls

IND MECH 10462325 **Industrial Electricity and Controls 2** **2 Credits/Units**
Studies principles related to electro-mechanical systems as well as motors, transformers, frequency drives and various electro-mechanical devices to enhance AC power distribution and control systems. Introduces programmable logic controllers in the on/off mode.

IND MECH 10462329 **DCAC 2 AC Theory** **1 Credits/Units**
Introduces the practical AC concepts including electrical quantities and components and measurement instruments for AC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase AC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components.

IND MECH 10462331 **DCAC 3 Theory** **1 Credits/Units**
Introduces the practical DC/AC concepts including electrical quantities and components and measurement instruments for AC and DC circuits used in commercial, industrial, and sustainable energy fields. Students measure voltage, current, resistance and power for single and three phase AC and DC sources. Also covers fundamentals of magnetism in electrical components, calculations of electrical components. Motor and Transformer Theory.

IND MECH 10462334 **Facilities Maintenance** **3 Credits/Units**
Covers safety, schematics, wall framing, electrical services, insulation, drywall applications, painting, floor applications, roofing and siding applications. Includes the study of appropriate applications of material to facilities.

IND MECH 50462101 **Introduction to Heat Treating Part A** **0 Credits/Units**
This course introduces the maintenance technician to the basics of the heat treating process. Technicians will perform heat treating on various types of steel, and learn the science behind the process. This course is a 3-part sequence: 50-462-101, 50-462-102, and 50-462-103.

IND MECH 50462102 **Introduction to Heat Treating Part B** **0 Credits/Units**
This course introduces the maintenance technician to the basics of the heat treating process. Technicians will perform heat treating on various types of steel, and learn the science behind the process. This course is a 3-part sequence: 50-462-101, 50-462-102, and 50-462-103.

IND MECH 50462103 **Introduction to Heat Treating Part C** **0 Credits/Units**
This course introduces the maintenance technician to the basics of the heat treating process. Technicians will perform heat treating on various types of steel, and learn the science behind the process. This course is a 3-part sequence: 50-462-101, 50-462-102, and 50-462-103.

INDSGN 10304102 **Studio 1 - Visual Design** **3 Credits/Units**
The focus of this course is on the principles and elements of design that form the conceptual basis from which to solve and evaluate design problems. Students will explore a variety of techniques to clearly communicate conceptual design ideas including oral, written, and visual techniques.

INDSGN 10304106 **Construction and Drafting for Interior Design** **3 Credits/Units**
This course will focus on construction methods and materials through manual drafting techniques and technical drafting conventions. Systems integration of plumbing, electrical, lighting, code regulations and materials will be explored.

INDSGN 10304107 **Furniture and Textiles** **3 Credits/Units**
Interior Design textiles, their construction, testing methods and uses are the premise of this course. Furniture construction and use of textiles in furniture is also explored.?

INDSGN 10304120 **Tech for Interior Design 2** **3 Credits/Units**
This course will build upon Technology for Interior Design 1 coursework with continuation of two-dimensional technical drawing conventions and introduction to three-dimensional and rending software programs as methods to communicate design solutions.

INDSGN 10304123 **Studio 2 - Space Planning** **3 Credits/Units**
This course introduces foundational concepts and methods of planning and arranging spaces and furnishings for both residential and commercial interior environments. Emphasis will be placed on human factors, codes, universal design and professional standards emphasizing the design process.

INDSGN 10304125 **Residential Design 1** **3 Credits/Units**

This course is an introduction to creating functional and aesthetically pleasing residential interiors. Students will build and apply their skills, knowledge and understanding of the design process and professional practices. Emphasis will be placed on creative problem solving, furniture, material and finish selection and specification, sustainability, lighting theories and effective communication using industry standards.

INDSGN 10304127 Materials and Estimating 3 Credits/Units
This course focuses on interior finishes, materials and the estimate of those materials for commercial and residential applications.

INDSGN 10304129 History of Interior Design 3 Credits/Units
This course focuses on furniture and architecture from Egyptian up to Modern, as well as the history of the Interior Design Profession.

INDSGN 10304137 Studio 3 - Human-Centered Design 2 Credits/Units
Students will apply problem-solving methods utilizing the design process in a community-based project. Focus will be on community engagement, social responsibility, and the impact of the built environment on human experience, behavior, and performance.

INDSGN 10304142 Professional Practice for Interior Design 3 Credits/Units
This course focuses on essential interior design business practices, procedures, fees, contracts, forms and job placement skills including resume preparation. Students will also explore skills for selling services, products and design solutions as they relate to the field of interior design.

INDSGN 10304143 Residential Design 2 3 Credits/Units
Students demonstrate their accumulated skills through the resolution of a comprehensive residential design project applying all phases of the design process and communicating final design solutions with mastered proficiency.

INDSGN 10304147 Portfolio Development 2 Credits/Units
This course will provide students with direction and guidance to develop and prepare a professional portfolio for both the Annual Portfolio Show and employment. Students will investigate a variety of manual and digital methods allowing for effective visual composition, organization and document assembly to showcase their skills and strengths. Further emphasis will include final resume preparation, advanced interview and professional networking skills.

INDSGN 10304177 Technology for Interior Design 1 2 Credits/Units
This course will provide basic introductions to software used in the interior design industry. Introduces students to computer-aided drawing for interior design of two-dimensional with a focus on technical drawing conventions for construction documents.

INDSGN 10304178 Commercial Office Design 2 Credits/Units
Focuses on the design, specification, and documentation of commercial office spaces using conventional furniture and open office systems.

INDSGN 10304179 Kitchen and Bath Design 3 Credits/Units
This course will cover the materials of Kitchen and Bathrooms as well as the design and estimating of these rooms. Design will include industry used drawing software.

INDSGN 10304180 Technology for Interior Design 3 2 Credits/Units
Building upon Technology for Interior Design 2, this course will continue to explore three-dimensional and rendering software programs used in the interior design profession.

INDSGN 10304181 Studio 4 - Advanced Interior Design 4 Credits/Units
This course will explore advanced applications of commercial and residential design. Students apply their knowledge of materials, finishes, furniture, lighting and building construction through all phases of the design process.

INDSGN 10304182 Interior Design Internship 3 Credits/Units
Provides an opportunity to gain pragmatic work experience through supervised internships at an approved job site to gain practical knowledge of the interior design skills learned in the classroom. Students will focus on ethics, professional conduct, compensation methods, administration and project management skills as they relate to the profession of Interior Design.

INSMGT 10162116 Cyber Risk Management 3 Credits/Units
Through actual cases, this course will take a look at the various types of cyberattacks on businesses, the potential damages and fines, and ways to holistically manage internal and external risks. Cyber Liability Insurance, as a way to transfer risk, will also be examined.

INSMGT 10162125 Intro to Property & Casualty Insurance - PreLicensing 3 Credits/Units

This course provides an understanding of the property and casualty insurance protection any business or individual should have. Whether you plan on owning your own business or managing a business or department, this course provides valuable information. A comprehensive study of policy language as well as the Wisconsin state insurance laws are covered. This course also meets the state requirement for Property & Casualty PreLicensing.

INSMGT 10162126 Introduction to Loss Investigaton (AIC 33) 3 Credits/Units
The claim function, factors influencing claims, the steps involved in analyzing, negotiating, and litigating first and third party claims, and the basics of property and liability losses will be covered in this class.

INSMGT 10162131 Intro to Life & Health Insurance 3 Credits/Units
This course provides an overview of individual and group health coverage, disability insurance, individual and group life insurance, paying life insurance proceeds, ownership rights, beneficiaries, and the Wisconsin and federal laws that must be followed with these coverages. In addition, basic insurance terms and concepts as well as provider relationships are covered. This meets the state requirements for Life &Health pre-licensing and is a required course for the Risk Management & Insurance Diploma.

INSMGT 10162133 Managing Business Risks 3 Credits/Units
This course will serve as a core. Risk Management is a foundational concept in insurance today. The legal foundations of loss exposures, the risk management process, and risk management programs will be discussed for all areas.

INSMGT 10162135 Detecting Employee Fraud 3 Credits/Units
The course will cover all of the major methods employees uses to commit occupational fraud. Students learn how and why occupational fraud is committed as well as how the conduct can be detected, deterred, investigated and resolved.

INSMGT 10162136 Current Issues in Risk Management and Insurance 1 Credits/Units
This course focuses on trends and issues facing the Risk Management and Insurance Industries. Presentations on current topics, and tours of facilities, are provided by Risk Management firms and Insurance organizations. Locations vary each semester but travel is required with this course. Check with the instructor for current travel plans and costs prior to enrolling.

INSMGT 10162140 Risk Management and Insurance Internship 2 Credits/Units
Provides an opportunity for students to apply insurance and/or risk management skills in a real life business environment. These paid internships OR unpaid mentorships may be in insurance agencies, insurance companies or other risk management settings. Duties may vary depending on the opportunity. Written assignments affiliated with the internship will also be required. Reserved for students enrolled in Risk Management and Insurance studies either in the Certificate program or as a focus in their current major. Students must have completed at least one degree credit insurance course.

IT 10107111 Exploration of Information Technology 1 Credits/Units
Introduces students to the various careers available in the vast field of Information Technology and examines the Network Specialist, Mobile Applications Developer, Web Software Developer, Systems Administration Specialist, Cloud Support Associate, Desktop Support Technician, Front End Developer, and Cybersecurity Specialist career paths. Students create an individualized career path plan as the capstone project for the course.

IT 10107175 Preparation for an IT Career 1 Credits/Units
Introduction to planning and organizing a search for careers in information technology. Activities include the development of a personalized job search plan, correspondence and portfolio.

ITCLOUD 10157101 Introduction to Cloud Computing 3 Credits/Units
Introduces students to cloud based computing architectures including infrastructure, platform and software service models. Through hands-on labs with leading public cloud providers students will learn the basics of deploying technology solutions and what makes cloud based infrastructure unique. Students will learn the fundamentals of storage, security, account management, networking and monitoring as it applies to cloud computing. In addition to learning the various service offerings from public cloud providers students will gain an understanding of the private and hybrid cloud environments.

ITCLOUD 10157123 Advanced Scripting for Cloud 3 Credits/Units
This course expands on techniques learned in cloud administration and scripting courses to fully automate infrastructure and cloud services. Students will build scripts to test, create and monitor cloud services. This course will utilize the latest cloud scripting languages including but not limited to cloud formation (AWS), ARM Templates (Azure), python, and Powershell. Learning will include demonstration of development best practices including version control and agile development.

ITCLOUD 10157130 Azure Administration 3 Credits/Units
Students will gain an in-depth understanding of the Microsoft Azure cloud environment covering computing, networking, storage and applications. Implementing and administering solutions to common information technology challenges in Azure will be covered through class discussions and hands-on work in Azure. Students will deploy infrastructure, platform and software 'As A Service' solutions as well as learn how to use each solution effectively. Students will leave with a working knowledge of implementation and administration of a Windows Azure environment along with a preparatory foundation for Microsoft Azure Cloud Certification.

ITCLOUD 10157135 **VMware Certified Professional (VCP)** **3 Credits/Units**

This hands-on training course explores installation, configuration, and management of VMware® vSphere™, which consists of VMware ESXi™ and VMware vCenter™ Server. Students are introduced to virtualization and storage management concepts using VMware server virtualization products.

ITCLOUD 10157141 **AWS Administration** **3 Credits/Units**

Explores the Amazon AWS Cloud environment in-depth through hands-on labs and class discussion. Students will learn how to architect, deploy and administer common AWS solutions. In depth coverage of Amazon EC2 servers, S3 and EBS storage, VPC networking, IAM identity management and other offerings as they become available in AWS. In addition students will learn the fundamentals of automation through tools like Cloud Formation and monitoring via Cloud Watch. This course provides a preparatory foundation for the Amazon AWS Architecture certification.

ITCLOUD 10157155 **Cloud Automation/DevOps** **3 Credits/Units**

Through independent and group projects, students will demonstrate the ability to design, plan and execute IT infrastructure automation using Cloud technologies, industry-standard tools, and scripting languages. The focus is automating Public Cloud solutions while exploring Hybrid-Cloud solutions where appropriate. Students will learn the fundamental concepts of DevOps methodology, and demonstrate that process using industry-standard tools.

ITCLOUD 10157196 **Cloud Internship** **3 Credits/Units**

Provides work experience in an area data center environment offering a variety of experiences administering cloud services. The student spends approximately 15 hours per week at the internship site. By consent of instructor, a special project may be substituted for the internship.

ITDATA 10156124 **Introduction to Databases** **3 Credits/Units**

Introduces the student to relational database concepts using the MS Access and MySQL database environments. Students then study concepts that lead to good relational database design including an introduction to normalization. Basic SQL statements are practiced also. NOTE: Students are required to have a working knowledge of Microsoft Windows operating system (computer literacy, proficiency with a mouse, file management).

ITDATA 10156125 **SQL Database Programming** **3 Credits/Units**

Presents relational database concepts and teaches beginning to intermediate Structured Query Language (SQL) using an Oracle database. Students learn to create and maintain database objects and to store, retrieve, and manipulate data. Demonstrations and hands-on practice reinforce the fundamental concepts.

ITDATA 10156128 **Big Data Fundamentals** **3 Credits/Units**

This course provides an introduction to the burgeoning world of data beyond relational databases. The course will cover data lakes, data cleansing (ETL), cluster computing and data warehousing. Students will learn the basics of the R and Python programming languages and how to use them to solve and visualize analytic problems.

ITDATA 10156129 **Advanced Big Data Topics** **3 Credits/Units**

This course explores the deeper topics involved with Big Data. With the emergence of the Internet of Things (IoT), programmers must learn to handle massive volumes of data in real time. The course will use the streaming data capabilities of Spark to solve the complexities that arise from IoT. With the recent explosion of deep learning, the course also explores neural networks and the basics of artificial intelligence.

ITNET 10150121 **Intro to Cisco Networking** **3 Credits/Units**

This is an introductory course covering networking architecture, structure, and functions. The course introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for subsequent networking topics across all IT programs. Students will learn technology concepts with the support of interactive media and apply and practice this knowledge through a series of hands-on and simulated activities. NOTE: Must enroll in Cisco Networking 2, 10150122 within one year of completion of Intro to Cisco Networking, 10150121; Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management).

ITNET 10150122 **Cisco Networking 2** **3 Credits/Units**

This course covers the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. NOTE: must follow Intro to Cisco Networking, 10150121, within one year.

ITNET 10150123 **Cisco Networking 3** **3 Credits/Units**

This course covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. NOTE: must follow Cisco Networking 2, 10150122 within one year.

ITNET 10150150 **VoIP Convergence Fundamentals** **3 Credits/Units**

This class prepares students for the Cisco CCNA-Voice certification. It will introduce students to the terms and definitions of Analog phone systems and Voice over IP (VoIP) networks. Topics included in this course will be configuring and maintaining an IP Telephony system, provisioning phones and users, configuring call features, and establishing voicemail. Cisco Call Manager, Call Manager Express, Cisco Unity Connection Voicemail, and Cisco VoIP phones are used to configure and build a converged IP telephony infrastructure suitable for a business. Troubleshooting will be emphasized.

ITNET 10150151 Advanced Networking Topics 3 Credits/Units

This class introduces more advanced networking topics from the CCNP exams, such as: Implementing VLAN based solutions with secure layer 2 and layer 3 services, implementing High Availability in a LAN and WAN, implementing QoS on converged networks, specific IP QoS mechanisms for implementing the DiffServ QoS model, wireless security and basic wireless management. Quality of Service (QoS) will be used to design and implement a structure to prioritize voice and data applications across the network. Wireless will include mobility between lightweight access points. Troubleshooting and teamwork will be emphasized.

ITNET 10150163 Software Defined Networking 3 Credits/Units

Introduction to SDN is a fourth semester lecture/lab class that introduces the fundamentals of Software Defined Networking in a physical and virtual environment. Students will learn the basics of network automation, using Python scripting, learn fundamentals of data handling formats like JSON and XML, and implement device programmability, using REST requests to device APIs.

ITNET 10150190 Wireless Topics 3 Credits/Units

This is an introductory course on Wireless Networking. The course encompasses the design, planning, implementation, operation and troubleshooting of Wireless Networking. The course will provide a comprehensive overview of technologies, security, and design best practices. The course will include hands-on installation and configuration of Wireless Client Adapters, Routers, Access Points, Repeaters, Bridges and other wireless devices. The class will introduce multiple-vendor equipment.

ITNET 10150194 Firewall/VPN Technologies 3 Credits/Units

This course introduces the security student to the common technologies used for defending the perimeter of a modern business network. In depth hands-on exercises are used to instruct the student in the related technologies including NAT, PAT, ACL construction, application gateways, and stateful packet inspection. The student additionally learns a common implementation of both site-to-site and remote access VPN's. The student must demonstrate the ability to implement a basic firewall that simulates the perimeter of a basic business network.

ITNET 10150195 Networking Internship 3 Credits/Units

An on-the-job experience, with instructor supervision, in Madison area networking companies and in companies that maintain and manage computer networks. The emphasis is on hands-on design, installation, configuration, management, documentation, troubleshooting and maintenance of LANs.

ITPROG 10152103 C# Web Development Using ASP.NET 3 Credits/Units

Students learn to develop Microsoft ASP.NET Core applications that deliver dynamic content to the web. An emphasis is placed on server-side programming and the role that ASP.NET Core plays. As part of the class, students create ASP.NET Core MVC applications, display dynamic data from a database using MySQL connection and data objects and Entity Framework Core ORM. Students will also be introduced to ASP.NET Core WebAPI.

ITPROG 10152108 Advanced Cloud for Developers 3 Credits/Units

This class introduces students to Serverless cloud computing from a front- end web developers' point of view. Gain experience with popular Serverless cloud offerings including, authentication & authorization, API gateway and others. Awareness and experience with Serverless and cloud native architectures are essential as your career progresses toward full-stack software development. Exposure to multiple cloud vendors is provided including Amazon AWS, Microsoft Azure and Google Cloud Platform.

ITPROG 10152109 Python Programming 3 Credits/Units

This is an introductory scripting course in the Python programming language. Topics include: basic programming techniques, I/O, data processing, file manipulation, program control logic, functions, modules, and exception handling.

ITPROG 10152110 Cloud for Developers 3 Credits/Units

In this course, you learn how to use the AWS SDK to develop secure and scalable cloud applications. Explore how to interact with AWS using code and also learn about key concepts, best practices, and troubleshooting tips.

ITPROG 10152111 Java Programming 3 Credits/Units

Introduces programming and object-oriented design concepts using the Java programming language. Students learn all the Java programming basics and use a simple text editor as a development environment. Design concepts and programming tools will be integrated with an emphasis on practical business solutions.

ITPROG 10152112 Advanced Java Programming 3 Credits/Units

Focuses on the server side of application programming for the web. Topics include: Java servlets, database access with JDBC, JavaServer Pages, JavaBeans and source code management. A portion of the class deals with application design issues in a web environment.

ITPROG 10152113 Enterprise Java Programming 3 Credits/Units
The third class of the Java sequence explores advanced Java topics including JDBC, Servlets, JSPs, XML, DAOs, object-relational mapping frameworks, asynchronous messaging, web services, unit testing, logging, custom tag libraries, application build and deployment, and version control. Students will gain familiarity with the Amazon AWS Cloud environment as they deploy web applications in the cloud.

ITPROG 10152114 Front End Development Internship 3 Credits/Units
Opportunities for students to gain experience in Front End development through an internship in an actual software development department. Students will seek internship opportunities and interview to be selected for internships. The student spends approximately 216 hours over the course of the semester at the internship site. If no internship is available, a special project may be substituted for the internship by consent of the instructor. Activities can include requirements gathering, front End development, and testing of new and existing front end software. In addition, students will share internship experiences with other students at the end of the term.

ITPROG 10152119 Introduction to Programming with JavaScript 3 Credits/Units
Teaches the basic concepts of programming using the JavaScript language. Topics include: embedding JavaScript in HTML, event-driven programming techniques, program control logic, and an introduction to object-oriented programming.

ITPROG 10152120 Website Development 3 Credits/Units
Teaches the fundamentals and techniques of developing websites using HTML and CSS. Topics include webpage design and structure, tables, image manipulation, forms, and an introduction to website accessibility. Prerequisite: computer literacy, proficiency with a mouse, file and folder management, and good reading and problem-solving skills.?

ITPROG 10152121 Advanced CSS 3 Credits/Units
Provides the student with experience in the design and implementation of business Internet websitesTopics include: website accessibility, testing and improving website performance, implementing various styles of responsive web design, incorporating advanced cascading style sheets (CSS) concepts including minification, LESS, SASS, BootStrap, W3.CSS.

ITPROG 10152130 UI/UX for Developers 3 Credits/Units
This course explores the fundamentals of UI and UX design principles with a focus on accessibility for developers. Students will investigate user-centered ideas and techniques to improve the usability of websites, forms, and mobile applications. Topics include user research, design elements, user workflows, and usability testing while relating them to the development process.

ITPROG 10152131 Agile Practices 3 Credits/Units
This course teaches students the basics of Agile software development. Students learn how to communicate, plan, estimate, and track software projects as well as how to participate in various roles on software development teams. Students are also exposed to popular software architectures, cloud basics, simple usability testing techniques, and formal Scrum/Kanban principles.

ITPROG 10152132 Web Software Developer Internship 3 Credits/Units
Opportunities for students to gain experience in Web software development through an internship in an actual information systems department. Students will seek internship opportunities and interview to be selected for internships. The student spends approximately 216 hours over the course of the semester at the internship site. If no internship is available, a special project may be substituted for the internship by consent of the instructor. Activities can include requirements gathering, software development, and testing of new and existing web software. In addition, students will share internship experiences with other students at the end of the term.

ITPROG 10152138 Software Quality Scripting 3 Credits/Units
This course introduces scripting concepts using Python, Powershell, and Bash. Students will use these programming environments to explore software quality fundamentals through hands-on activities. Automation is introduced as a core quality programming concept using unit and regression testing and supported by exercises in statistical and/or perspective analysis. Additional concepts including documentation, reuse, maintainability, and information assurance are explored.

ITPROG 10152139 iOS Development 3 Credits/Units
The purpose of this course is to introduce students to the development of iOS applications (e.g., iPhone/iPad/iPod/Apple Watch devices). Students will work with modern development concepts using the Swift programming language. Students will be introduced to Object-Orientation, Functional Programming, event-driven programming, and multi-threaded programming. Students will start developing iOS applications using the Xcode IDE and the iOS Simulator.

ITPROG 10152158 JS Frameworks 3 Credits/Units
Learn timely and innovative approaches to front end web development with JavaScript (JS). This course will introduce students to many facets of front end web development including: Popular JS frameworks such as Angular, React, and Vue. Transpiling JS with TypeScript. Behavior and test driven development (BDD/TDD). Along with front end modeling techniques for fun, productive, portable, and verifiable JS code.

ITPROG 10152159 Kotlin Programming 3 Credits/Units

Learn fundamental programming techniques and modern design using the Kotlin programming language. The course explores functional programming as well as object-oriented programming techniques commonly utilized in mobile application development. As Kotlin is a multiplatform language, students will learn and practice a wide variety of Kotlin features and applications including introductory Android application development.

ITPROG 10152166 PHP Web Development with MySQL 3 Credits/Units

This course introduces the student to dynamic web page development using the PHP programming language. Students will learn how PHP works, how to effectively use many of its powerful features, and how to design and build their own PHP web applications. The popular MySQL open source database management software (DBMS) will also be introduced as a powerful backend for PHP websites.

ITPROG 10152167 Advanced PHP and MySQL Web Development 3 Credits/Units

This course prepares the student to implement professional PHP and MySQL web applications. Students will learn advanced techniques for session management, validation, and authentication. Students will also learn how to create and deploy a LAMP stack locally and remotely to a dedicated hosting platform. Advanced web application features such as PDO, content management using WordPress, customizing WordPress, and creating web services are discussed. Installation and customization of open source PHP web applications are also covered.

ITPROG 10152168 Advanced Javascript 3 Credits/Units

AJAX turns static web pages into interactive applications, allowing you to deploy rich-client applications. Course covers the basics of DHTML, Javascript, and the XmlHttpRequest. Students will also learn how to use modern Javascript as a functional programming language through the use of Map, Reduce, Filter.

ITPROG 10152174 IT Mobile Development Internship 3 Credits/Units

Opportunities for students to learn and practice Mobile applications development in a hands on experience in a local IT employer. Objectives commensurate with student's background and experience. Students will seek internship opportunities and interview to be selected for internships. Activities include determining requirements for an application in either Android or iOS, then developing and testing this application. In addition, students will share their internship experiences with other interns. If an internship experience is not available, students may (with instructor approval) complete a mobile development project under supervision of the instructor.

ITPROG 10152182 Advanced Front End Development 3 Credits/Units

Students apply their skills and abilities toward the design and implementation of a complete front end web application. Full life-cycle software development practices such as technology choice, project scoping, planning, estimating and tracking are experienced first-hand working with a project mentor. In addition, students will learn how to effectively investigate and incorporate new and trending technologies in the constantly changing field of front end web development.

ITPROG 10152189 Android Applications Development with Kotlin 3 Credits/Units

This course introduces developing applications for Android devices using Kotlin versus Java. Topics include Android UI layout and widgets, both in XML and programmatically; Android SDK versions and compatibility; model-view-controller (MVC); user interface and navigation; permissions; data and file storage; device dependency issues. Heavy emphasis will be placed on overall design and efficiency. It is not necessary to own an Android device, though the applications developed in the course can be deployed to one. Basic Kotlin programming knowledge is assumed. Development and debugging in Android Studio IDE is covered.

ITPROG 10152200 Software Quality Fundamentals 4 Credits/Units

This course introduces the fundamentals of software quality. Students will be exposed to the principles, methodologies, and best practices used within the IT industry for quality assurance. Return on investment in software quality will be explored with exercises in statistical risk and perspective analysis. Students will explore how requirements gathering, test case management, and software development life cycles impact software quality. Students will implement test strategies including static, exploratory, and dynamic techniques using common testing tools used within the industry.

ITPROG 10152201 Software Quality Automation 4 Credits/Units

This course expands upon basic automated techniques in software quality. Students will apply scripting languages to implement automated testing strategies on IT systems in a mock business environment. Concepts such as system coupling, functional and interrelated dependencies, and testing granularity will be covered. Test environment setup and management for system, integration, and performance/load testing will be explored and implemented, and further supported by exercises in statistical risk and perspective analysis. The course explores automated testing techniques from a platform-agnostic perspective enabling students to apply their skills in any environment.

ITPROG 10152202 Software Quality Internship 3 Credits/Units

Opportunities for students to gain experience in software quality testing through an internship in an actual information systems department. Students will seek internship opportunities and interview to be selected for internships. The student spends approximately 216 hours over the course of the semester at the internship site. If no internship is available, a special project may be substituted for the internship by consent of the instructor. Activities can include requirements gathering and testing of new and existing software.

ITSECUR 10151102 IT Security Awareness 1 Credits/Units

Provides a basic survey of the importance of IT security awareness and data confidentiality. This course walks users through basic aspects of information security in a very broad, easy to understand way and explains the value of securing data. The course will also present best practices in access control and password policies. NOTE: Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management) required.

ITSECUR 10151114 Linux Server 2 (Security) 3 Credits/Units

This class provides students with the tools they need to perform common administrative functions in some of the most popular scripting environments. The class will examine PHP in the context of an Apache webserver, and then it will examine using GNU BASH and Microsoft PowerShell scripting from the command line to complete every day administrative functions. Tools include: Bash, PHP, Apache, and PowerShell.

ITSECUR 10151127 Securing Industrial IoT 3 Credits/Units

Students learn to understand their networked industrial control system (ICS) environment, monitor it for threats, and perform incident response against identified threats. Using these skills will allow a successful student to counter advanced adversaries targeting ICS infrastructure. A hands-on approach using real hardware and real-world sample malware empower the student to dissect ICS cyber attacks from start to finish.

ITSECUR 10151128 Advanced Securing Industrial IoT 3 Credits/Units

This class continues with the skills learned in the "Securing Industrial IoT" class. We will be taking a more indepth look and the protocols and processes involved in a modern ICS setting. Students will apply the tools and techniques to study the impact on a mock power grid model.

ITSECUR 10151133 Computer Forensics 3 Credits/Units

This course provides a broad overview of computer forensics and investigation tools and techniques. All major personal computer operating system architectures and disk structures will be discussed, as well as what computer forensic hardware and software tools are available. The details of data acquisition, computer forensic analysis, email investigations, image file recovery, investigative report writing, and expert witness requirements. The course provides a range of laboratory and hands-on assignments that teach about theory as well as the practical application of computer forensic investigation. Open Source tools include: The Sleuth Kit, dd, Scalpel, etc…

ITSECUR 10151137 Intrusion Detection 3 Credits/Units

This course provides a broad overview of the tools and techniques commonly used for detecting network sourced attacks. In depth hands-on exercises are used to instruct the student in the proper selection and application of a given tool for the intended task. Also included are basic strategies for documenting and reporting on detected events. The student must demonstrate the ability to plan, design, and build a network IDS that fulfills the security needs of a common business or organization. Open Source tools include: tcpdump, snort, barnyard, etc…

ITSECUR 10151142 Web Application Security 3 Credits/Units

This course provides a broad overview of the tools and techniques commonly used for web application security testing. In depth hands-on exercises are used to instruct the student in the proper selection and application of a given tool for the intended task. Also included are basic strategies for documenting and reporting on the outcome of the test. The student must demonstrate the ability to plan, and execute a basic web security audit in an environment that simulates a common business or organization. Open Source tools include: The BURP suite, Python, etc…

ITSECUR 10151164 Penetration Testing 3 Credits/Units

This course provides a broad overview of the tools and techniques commonly used for penetration testing. In depth hands-on exercises are used to instruct the student in the proper selection and application of a given tool for the intended task. Also included are basic strategies for documenting and reporting on the outcome of the test. The student must demonstrate the ability to plan, and execute a basic network security audit in an environment that simulates a common business or organization. Open Source tools include: NMap, Metasploit, Medusa, etc…

ITSECUR 10151168 Security Design 3 Credits/Units

This course affords the network security specialist the opportunity to design a secure network in a team environment using the skills learned from the prerequisite classes. The student must demonstrate the ability to design, plan and execute an infrastructure that represents the services offered by a common business or organization. The student will research their part of the design and must prepare written document including notes, diagrams, references, and implementation instructions of their part of the total design.

ITSECUR 10151197 **Cybersecurity Internship** **3 Credits/Units**
An on-the-job experience in Madison area companies that maintain, manage and secure computer networks. The emphasis is on hands-on design, installation, configuration, management, documentation, troubleshooting, maintenance and securing of LANs. By consent of instructor, a special project may be substituted for the internship.

ITTECSUP 10154104 **A+ Hardware Essentials** **3 Credits/Units**
This course presents a comprehensive overview of computer system fundamentals. Through hands-on activities and labs, students gain skills in assembling, configuring and maintaining PCs and operating system software. Participants learn to apply troubleshooting skills to properly diagnose and resolve common hardware and software problems. This course can help prepare students for CompTIA's A+ 220-1001 exam. CompTIA's A+ Certification is a widely accepted IT industry standard certification for an entry-level IT PC support professional. NOTE prerequisite: Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management).

ITTECSUP 10154118 **Infrastructure Automation** **3 Credits/Units**
This class provides students with the tools they need to manage and automate IT Infrastructures. Students will learn the basics of scripting and tool creation using Windows PowerShell. Along with developing scripts and tools in PowerShell, students will learn about other tools and trends for managing on-premises and cloud infrastructures.

ITTECSUP 10154122 **IT Service Concepts** **3 Credits/Units**
This course is an introduction to the broad range of customer service topics an entry-level user support specialist is expected to know. The course explores the kinds of knowledge, skills and abilities needed for a successful career in the support industry. Topics include successful communication with technology users, end-user training, budgeting and other management priorities, the evolution of IT support, and best practices of the ITIL framework.

ITTECSUP 10154147 **Supporting Emerging Technologies** **3 Credits/Units**
Students explore new and emerging technologies, and learn how to provide technical support to early adopters of those technologies. Participants diagnose and solve information technology problems by examining the core functions of emerging technologies and by using advanced troubleshooting techniques. Topics include new operating systems and devices, mobile computing support, new technology support techniques and support in a virtualized environment.

ITTECSUP 10154171 **Windows Server 1** **3 Credits/Units**
Gain the skills necessary for supporting and configuring a Windows server including the installation and configuration of Windows Active Directory environment. Configure and deploy network services such as DHCP and DNS. Learn the practical skills required to create and implement Group Policy and configure security policies.

ITTECSUP 10154172 **Windows Server 2** **3 Credits/Units**
Gain the skills to support and maintain a Windows Active Directory environment. We will build on the basic concepts presented in Windows Server 1 in more complex Active Directory environments designed to suit several sample business scenarios. Parent-child domain structures, OU design, advanced applications of Group Policy, and Windows server security will be covered.

ITTECSUP 10154184 **Enterprise Client** **3 Credits/Units**
Learn how to install, configure and administer a desktop operating system for an enterprise office environment. Topics include Windows installation, device configuration, establishing network connectivity, configuring appropriate NTFS and share permissions, and learning the operation of VMWare Workstation. NOTE prereq: Students are required to have a working knowledge of Microsoft Windows operating system (computer literacy, proficiency with a mouse, file management).

ITTECSUP 10154190 **Linux Server 1** **3 Credits/Units**
Introduces Linux with a focus on system administration skills. Topics include installation, file and directory management, command execution, input/output redirection and pipes, shell scripts, network services, security and troubleshooting.

ITTECSUP 10154198 **Systems Administration Internship** **3 Credits/Units**
Provides work experience in an area data center environment offering a variety of experiences managing and operating computer systems. The student spends approximately 15 hours per week at the internship site. By consent of instructor, a special project may be substituted for the internship.

JOURNAL 20801245 **Introduction to Journalism** **3 Credits/Units**
This introductory course in journalism provides students with a better understanding of the unique role and responsibility of the journalist working in a democratic society. The course covers the problems and techniques of the news reporter and provides practical experience in news gathering, editing, interviewing and copyrighting through lab work and submission to the student newspaper. Students focus on "Level 1" journalism: spot news reporting, such as crime, politics, and community gatherings such as sports and music events.

JOURNAL 20801246 **Investigative Journalism** **3 Credits/Units**

In this course, students will move beyond basic newswriting and reporting skills. Students will focus on the role of investigative reporting in society and the public's right to know. Workshop-style training will be led by the instructor. The learner will develop investigative techniques to examine issues of ethics, fairness and accuracy. Students will identify patterns of systemic problems, not just one isolated incidents affecting individuals, as well as explain complex social problems and reveal any evidence of wrongdoing or abuse of power. These discoveries will be developed into an in-depth feature story that illustrates the importance of organization in the feature writing process for publication.

JOURNAL 20801251 Introduction to Mass Communication 4 Credits/Units

Focuses on the history, evolution, and societal role of our media. This course is divided into three modules. Module 1 ("Storytelling and the Written Word") focuses on the evolution of books, newspapers, and magazines. In addition, students will learn how the written communication is changing because of social media and media convergence. Module 2 ("Sound and Visual Stories") examines the music industry, radio, television, and film. In addition, the video gaming industry is explored. Module 3 ("The Business, Ethics, and Laws of Media") focuses on advertising, public relations, and media conglomeration. In addition, laws and ethical situations affecting our media will be discussed.

JOURNAL 20801252 World Issues Journalism 3 Credits/Units

This course focuses on radio news reporting skills that are applied to world issues: water, energy, food, war, and free speech. Students will investigate these issues to produce audio podcast news stories. Students will learn how to write radio news scripts before orally presenting them using audio podcast software.

JOURNAL 20801253 Documentary Storytelling 3 Credits/Units

Documentary Storytelling is an introduction to the craft of telling non-fiction and news stories through the medium of digital video. This course will teach news reporting and writing skills needed for the documentary format, along with journalism theory, law, and ethics of video journalism. Students will also learn basic digital camcorder operation, storyboard development, video editing, sound editing, and podcasting.

JOURNAL 20801262 Social Media Writing 3 Credits/Units

This course examines the rhetorical and publishing strategies used for innovative new media formats, in particular social media platforms. Students will look at the differences between linear and interactive writing, interactive publishing, and the role of the interactive writer. An emphasis is placed on the skills needed for quality storytelling via social media communication. Students will also learn how social media platforms can be used as researching tools (i.e. crowd sourcing), and they will implement social media research campaigns. Throughout the course, the students' writing and research work will be showcased as text, video, and audio stories published on their own Web/blog sites.

JOURNAL 20801269 On-Air Performance 3 Credits/Units

This course is an introduction to the skills and theory of on-air radio and television/video announcing. Students will learn the on-air broadcast skills of presenting news information to mass audiences in both audio and television/video formats. Students will also examine newscast theory and the history of radio and television news.

JOURNAL 20801271 Journalism Practicum 1 1 Credits/Units

Journalism Practicum 1 offers real-world journalism experiences. Students learn news reporting and writing skills by spending at least 36 hours working as a journalist for The Clarion, the college's student media organization consisting of a newspaper, a news website, a radio station, and a television news outlet.

JOURNAL 20801272 Journalism Practicum 2 1 Credits/Units

Journalism Practicum 2 offers real-world experiences in journalism or strategic communications. In addition to news writing, students practice long-form journalism, feature writing, and photography. Students must spend at least 36 hours working as a journalist for a local news media outlet or as a digital content creator for a local company or non-profit organization.

JOURNAL 20801273 Journalism Practicum 3 2 Credits/Units

Students practice social media writing, multimedia reporting, and radio broadcast. Students must spend at least 72 hours working as a journalist for a local news media outlet or as a digital content creator for a local company or non-profit organization.

JOURNAL 20801274 Journalism Practicum 4 2 Credits/Units

Offers "managerial" experiences in journalism or strategic communications. Students must spend at least 72 hours working as a journalist for a local news media outlet or as a digital content creator for a local company or non-profit organization. Students will submit a portfolio of their work via a website platform and develop a career plan.

LABASST 10513109 Blood Bank 4 Credits/Units

Emphasis is focused on basic blood banking concepts and procedures including forward and reverse blood typing, screening for antibodies, antigen typing, selection of appropriate blood products and compatibility testing. Further work explores protocols to identify antibodies and workup adverse reactions to transfusions and hemolytic disease states.

LABASST 10513110 Basic Lab Skills 1 Credits/Units

This course explores health career options and fundamental principles and procedures of the clinical laboratory. It incorporates medical terminology, basic laboratory equipment, safety and infection control procedures, and simple laboratory tests.

LABASST 10513111 **Phlebotomy** **2 Credits/Units**

LABASST 10513113 **QA Lab Math** **1 Credits/Units**
This course focuses on performing the mathematical calculations routinely used in laboratory settings. Students explore the concepts of quality control and quality assurance in the laboratory.

LABASST 10513114 **Urinalysis** **2 Credits/Units**
This course prepares you to perform a complete urinalysis which includes physical, chemical and microscopic analysis. You will explore renal physiology and correlate urinalysis results with clinical conditions.

LABASST 10513115 **Basic Immunology Concepts** **2 Credits/Units**

LABASST 10513116 **Clinical Chemistry** **4 Credits/Units**
Introduces techniques and procedures for routine analysis using photometric and potentiometric techniques, immunoassays, separation techniques, and the use of automated laboratory instrumentation. Covers pathophysiology and methodologies for analyzing carbohydrates, electrolytes, proteins and blood gases. Includes studies of cardiac markers, tumor markers, endocrine function, lipids, trace metals and enzymes. Prerequisites: ?10513115,10513120,10513121,10513109, and 20806273.

LABASST 10513120 **Basic Hematology** **3 Credits/Units**

LABASST 10513121 **Coagulation** **1 Credits/Units**

LABASST 10513130 **Advanced Hematology** **2 Credits/Units**
This course explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. Pre-requisites: 10-513-115, 10-513-120, 10-513-121, 10-513-122, 10-513-123, and 20-806-273.

LABASST 10513133 **Clinical Microbiology** **4 Credits/Units**
This course presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, will also be discussed. Prep-requisites: 10-513-115, 10-513-120, 10-513-121, 10-513-122, 10-513-123, and 20-806-273. Co-requisites: 10-513-130, 10-513-131, and 10-153-132.

LABASST 10513140 **Advanced Microbiology** **2 Credits/Units**
This course provides an overview of acid fast organisms, fungi, parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed.

LABASST 10513141 **Pre-Clinical Experience** **2 Credits/Units**
This course provides opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting. Students learn to operate state of the art instruments and report results on Laboratory Information Systems. Clinical content is reviewed and students run a mock-clinical laboratory from specimen acquisition to result reporting. Resume writing and interviewing techniques are also discussed. Pre-requisites: satisfactory completion of 1st and 3rd semester Clinical Laboratory Technician program courses and concurrent enrollment in Advanced Microbiology, 10-513-140 and Clinical Experience 1, 10-513-151.

LABASST 10513151 **Clinical Experience 1** **3 Credits/Units**
Provides opportunities to practice the principles and procedures of laboratory medicine on-site, in a clinical laboratory facility. Students will practice on state of the art instrumentation in several areas of the clinical laboratory.

LABASST 10513152 **Clinical Experience 2** **4 Credits/Units**
Provides continuing practice for the principles and the procedures of laboratory medicine as an entry level Clinical Laboratory Technician in a clinical laboratory setting. You will learn to operate state of the art instruments and report results on Laboratory Information Systems.

LABASST 10513153 **Capstone Project** **1 Credits/Units**
Students will prepare a portfolio of professional experiences, assessments and evaluations, class projects and a resume for employment.

LABASST 10513170 **Introduction to Molecular Diagnostics** **2 Credits/Units**

The Molecular Diagnostics course will give students background knowledge in DNA and RNA structure and functioning including nuclear packaging, transcription, translation and modifications. We will also cover basic genetic inheritance. Specific methods we will perform or discuss will include nucleic acid isolation and detection, target amplification and sequencing of target genes. We will also address the use of molecular methods to identify microorganisms, classify neoplasms and characterize MCH loci.

LANG INT 31538303 Cultural Competency and the Medical Setting 2 Credits/Units

An orientation to some of the factors that influence people to speak, act, negotiate and make decisions. The objective is to modify personal assumptions and habits that impede success in the workplace, at whatever level of employment, whether domestic or international. Students will learn how styles of thinking, value systems and political/social realities affect relationships. Special consideration will be given to international communication, negotiations, marketing and host international visitors. Class is taught in English.

LANG INT 31538304 Introduction to Interpreting in Spanish 2 Credits/Units

Specific theories and practices in interpreting oral communication from English to Spanish and Spanish to English. Includes theories of interpretation, techniques of interpretation, interpretation strategies, interpretation procedures, and modes of interpretation. Class is taught in English and Spanish. Prerequisite: 31- 538-301.

LANG INT 31538305 Introduction to Basic Translation Skills in Spanish 2 Credits/Units

Principles and procedures for the translation of written materials. Includes an introduction to translation, translation preparation, translation procedures, basics of grammar in the target languages English and Spanish. Analysis of the Spanish language from the translator's point of view. Includes the structure of Spanish, cultural and stylistic components, paragraph and document development, mechanics and punctuation for editing, and writing resources. Class is taught in English and Spanish. Prerequisite: 31-538-302.

LANG INT 31538308 Interpreting in Healthcare in Spanish 1 Credits/Units

This course develops the techniques, practice and knowledge needed to function as interpreters in a medical environment. Interpretation modes such as sight translation and consecutive interpretation as they apply to the medical setting are emphasized. Medical vocabulary/terminology in both English and Spanish will also be introduced. Class is taught in English and Spanish. Prerequisites: 31-538-301; 31-538-302; 31-538-304; 31-538-305. Corequisites: 31-538-303

LANG INT 31538309 Interpreting in Medical and Mental Health Settings 1 Credits/Units

This course develops the techniques, practice and knowledge needed to function as interpreters in a medical and/or mental health care setting. Interpretation modes such as sight translation and consecutive interpretation as they apply to a mental health care setting are emphasized. Mental health vocabulary/terminology in both English and Spanish will also be introduced. Class is taught in English and Spanish. Prerequisites: 31-538-301; 31-538-302; 31-538-303; 31-538-304; 31-538-305

LANG INT 31538313 Cultural Competency in a Medical Setting 1 Credits/Units

This course provides an overview of cultural diversity as it relates to the delivery of health care services. Culture, diversity and cultural competence will be examined. Strategies to assess and evaluate the culturally diverse client will be discussed to prepare health care providers to meet the changing needs of clients. Class is taught in English. Prerequisite: 31-538-303.

LDRSHP 20810267 Leadership As An Art 3 Credits/Units

This course has as its central focus the development of leadership and group dynamics theory and assists the student in developing a personal philosophy of leadership, an awareness of moral and ethical responsibilities of leadership and an awareness of one's own ability and style of leadership. It provides the opportunity to develop essential leadership skills through study and observation of the application of these skills. The course encourages participants to develop their leadership behavior.

LITTRANS 20802250 Literature in Translation 3 Credits/Units

Each section of Literature in Translation has a subtitle that represents the course content (e.g., Latin American Literature or Modern Francophone Literature). Reading selections and course activities introduce students to important literary works associated with the region or linguistic tradition named in the section's subtitle. Course materials include translated versions of texts originally written in a language other than English. No knowledge of the original language is required for enrollment in the course.

MACHT 32420304 Intermediate Metrology Applications 1 Credits/Units

Course studies precision inspection methods while utilizing optical and electronic precision measuring instruments such as the profilometer, optical comparator, microscope, laser alignment machines, the Coordinate Measuring Machine and state-of-the-art computerized vision system.

MACHT 32420322 Machine Tool 1 4 Credits/Units

Introduces the basic concepts and skills using engine lathes, power saws, Drill presses and bench applications. Emphasizes safety and proper operation of tools and machines, speeds, feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality as well as team-building and work ethics.

MACHT 32420323 Machine Tool 2 4 Credits/Units

Expands on basic concepts and skills using engine lathes, power saws, drill presses, bench applications, CNC setup and operation. Emphasizes safety and proper operation of tools and machines, speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality with team-building and work ethics.

MACHT 32420324 Machine Tool 3 4 Credits/Units

Expands the concepts and skills using engine lathes, power saws, drill presses, bench applications, and advanced CNC setup and operation. Emphasizes safety and proper operation of tools and machines, speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality with team-building and work ethics.

MACHT 32420325 Machine Tool 4 4 Credits/Units

Expands on basic concepts and skills using engine lathes, power saws, drill presses, bench applications, CNC setup and operation. Emphasizes safety and proper operation of tools and machines, speeds feeds, cutting tools, tool geometry, tool grinding and work-holding devices. Stresses dimensional accuracy, finish and quality with team-building and work ethics.

MACHT 32420326 Machine Tool 5 4 Credits/Units

Skills and knowledge necessary for advanced setups and procedures on milling machines, grinders, and lathes. Introduces both tool and cutter grinding and the selection and use of carbide tooling. Special emphasis is given to Electrical Discharge Machine and electrode development. CNC machining applications to complete course projects is enhanced. Safety, precision measurement and craftsmanship are stressed.

MACHT 32420327 Machine Tool 6 5 Credits/Units

Provides the student with the skills and knowledge necessary for advanced setups and procedures on milling machines, grinders, and lathes. Students are also introduced both tool and cutter grinding and the selection and use of carbide tooling. Special emphasis is given to Electrical Discharge Machine and electrode development. CNC machining applications to complete course projects is also enhanced. Building a stamp die. Safety, precision measurement and craftsmanship are stressed.

MACHT 32420328 Machine Tool 7 4 Credits/Units

Set-up and operate a CNC EDM machine, CNC machining center, and select and use superabrasives for grinding and machining. Advanced machining setups, procedures, and operations will be covered to enable students to accomplish the machining projects. Safety, precision measurement, and craftsmanship are stressed.

MACHT 32420329 Machine Tool 8 5 Credits/Units

Set-up and operate a CNC EDM machining center, and select and use superabrasives for grinding and machining. Includes advances machining setups, procedures, and operations to accomplish the machining of a small MUD plastic injection mold or special machining project. Safety, precision measurement, and craftsmanship are stressed.

MACHT 32420330 Metal Processes 1 2 Credits/Units

This basic metalworking course is designed to provide the student with instruction in metalworking processes. Instructional units include safety, layout and measuring, machining, oxy-acetylene welding, brazing and cutting, arc welding and properties of metals.

MACHT 32420331 Metals Processes 2 2 Credits/Units

This study of metals provides instruction in sheetmetal work, soldering and brazing, forging and heat treatment, grinding, tool sharpening, metal casting, MIG and TIG welding, metal fabrication and the repair of metal objects.

MACHT 32420336 Manufacturing w/Solid Modeling 3D 2 Credits/Units

This course builds on the concepts learned in Manufacturing w Solid Modeling--2D. Learners will utilize Solid Modeling software and CAM software to create true 3D models with surfacing concepts. Students will gain competency in file management by saving, converting, and working with different file types. Learners will create geometry in each application and convert files between CAD and CAM. Students will apply various tool paths theories to the designs they have created. Such theories include Surfacing, High Speed Machining, Hard Milling/Turning, 2 and 4 Axis Wire, Live lathe tooling and 4 Axis milling

MACHT 32420337 Manufacturing w/Solid Modeling-2D 2 Credits/Units

This course offers instruction on individual computer workstations in a computer lab. This computer-aided drafting (CAD) instruction uses Solid Modeling software that is capable of creating 3D models and manufacturing drawings. In this course you will spend half of the time creating 3D models using 2 and 2.5D features while exploring the concepts of working in 3D space. Once the solid models are created students will import the solid models into CAM (Computer-aided manufacturing) software and utilize machining concepts to produce manufactured part using 2.5D programming methods such as pocketing, contouring & drilling for milling machines as well as turning, facing, grooving and threading for turning centers.

MACHT 32420346 Intro to CNC - G-code Programming 2 Credits/Units

Hands-on and lecture course exposing student to Computer Numerical Control (CNC). Emphasizes CNC vertical milling machines and CNC turning centers. Covers history, basic CNC understanding and beginning programming including G-codes, M-codes. Students will utilize simulation software that will verify manually written code.

MACHT 32420348 Applied CNC-Conversational and Setup 2 Credits/Units

This introductory Applications class familiarizes students with the basic setup procedures of CNC milling machines and CNC turning centers. They will set up rough stock and execute existing programs to produce finished parts. Once students learn these concepts they utilize the conversational programming software on the various CNC machines to program and produce parts.

MACHT 32420349 Basic Metrology (Part A) 1 Credits/Units
This course introduces the principles of basic dimensional measurement, layout techniques for machines, use of direct and indirect measuring tools as well as the use of length standards relative to calibration of measuring instruments and the basic operation of the Coordinate Measuring Machine.

MACHT 32420351 Elements of Basic Metrology 2 Credits/Units
This course introduces the principles of basic dimensional measurement, layout techniques for machines, use of direct and indirect measuring tools as well as the use of length standards relative to calibration of measuring instruments and the basic operation of the Coordinate Measuring Machine.

MACHT 32420370 Manufacturing w/Solid Modeling-Advanced 1 Credits/Units
This advanced course requires students to draw complex solid models utilizing CAD software. These Models will then be imported into CAM software to use advanced programming methods to produce high quality parts. Mill Programming will include 2D, 2.5D, 3D, 4-Axis and an introduction to 5 Axis and 3+2 techniques. Lathe programming will include advanced turning and live tooling.

MACHT 32420388 Tool and Fixture Design 1 Credits/Units
Introduces tool design and gauging. Emphasizes jigs, fixture design, clamping, locating devices and tooling and production methods. Presents preset and qualified tooling for NC/CNC as they relate to conventional practice.

MACHT 32420389 Applied CNC - Intermediate Operations 2 Credits/Units
This applications class builds on CNC concepts learned in previous classes. Emphasis is on CNC Turning Center, CNC Milling machine, and CNC Wire set up and operation. Students will produce parts that they have modeled and programmed in Manufacturing w/Solid Modeling 1 and 2 as well as instructor provided programs.

MACHT 32420390 Fundamentals of Metallurgy 2 Credits/Units
Introduces metallurgy, emphasizing applications, selection, identification methods and alloy influences. Studies metal properties using testing, micro-structure interpretation and heat-treatment processes. Covers tool steels, weld heat effects, failure analysis and machinability variations in cast iron, alloy steels and non-ferrous materials in detail.

MACHT 32420391 Applied CNC - Advanced Operations 1 Credits/Units
Our most advanced CNC applications course devoted to machining complex tool paths, including mold cavities and graphite electrodes. Stresses hands-on instruction and operation of CNC turning centers, vertical milling machines, machining centers.

MACHT 32420393 Job Orientation - Machine Tooling Technics Program 1 Credits/Units
Covers specific occupational information including personal data sheets, job interviews, resumes and recommendations. Guest speakers lecture on employment, management and industry trends.

MACHT 32420394 Tool Making Theory 1 2 Credits/Units
Lecture course supporting Machine Tool 5 & 6 lab activities. Major emphasis on the nomenclature, theory, construction features, design, and the technology of stamping and forming dies. Student also will spend time designing and planning a special die, mold or advanced CNC project.

MACHT 32420395 Tool Making Theory 2 2 Credits/Units
Lecture course supporting Machine Tool 7 & 8 lab activities. Major emphasis on nomenclature, theory, construction features, design and the technology of mold dies. The seven molding processes will be discussed. Students also will spend time designing and planning a special mold, tool, or CNC project.

MACHT 50420710 Safety for Machine Tool Trade Apprentices 0 Credits/Units
Examines safe work practices for machinists, tool and die makers and related trades. Apprentices will explore industrial safety standards; personal protective equipment; machine guards and protective devices; MSDS and chemical safety; electrical hazards, and more. Course relates 5S concepts to safe work practices and trade work processes.

MACHT 50420711 Mathematics for the Machine Trades 1 Credits/Units
Provides applied mathematics instruction from a review of basic arithmetic; basic algebra; applications, based on geometry; right triangle trigonometry, oblique angle trigonometry and compound angles. This course was formerly module 1 in related instruction.

MACHT 50420712 Communications for Apprentices Credits/Units
Introduces the apprentice to basic communication concepts relating to the workplace. It is designed specifically for the apprentice to acquire the necessary skills of giving instructions, writing a technical memo, and explaining a technical process. Throughout the course the apprentice will brainstorm, write, edit, revise, and use one-on-one communication delivery in a small group. The course combines lecture and hands-on activities utilizing information which the apprentice brings from the workplace.

MACHT 50420713 **Precision Measurement for Machine Tool Trade Apprentices** **1 Credits/Units**

Designed to acquaint the apprentice with the measurement systems and tools most frequently used in layout and machining processes. Learning outcomes relate to semi-precision through super-precision measuring tools and equipment combined with opportunities to investigate new technologies.

MACHT 50420714 **Engineering Drawings for Machine Tool Trades Apprentices** **1 Credits/Units**

Acquaints the apprentice with the interpretation of engineering prints and other technical and manufacturing documentation. The primary focus will be on that part of manufacturing most closely related to machining and tooling. Background information is provided relative to the process used to create and finish the product or piece part on the prints being studied. This course was formerly module 4 in related instruction.

MACHT 50420715 **Mechanical Hardware & Hand Tools for Machine Trades Apprentices** **1 Credits/Units**

Provides instruction for the apprentice in recognition, selection, and operation of mechanical hardware and hand tools. Apprentices are taught to use outside sources to select correct component or tool sizes, characteristics, and operating parameters. Apprentices will sharpen drills and single point cutting tools.

MACHT 50420716 **Turning Machines for Machine Trades Apprentices** **0 Credits/Units**

Acquaints the apprentice with the terminology, methods, and operations for turning machines used in the metal-working industry. Apprentices will learn to perform calculations needed to operate turning machines including speed and feed calculations. Apprentices will make calculations necessary to setup a turning machine for screw threads and taper operations.

MACHT 50420717 **Milling Machines for Machine Trades Apprentices** **0 Credits/Units**

Related instruction on the basic principles of vertical and horizontal milling machines for the machine tool apprentice. Instruction includes safety, basic parts and functions of the machines, work holding devices, tooling requirements, and feeds and speeds.

MACHT 50420718 **Drilling Machines for Machine Trades Apprentices** **0 Credits/Units**

Focuses on the terminology, construction, and operations of drilling machines in the metal-working industry. Be aware that in-depth information regarding cutting tools, hardware, and hand tools will be addressed in their own courses. Efforts should be made to reference information found in other courses in order to assist the apprentice in the application and assimilation of information.

MACHT 50420719 **Grinding Machines for Machine Trades Apprentices** **0 Credits/Units**

Focuses on the terminology, construction and operations of grinding machines in the metal-working industry. Be aware that in-depth information regarding cutting tools, hardware and hand tools will be addressed in their own courses. Efforts should be made to reference information found in other courses in order to assist the apprentice in the application and assimilation of information. This course instructs apprentices in the use of traditional grinding machines and the attachments and accessories frequently encountered in manufacturing operations that use common grinding processes.

MACHT 50420720 **Cut-Off Machines for Machine Trades Apprentices** **0 Credits/Units**

acquaint the apprentice with the basic types of
cutoff machines used in industry, cutoff machine applications,
cutoff machine tooling, and cutoff machine safety.

MACHT 50420721 **Metallurgy & Materials for Machine Trades** **1 Credits/Units**

Provides the opportunity for the apprentice to develop the knowledge, skills, process, and understanding of hardness testing, carbons and low alloy steel, tool steels, stainless steels, cast iron, aluminum and aluminum alloys, die cast alloys, copper and copper alloys, plastics, heat treating and nondestructive testing. This course was formerly module 11 in related instruction.

MACHT 50420723 **Electrical Discharge Machining for Machine Tool Trade Apprentices** **0 Credits/Units**

This course is designed to give the apprentice a basic understanding of the theory and process of sinker and wire EDM in toolmaking. This course uses the EDM Technical Manual distributed by POCO Graphite, Inc., which contains the most current information available in the industry. Competencies are designed for apprentices working in tool & die technologies using EDM.

MACHT 50420724 **CNC Programming and Planning for Machine Trades Apprentices** **1 Credits/Units**

Introduction to CNC programming for apprentices, with a focus on CNC turning and milling centers. Apprentices will create setup sheets, develop tool lists, calculate speeds and feeds, assign tool offsets and write CNC programs.

MACHT 50420725 **Basic CAD/CAM for Machine Trades Apprentices** **1 Credits/Units**

Designed to provide the apprentice with the concepts and techniques used in computer-aided design (CAD) and computer-aided manufacturing (CAM) as part of their related instruction.

MACHT 50420726 **Jig and Fixture Design for Machine Trades Apprentices** **0 Credits/Units**

Introduces the apprentice to the concepts of jig and fixture design as part of their apprenticeship related instruction. Topics include the basic elements of tool design, jig and fixture application, and the actual design of tooling.

MACHT 50420727 Geometric Design and Tolerancing for Machine Trades Apprentices 0 Credits/Units

Acquaints the apprentice with the skills to interpret the geometric dimensions and tolerances found on engineering drawings and in other industrial documents. Instruction concentrates on interpreting the symbols, identifying tolerance zones and determining ways to check parts for conformity to the specified geometric controls. Reference is made to ASME Y14.5M - 1994.

MACHT 50420728 Stamping Diemaking for Machine Tool Trade Apprentices 1 Credits/Units

Introduces the apprentice to the basics of stamping and diemaking. Topics include the basic terminology, blanking, piercing, bending and related basic operations. In addition learners will discover the basics of the theory and background knowledge related to stamping and die making. This course was designed for related instruction for tool and die, stamping die and mold makers.

MACHT 50420729 Mold Making for Machine Tool Trade Apprentices 1 Credits/Units

Introduces the apprentice to the basic mold making process, mold construction and components, and materials. The course provides related instruction for the tool and die, stamping die and mold makers apprenticeship programs.

MACHT 50420730 Stamping Design Applications for Machine Trades Apprentices 1 Credits/Units

This course provides the stamping die maker apprentice with the opportunity to design from part specifications two elementary stamping dies. This course provides related instruction for the tool and die, stamping die and mold makers apprenticeship.

MACHT 50420731 Molding Die Design Applications for Machine Tool Trade Apprentices 1 Credits/Units

Provides the Mold Maker apprentice with their final experience in the related instruction portion of their apprenticeship. The apprentice will design a cavity mold and a core and cavity mold using either manual drafting or computer software to complete these projects. This course provides related instruction for the tool and die, stamping die and mold makers apprenticeships.

MACHT 50420732 Machine Tool Apprenticeship Greening Competencies - SAGE Project 0 Credits/Units

Competencies were designed to be included in the related instruction for the machine tool trades apprenticeships. Competencies may be introduced in this course and then reinforced in other courses that make up related instruction. For example, competencies 1, 3, 4 and 9 could be reinforced in the safety courses, and competencies 2, 5, 6, 7, and 8 could be reinforced in the various machining courses.

MACHT 50420733 CNC Operations for Machine Tool Trades Apprentices 1 Credits/Units

Apprentices will examine CNC related operations and safety. Course competencies include classifying types of equipment, comparing CNC tooling, setup, and work holding operations. Additional CNC programming skill development is included in the course. CNC controls and communications are explored as well.

MASST 31509301 Medical Asst Admin Procedures 2 Credits/Units

Introduces medical assistant students to office management and business, business administration, and the electronic medical record (EMR) in the medical office. Students learn to schedule appointments, perform filing, record keeping, inventory of supplies, telephone and reception duties, as well as effective communication with patients and other medical office staff.

MASST 31509302 Human Body in Health & Disease 3 Credits/Units

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis and prevention of common diseases. Prerequisite or Corequisite: Medical Terminology, 10-501-101.

MASST 31509303 Medical Asst Lab Procedures 1 2 Credits/Units

Introduces medical assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform CLIA waived routine laboratory procedures commonly performed in the ambulatory care setting. Students follow laboratory safety requirementsand federal regulations while performing specimen collection and processing, microbiology and urinalysis testing.

MASST 31509304 Medical Asst Clin Procedures 1 4 Credits/Units

Introduces medical assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills including screening, vital signs, patient history, minor surgery and patient preparation for routine and speciality exams in the ambulatory setting.

MASST 31509305 Med Asst Lab Procedures 2 2 Credits/Units

Prepares students to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phletomony, immunology, hematology and chemistry laboratory procedures. Prerequisite: All first semester courses. Corequisite: Medical Assistant Clinical Procedures 2, 31-509-306 and Medical Assistant Practicum, 31-509-310.

MASST 31509306 Med Asst Clin Procedures 2 3 Credits/Units
Prepares students to perform EKG, spirometry, and administer medications including topical, oral, and injectable. Must have completed all first semester courses.

MASST 31509307 Medical Office Insurance & Finance 2 Credits/Units
Introduces medical assistant studies to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines and complete insurance claim forms. Students used medical coding and managed care terminology to perform insurance-related duties. Prerequisites: Medical Terminology, 10-501-101; Human Body in Health & Disease; 31-509-302; and computer courses.

MASST 31509309 Medical Law, Ethics and Professionalism 2 Credits/Units
Prepares students to display professionalism and perform within ethical and legal boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, examine legal and bioethical issues, and demonstrate awareness of diversity. Prerequisites or Corequisites: 10-501-101 and 31-509-302.

MASST 31509310 Medical Assistant Practicum 3 Credits/Units
Requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual ambulatory health care settings. Learners perform medical assistant administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. This is a supervised, unpaid, clinical experience. Prerequisites: Medical Assistant Lab Procedures 1, 31-509-303; Medical Assistant Clinical Procedures 1, 31-509-304; corequisites: Medical Assistant Lab Procedures 2, 31-509-305; Medical Assistant Clinical Procedures 2, 31-509-306.

MATH 10804107 College Mathematics 3 Credits/Units
This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

MATH 10804113 College Technical Math 1A 3 Credits/Units
Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; and operations in polynomials. Emphasis will be on the application of skills to technical problems.

MATH 10804114 College Technical Math 1B 2 Credits/Units
Topics include: computational geometry; right and oblique triangle trigonometry; and trigonometric functions on the unit circle. Emphasis will be on the application of skills to technical problems.

MATH 10804115 College Technical Math 1 5 Credits/Units
Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right ans oblique triangle trigonometry; trigonometric functions on the unit circle; and operations in polynomials. Emphasis will be on the application of skills to technical problems.

MATH 10804116 College Technical Math 2 4 Credits/Units
Topics in College Technical Mathematics 2 include: vectors; trigonometric functions and their graphs; identities; exponential and logarithmic functions and equations; radical equations; equations with rational exponents; equations of a circle; velocity; sine and cosine graphs; complex numbers in polar and rectangular form; trigonometric equations; conic sections; and analysis of statistical data. Emphasis will be on the application of skills to technical problems.

MATH 10804123 Math with Business Applications 3 Credits/Units
This course integrates algebraic concepts, proportions, percents, simple interest, compound interest, annuities, and basic statistics with business/consumer scenarios. It also applies math concepts to the purchasing/buying and selling processes.

MATH 10804134 Mathematical Reasoning 3 Credits/Units

All college students, regardless of their college major, need to be able to make reasonable decisions about fiscal, environmental, and health issues that require quantitative reasoning skills. A collaborative, activity-based approach is used in this course to explore numerical relationships, graphs, proportional relationships, algebraic reasoning, and problem solving using linear, exponential and other mathematical models. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course is not designed for Science, Engineering, or Math students and/or others who require calculus. This course may be used as the prerequisite for Quantitative Reasoning, Principles of Geometry, General Chemistry, and/or Survey of Physics.

MATH 10804144 **Math of Finance** **3 Credits/Units**

This course takes an algebraic approach to solving financial problems. Topics include personal finance and retirement, mathematics of retailing, mathematics of banking and lending, and statistical applications. Major emphasis is placed on solving problems involving the time value of money by using a financial calculator. The material in this course develops a sound base for subsequent courses by using an analytical approach to problem solving.

MATH 20804200 **Principles Of Geometry** **3 Credits/Units**

This is an introductory college level course that provides a foundation in geometry necessary for the study of analytic geometry, trigonometry, or calculus. The class covers the facts of geometry, cultivates geometric intuition, and fosters the practice of deductive reasoning.

MATH 20804201 **Intermediate Algebra** **4 Credits/Units**

Intermediate Algebra studies the construction and resulting properties of the real number system. Students simplify and factor algebraic expressions using fundamental laws and order of operations, solve first and second degree equations and inequalities in one variable, solve exponential and logarithmic equations, graph first degree and second degree equations and inequalities in two variables, solve 2x2 and 3x3 systems of equations, simplify and solve equations involving rational expressions, and simplify and solve equations involving fractional exponents and radicals. Students are introduced to linear, quadratic, square root, absolute value, exponential, and logarithmic functions. The basic definitions of functions, relations, one-to-one functions, and inverses are discussed along with the algebra and composition of functions.

MATH 20804202 **Intermediate Algebra Part 1** **3 Credits/Units**

Understand the structure of the real numbers (their construction, operations and properties); solve first degree (linear) equations and inequalities in one variable; graph first degree equations and inequalities in two variables; be introduced to the concept of the function and the use of functional notation; solve systems of equations in a two-dimensional Cartesian plane; perform algebraic operations on polynomials; factor algebraic expressions; solve polynomial equations by factoring and solve applications problems that relate to all of the above. Transferability: by itself this course does not transfer; however, upon successful completion of this course and 20-804-203, Intermediate Algebra 2, four credit hours of Intermediate Algebra are available for transfer.

MATH 20804203 **Intermediate Algebra Part 2** **3 Credits/Units**

This course is a continuation of Intermediate Algebra 1, 20-804-202. Students expand their understanding of the structure of the real numbers (their construction, operations and properties); perform algebraic operations on rational and radical expressions; solve rational and radical equations; solve inequalities; solve absolute value equalities and inequalities; solve systems of three equations in three variables using the methods of substitution, addition (elimination), matrices and determinants; study complex numbers (their construction, operations and properties); solve second degree equations and inequalities in one variable; graph quadratic equations; solve exponential and logarithmic equations; understand and use functional notation and the arithmetic of functions; and solve application problems relative to the above topics. Transferability: upon successful completion of this course and 20-804-202, Intermediate Algebra 1, four credit hours of Intermediate Algebra are available for transfer.

MATH 20804210 **Math for Elementary Teachers** **3 Credits/Units**

This course will challenge students to think mathematically rather than mastering any particular mathematical facts. The focus is more on how you learn rather than on what you learn. This course is an introduction to problem solving and mathematical thinking. The focus of this course is on the process of mathematics rather than specific techniques or content. Students will engage in mathematical problem solving in a variety of contexts and learn a number of ways of approaching new problems which are broadly applicable.

MATH 20804211 **Quantitative Reasoning** **3 Credits/Units**

This course is intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered may include: construction and interpretation of graphs; descriptive statistics; geometry and spatial visualizations; math of finance; functions and modeling; probability; and logic. Appropriate use of units and dimensions, estimates, mathematical notation and available technology will be emphasized throughout the course. Note: This course satisfies Part A of the Quantitative Reasoning requirement for the UW system and is intended for students who do not plan to take any further mathematics.

MATH 20804212 **College Algebra** **3 Credits/Units**

College Algebra includes fundamental topics covered in Intermediate Algebra with a more careful look at the mathematical details and a greater emphasis on the concept of function. It covers quadratic, polynomial, rational, exponential and logarithmic functions, equations and inequalities; the use of matrices and determinants in solving linear systems of equations, solving non-linear systems; sequences and series.

MATH 20804213 Trigonometry 3 Credits/Units
Trigonometry includes study of the six trigonometric functions and their inverse functions; solve right and oblique triangles; know and apply basic identities and simplify trigonometric expressions using identities; solve trigonometric equations; graphing trigonometric functions; understand and apply De Moivre's theorem and the nth-root theorem; understand and use complex numbers and polar coordinates; solve application problems that rely on trigonometry.

MATH 20804214 Math for Elementary Teachers 2 3 Credits/Units
A second course in mathematics needed for teaching K-8. Emphasis will be on the student communication how and why standard and alternative algorithms work. Content will focus on problem solving strategies and word problems involving geometry, measurement, algebra, statistics, and probability. The courses in this sequence can be taken in any order.

MATH 20804215 Computer Science 1 3 Credits/Units
This course is intended for students with no programming experience. Topics include basic object construction, the compiling process, general formatting requirements, primitive types, assignments, expressions, logic constructs with if blocks, loops, methods, primitive arrays, arrays of objects, text input and output, a binary search algorithm, and testing and debugging.

MATH 20804216 Computer Science 2 3 Credits/Units
Topics covered include: inheritance, polymorphism, abstract classes, interfaces, exceptions, generics, singly-linked lists, stacks and queues via linked-lists, recursion, algorithm complexity, binary search, selection sort, insertion sort, quicksort, merge sort, binary search tree (BST) insertions, deletions, removals, in-order transversal, and heaps.

MATH 20804217 Introduction to Programming in Python 3 Credits/Units
This course is an introduction to computer programming in Python, with application to data analysis. It introduces computational thinking and computer programming using the Python language, along with the treatment, processing and visual communication of data. The analysis and presentation of real datasets are emphasized. No previous programming experience needed.

MATH 20804220 Finite Math 3 Credits/Units
Finite Mathematics provides the necessary mathematical preparation for the understanding of various quantitative methods in modern management theory and the social sciences. The topics included are: sets, relations, linear functions, matrix theory, the solutions of linear systems by graphical, algebraic, Gauss-Jordan, and inverse matrix methods, linear programming by graphical and simplex methods, the mathematics of finance, counting and probability, game theory, decision theory, and other related topics.

MATH 20804221 Calculus Methods for Business and Social Sciences I 5 Credits/Units
Calculus Methods for Business and Social Sciences I is an introduction to calculus and related topics designed primarily for pre-business and social science students. The course covers the essential concepts of differential and integral calculus for one and several variables. The topics to be covered are functions, derivatives and their applications, exponential and logarithm functions, integration and its applications, integration techniques, calculus of several variables, and differential equations.

MATH 20804223 Calculus Methods for Business and Social Sciences II 3 Credits/Units
Calculus Methods for Business and Social Sciences II is a sequel to Calculus Methods for Business and Social Sciences I, 20-804-221, and is designed primarily for pre-business and social sciences students who need to develop more mathematical techniques than are covered in 20-804-221. The course will include a review of the techniques of single-variable calculus and business applications; expansion of the topics from multivariable calculus; Taylor approximations, polynomials, and series; first-order differential equations and two dimensional systems of differential equations; and difference equations with models from and applications in business and the social sciences.

MATH 20804228 Calculus w Algebra & Trigonometry 1 5 Credits/Units
Designed for students of mathematics, science, and engineering who need some extra knowledge in precalculus and need a first semester calculus course. The course includes a review of the algebraic topics of absolute values, polynomials, factoring, quadratic equations, exponents and radicals, and simplification of algebraic expressions. It includes a review of the trigonometric topics of radian measure, trigonometric functions and their graphs, and trigonometric identities. The calculus topics covered include an introduction to the basic properties of limits, rate of change of functions, continuity, derivatives of algebraic and trigonometric functions, their products quotients and compositions, curve sketching, determining maxima and minima, and related rate problems.

MATH 20804229 Math Analysis 5 Credits/Units
Mathematical Analysis is an integrated treatment of topics from college algebra and trigonometry lays a sound foundation for higher courses in mathematics. This course includes linear and quadratic functions, other polynomial functions, rational functions, radical functions, exponential and logarithmic functions, the trigonometric functions, and some analytic geometry in the plane.

MATH 20804230 Calculus w Algebra & Trigonometry II 5 Credits/Units

This course continues the work begun in Calculus with Algebra and Trigonometry I. It is intended for students who need both extra knowledge of pre-calculus and also a first semester calculus course. The topics covered include exponential and logarithmic functions and their derivatives, inverse trigonometric functions and their derivatives, applications of derivatives, conic sections, and integration and its applications. This course, when preceded by its companion, Calculus with Algebra and Trigonometry I, is equivalent to taking both 804-229, Math Analysis and 804231, Calculus and Analytic Geometry I.

MATH 20804231 Calculus and Analytic Geometry 1 5 Credits/Units

Calculus 1 is designed for students of mathematics, science, and engineering. This is an introduction to the basic properties of limits, rate of change of functions, continuity, derivatives of algebraic and elementary transcendental functions, their products quotients and compositions, curve sketching, finding maxima and minima, and indefinite and definite integration with applications.

MATH 20804232 Calculus and Analytic Geometry 2 5 Credits/Units

Calculus and Analytic Geometry 2 is designed for students of mathematics, science, and engineering. Topics covered include the techniques of integration, numerical approximation of definite integrals, applications of integration and an introduction to first order differential equations, analysis of infinite sequences and series, parametric equations and derivatives of parametric curves, polar coordinates in the plane and integrals using polar coordinates, the analytic geometry of the conic sections, an introduction to vectors in two and three dimensions, scalar and vector cross products, graphs of quadratic surfaces.

MATH 20804233 Calculus 3 5 Credits/Units

Calculus 3 is designed for students of mathematics, science, and engineering. Topics covered include differentiation of vectors, space curves and curvature, functions of more than one variable, level curves and level surfaces, limits and continuity, partial derivatives, total differential, tangent planes, the gradient operator, the directional derivative, multivariable forms of the chain rule, locating maxima, minima, and saddle points, the method of Lagrange multipliers, multiple integrals in rectangular, polar, cylindrical and spherical coordinates, transformations of multiple integrals and the Jacobian, surface area, applications of multiple integrals to geometry and mechanics, line integrals in two and three dimensions, vector fields, circulation and flux in two dimensions, Green's Theorem, the curl and divergence operators, surfaces and surface area defined parametrically, Gauss' and Stokes' Theorems, applications of vector calculus to geometry, mechanical work, fluid mechanics and electromagnetic fields, an introduction to the theory and solution of first and second order ordinary differential equations.

MATH 20804240 Basic Statistics 4 Credits/Units

In Basic Statistics appropriate statistical techniques are studied for the systematic collection, presentation, analysis and interpretation of experimental results, including surveys and quality control. The focus is on understanding the techniques of statistical inference (confidence intervals and hypothesis testing) and interpreting results as found in articles and reports. It emphasizes the inherent uncertainty when decisions are made on the basis of sample data. Includes descriptive statistics, basic probability theory, sampling distributions and the Central Limit Theorem; the binomial, normal, Student t, chi-square, and F distributions; and techniques of 1- and 2-sample tests, linear regression, correlation, an introduction to analysis of variance and selected nonparametric procedures.

MATH 20804241 Introduction to Engineering Statistics 3 Credits/Units

This is an introductory course with many examples and applications chosen from the engineering disciplines and physical science. The course covers techniques for the collection, presentation, analysis and interpretation of experimental results and develops procedures to deal with the uncertainty present in making inferences and decisions based on sample data. Topics covered include descriptive statistics; probability concepts, random variables and discrete probability distributions; continuous probability and sampling distributions, the Central Limit Theorem; hypothesis tests and confidence intervals for one- and two-sample problems; one-way analysis of variance and basic ideas in experimental design; linear regression, model checking, and inference.

MATH 20804255 Techniques in Ordinary Differential Equations 3 Credits/Units

This course presents techniques for solving and approximating solutions to ordinary differential equations. Topics will include solving first order differential equations, solving second-and higher-order linear differential equations, Laplace and Fourier transforms, systems of first order linear differential equations, numerical methods, and Sturm-Liouville Theory.

MATH 20804256 Elementary Matrix and Linear Algebra 3 Credits/Units

This course covers the principles of linear algebra and the theory of matrices with an emphasis in understanding the fundamental concepts and being able to perform calculations. An introduction to formal, logically sound proofs of important theorems is also integrated into the course.

MATH 20804265 Introduction to Discrete Mathematics 3 Credits/Units

Introduces students to discrete mathematical techniques and structures, such as logic, integers, recursion, sets, counting, probability, graphs, trees, and algorithms. The course also develops students' ability to think mathematically and write proofs. Many applications are drawn from computer science, and the course prepares computer science students for future study. The course is also suitable for majors in mathematics, math education, and engineering, as well as anyone interested in the beauty of numbers, patterns, and logical reasoning.

MATH 31804379 Vocational Math 1 1 Credits/Units

Vocational Mathematics 1 is a review of basic mathematics that consists of an introduction to using a scientific calculator, order of operations, fractions, decimals, use of percentage, units of measurement including the metric system, the reading of analog instruments for length measurement, and practical plane geometry.

MATH 31804381 Machine Tool Math 1 2 Credits/Units

Open only for Machine Tool and Industrial Maintenance students. This course includes the study of machine tool problems involving calculations with fractions, decimals, and percentage. Includes work with the metric system, measurement conversion, geometry, trigonometry of right triangles, and use of a scientific calculator. Formulas with application to the trade are also studied.

MATH 31804382 Machine Tool Math 2 1 Credits/Units

This is a continuation of Machine Tool Math 1. Consists of advanced machine tool problems whose solutions involve right and oblique triangles. Compound angles and numerical control calculations are also studied.

MECTEC 10606100 Engineering Technology Communications 3 Credits/Units

Develops skills in creating engineering sketches through the application of drafting standards and procedures. Principles covered include view selection, orthographic projection, section and auxiliary views, and their utilization in working drawings. The need for engineering sketching is reinforced through a hands-on project requiring measurement, inspection and sketching of orthographic views. In addition, materials, fabrication and assembly methods related to the project will also be explored.

MECTEC 10606101 Engineering Technology Fundamentals 2 Credits/Units

Introduces the student to the knowledge and skills required to function in today's engineering office environment. Engineering office format, procedures, standards, ethics and application level of engineering office related software is introduced. Students explore the engineering design process and participate in various problem solving and conflict resolution techniques. Career paths available to the Mechanical Design graduate will also be explored. Students utilize Net Meeting, video conferencing and Internet shared data.

MECTEC 10606104 Engineering Technology Practices 3 Credits/Units

Focuses on the creation of complete sets of engineering detail and assembly drawings including the accompanying engineering documentation, bill of materials and the application of geometric dimensioning and tolerancing standards. Emphasis is placed on product design analysis, the engineering change process, product data management and an introduction to stress analysis and rapid prototyping. Other areas of study include: threaded fasteners, non-threaded fasteners, springs and gears. Prerequisite: 10-606-140.

MECTEC 10606112 Tool Design Technology 3 Credits/Units

The fundamentals of tool design are presented to acquaint the student with the language and methods used in designing jigs and fixtures. Through the research and selection of standard tooling components, working tool design drawings are completed. Also explored are common plastic part design and tooling considerations through actual design problems. Prerequisite: 10-606-104.

MECTEC 10606116 Machine Design 3 Credits/Units

The principles of statics and strength of materials are reviewed and applied to the design of machine elements in this course. Topic areas studied include calculations, labs, and software to revolving around properly selecting machine components for force-work-power, stress, repeated loading, fasteners, springs, belts, chains, gears, bearings, keys and couplings. In addition, machine design principles will be studied and applied through software applications (SolidWorks) and hands-on labs in the mechanical systems training lab (Lab Volt Lab).
Prerequisite: 10-606-170.

MECTEC 10606120 2-D CAD (Computer Aided Drafting) 1 Credits/Units

Introduces the basic capabilities of the current version of 2D CAD software as it applies to mechanical design. Emphasis is placed on basic commands and input required for their application in creating two-dimensional mechanical working drawings. Corequisites: 10-606-100 and 10-606-130.

MECTEC 10606125 Plastics for Mechanical Design 3 Credits/Units

This course is an introduction to the main plastics processing industries, techniques, and commonly used polymers. Plastic processing principles will be studied and applied through learning activities designed for hands-on classroom manufacturing processing training centers. In addition, students will be provided with relevant information that will enable them to investigate the career possibilities in the plastics industry.

MECTEC 10606130 SolidWorks 1 1 Credits/Units

Introduces the students to the concepts and commands of parametric solid modeling. Students create sketches and add relationships to the sketch segments, extrude the sketches to create models, and add features such as fillets, cut extrude, chamfers, holes, draft, shell, lofts and sweeps. Emphasis is placed on the design intent of the parametric solid models.

MECTEC 10606131 SolidWorks 2 2 Credits/Units

This is the second course in the study of parametric solid modeling using SolidWorks as it applies to the mechanical design field. Students extract 2D documentation from the 3D models and add details to the drawings. Advanced software applications are explored including assembly modeling techniques, configurations, detail drawing generation, surfaces, multibody parts, additional work with sweeps and lofts, and preparation for the CSWA exam.

MECTEC 10606132 SolidWorks 3 2 Credits/Units

Students are introduced to advanced modeling and design techniques for part design in sheet metal, weldments, and mold design. An introduction to the PDM interface for product data management will also be explored through collaborative drawing applications.

MECTEC 10606140 Dimensioning Practices 1 Credits/Units

Mechanical Drafting dimensioning fundamentals are developed including conventional tolerancing practices using basic hole and shaft tolerancing methods. Standard dimensioning practices are applied on mechanical drawings in accordance with the current ASME Y14.5M standard.

MECTEC 10606141 Geometric Dimensioning & Tolerancing 1 Credits/Units

Students are introduced to the engineering practices of geometric dimensioning and tolerancing, including an introduction to the symbols and terms, datums, material condition and boundary condition, and the commom tolerances used in accordance to the current ASME Y14.5 standard. Application on mechanical drawings will be used to document the GDT requirements for a given part, then inspected in the quality lab using a CMM.

MECTEC 10606150 Rapid Prototyping 2 Credits/Units

?Students are introduced to rapid prototyping methods and the operation of various types of rapid prototyping equipment, available in the Mechanical Design Technology program's rapid prototyping center. Research and the use 3D printers including FDM, PolyJet, SLA, Composite printing technologies, and related material usage, will be explored through hands-on lab activities to develop a working prototype. Students will also be introduced to a reverse engineering scanner system and software, used for reverse engineering applications in the SolidWorks 3D modeling environment.

MECTEC 10606155 Statics And Mechanics 3 Credits/Units

Introduces students to the basics of statics. Learners study and analyze forces and loading conditions applied to structures and mechanical devices. Areas of study include resultant and equilibrant of forces, moments, nonconcurrent-coplanar forces (trusses), concurrent-noncoplanar forces and static friction. Related engineering analysis software will be utilized throughout the course. Prerequisite: 10-804-114. Corequisite: 10-804-116.

MECTEC 10606160 Fundamentals of Manufacturing/Engineering Materials 2 Credits/Units

An introduction to the engineering materials and their properties used in industry. Material testing methods and their relevance to design applications are studied through various lab activities. In addition, this course begins the examination of various contemporary manufacturing processes used in industry today.

MECTEC 10606161 Manufacturing Processes 2 Credits/Units

Introduces students to computer aided design and manufacturing concepts through an integrated material removal project. Upon completing the project, students will use various measurement and inspection equipment to verify part conformance to engineering specifications. Prerequisite: 10-606-130 and 10-606-160.

MECTEC 10606163 Engineering Technology Project Management 2 Credits/Units

An introduction to Project Management and the Product Development Process, as they relate to the Mechanical Design Technology field. In this course, students will prepare a team Design Project Plan (DPP) for a future design project to be developed in the 10606186 Engineering Technology Applications course. Prior to the completion of the DPP, students will learn about interpersonal and leadership skills in team environments, as well as elements of the design process and project management including scope, time, cost, and quality of the design project.Note: Engineering Technology Applications, 10606186, should be taken the following semester.

MECTEC 10606164 Quality Systems 2 Credits/Units

This course is an introduction to the foundational building blocks necessary for effective understanding and application of quality principles used today. The fundamentals of quality, measurement for quality, and statistics for quality will be explored as they relate to productivity, specifications, and inspections of processes. In addition, process capability and design of experiments is also explored. Prerequisite: Dimensioning/GDT, 10-606-140.

MECTEC 10606170 Strength Of Materials 3 Credits/Units

An analysis of the principles of strength of materials as they apply to various fasteners, welded joints, beams and shafts through practical design and analysis problems. Topics covered include simple stresses, mechanical properties of materials, center of gravity, moment of inertia, shear force and bending diagrams and beam design. Related engineering analysis software is utilized throughout the course. Prerequisite: 10-606-155.

MECTEC 10606186 Engineering Technology Applications 3 Credits/Units

A comprehensive application of the Mechanical Design Technology program, in which student teams will implement the design project plan previously developed in the Manufacturing Analysis course. Implementation of the design project plan will be carried out through a 3-step concurrent engineering design process: Ideation, Refinement, and Implementation. A final presentation of the design project will be presented in a formal design project notebook, as well as through a formal team design project presentation. Pre-requisite: 10-606-163.

MECTEC 10606188 Mechanical Design Technology Field Study Experience 1 Credits/Units
MDT students will be placed in a local engineering office environment, where technical skills learned throughout the MDT program will be observed and practiced in collaboration with the participating company. Students will document the time spent at the company, while being mentored by participating engineering personnel and MDT faculty. In addition, soft skills required to satisfactorily work on the job will be emphasized.

MECTEC 10606193 Career Development - Mechanical Design Program 1 Credits/Units
Acquaints students with the process and the development of a plan for securing employment in the mechanical design field. Includes letters of introduction, resume design, personal data sheets, portfolio design and job interview techniques. Presentations by industry professionals in the areas of human resources, management, design and job placement will overview the industry perspective and requirements for employment in the career of mechanical design. Prerequisite: third-semester standing.

MECTEC 10606200 Interpreting Engineering Drawings 2 Credits/Units
Focuses on the basic principles of engineering drawings and manufacturing processes. Through interpretation and sketching, students learn to visualize the part, section or assembly views. Students study isometric and orthographic views on a drawing. The student will also use drawings pertinent to the trades with examples in GD&T, welding, facilities, piping, sheet metal, equipment manuals, electrical symbols, and fluid power symbols.

MECTEC 10606201 Interpreting Engineering Drawings Part A 1 Credits/Units
Basic principles of engineering drawings and manufacturing procedures. Through interpretation and sketching, students learn to visualize the part, section or assembly. Uses drawings pertinent to the trades with examples in Welding, Facilities, Piping and Instrumentation (P & ID's), Sheet Metal, Equipment Manuals (technical documents, installation/repair manuals), Electrical Symbols, and Fluid Power Symbols.

MECTEC 10606202 Computer-Assisted Design-2D 2 Credits/Units
Learn to visualize, sketch and create 2D drawings in a wide variety of disciplines using AutoCad. The course will introduce the creation and revision drawings pertinent to the trades with examples in Welding, Facilities, Piping and Instrumentation (P & ID's), Sheet Metal, Equipment Manuals (technical documents, installation/repair manuals), Electrical, and Fluid Power Facilities and Mechanical Drawings.

MECTEC 10606204 Computer-Assisted Design-3D 2 Credits/Units
Introductory study of working with simple 3D sketches and partly, creation. Strong emphasis on working with existing assemblies, and understanding component relationships. Students will work with OEM component 3D models and manipulating them into assemblies. Students will gain an understanding of drawing sets, and bill of materials.

MEDADMIN 10160165 Medical Administrative Procedures 3 Credits/Units
Learn administrative skills and techniques for efficient and effective function within the electronic medical office environment. Through the use of an electronic practice management platform, practical application workflow activities include patient demographics, appointment scheduling, healthcare documentation and template use, patient billing and reimbursement, insurance claims and payments, patient statements, and financial and clinical reports. Other topics include telephone procedures, introduction to diagnostic and procedural coding, diversity in healthcare, effective business meetings, travel arrangements and itineraries, and qualities of a successful healthcare professional.

MEDADMIN 10160166 Healthcare Documentation Techniques and Procedures 3 Credits/Units
Learn guidelines for accurate electronic health record documentation. Applying the Association for Healthcare Documentation Integrity standards, mastery of medical documentation rules for capitalization, measurement and quantitation, abbreviations, grammar and punctuation, reference materials, plurals and possessives, correspondence formats, and an exploration of specialty standards with an emphasis on quality healthcare documentation.

MEDADMIN 10160177 Specialized Insurance Claims 3 Credits/Units
Identifies in-depth insurance knowledge following the healthcare revenue cycle. Explore healthcare law. Investigate private payers, Medicare, Medicaid, TRICARE, CHAMPVA, worker's compensation, and disability insurance. Knowledge of deductibles, coinsurance, copayments, exclusions, medical necessity, referrals, prior authorization, coordination of benefits, COBRA, Charity Care, collections, pre-existing periods, allowed amounts, malpractice, outpatient benefits, and lifetime maximums. Intermediate diagnostic, procedural, and HCPCS coding. Claims reimbursement methods, contractual allowances, fee schedules, and other rules to facilitate timely payment of claims.

MEDADMIN 10160178 Medical Language for the Business Professional 1 3 Credits/Units

Designed to give the beginning medical business student a working knowledge of medical language and pharmacology. Explore how medical terms are formed, become familiar with the meaning of word roots, prefixes, and suffixes, and spell, define, and pronounce medical terms through understanding word components in a contextual format. Exhibit mastery in the use of medical dictionaries and reference materials and demonstrate medical language documentation and communication skills. Fundamentals are discussed in relationship to health practices by body system and by the body as a whole and includes the study of pathology, diagnostic tools, therapeutic procedures, and medical imaging. A focus on medical specialty pharmacology is also incorporated into each unit of study.

MEDADMIN 10160179 Medical Language for the Business Professional 2 3 Credits/Units

Builds upon Medical Language for the Business Professional 1 and designed to advance the medical business student's working medical language. Explore medical terms, become familiar with the meaning of word roots, prefixes, and suffixes, and spell, define, and pronounce medical terms through understanding word components in a contextual format. Exhibit mastery in the use of medical dictionaries and reference materials and demonstrate medical language documentation and communication skills. Fundamentals are discussed as they relate to evaluation of health practices by body system and by the body as a whole and includes the study of pathology, diagnostic tools, therapeutic procedures, and medical imaging. A focus on medical specialty pharmacology is also incorporated into each unit of study.

MEDADMIN 10160191 Introduction to Healthcare Documentation 2 Credits/Units

An introduction to practical application healthcare documentation practices. Develop a working knowledge of specialized medical report formats, speech recognition editing skills, and beginning medical transcription technical skills. Build upon medical and pharmacology knowledge, healthcare documentation techniques, proofreading, editing, and research skills, with a focus on efficient and accurate healthcare documentation.?

MEDADMIN 10160199 Internship - Medical Administrative Specialist 1 Credits/Units

Students complete a 72-hour internship in a medical office setting supervised by a cooperating employer. Students will correspond withthe Instructor via video conferencing and written reports. Must be in the last semester before graduation.

MEDREC 10530159 Healthcare Revenue Management 3 Credits/Units

Prepares learners to compare and contrast health care payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign payment classifications with entry-level proficiency using computerized encoding and grouping software.

MEDREC 10530162 Foundations of HIM 3 Credits/Units

Introduces learners to the healthcare delivery system, and the external forces that influence healthcare delivery. Sets an understanding for the expectations and standards related to professional ethics, confidentiality and security of health information. Differentiates the use and structure of healthcare data elements, data standards, and the relationships between them. Prepares learners to collect and maintain health data to ensure a complete and accurate health record.

MEDREC 10530168 Advanced ICD Coding 3 Credits/Units

Requires the student to apply and expand the knowledge gained from the basic courses, ICD Diagnosis Coding & ICD Procedure Coding, to more difficult cases. The student will develop critical-thinking skills by using current references to research coding questions and issues. Computerized encoding software is utilized.

MEDREC 10530182 Human Disease for Health Professions 3 Credits/Units

Prepares learners to interpret clinical documentation that they will encounter in a variety of healthcare settings. Emphasis is placed on understanding the common disorders and diseases of each body system to include the etiology (cause), signs and symptoms, diagnostic tests and results, and medical treatments and surgical procedures.

MEDREC 10530184 CPT Coding 3 Credits/Units

Prepares students to assign CPT codes, supported by medical documentation with entry-level proficiency. Students apply CPT instructional notations, conventions, rules and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation.

MEDREC 10530187 Advanced CPT Coding 3 Credits/Units

Requires the student to apply and expand the knowledge gained from the basic course, CPT Coding, to more difficult cases. The student will develop critical-thinking skills by using current references to research coding questions and issues. Computerized encoding software is utilized.

MEDREC 10530188 Certification & Professional Development 2 Credits/Units

This course prepares students for coding certification and includes mock coding certification exams. Students participate in professional development activities and discuss career progression opportunities.

MEDREC 10530189 Management of Coding Services 1 Credits/Units

This course focuses on common coding management issues including coding quality, coding productivity, and workflow processes. Recruitment, training, and retention of coding staff is included.

MEDREC 10530197 ICD Diagnosis Coding 3 Credits/Units
Prepares students to assign ICD diagnosis codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigned ICD procedures codes to case studies and actual medical record documentation.

MEDREC 10530199 ICD Procedure Coding 2 Credits/Units
Prepares students to assign ICD procedure codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules and official coding guidelines when assigned ICD procedure codes to case studies and actual medical record documentation.

MILLWRGT 50423710 Math and Physics for MMMP Trades (C1) 1 Credits/Units
This course examines math and physics concepts as they relate to millwrights and machine maintenance. Apprentices will develop skills related to converting fractions to decimals; using both standard and metric systems; applying basic algebra to solving problems; computing area, volume, mass, and torque; using basic trigonometry; and using math charts, tables and references in support of common work processes.

MILLWRGT 50423711 Print Reading for MMMP Trades (C-2) 1 Credits/Units
This course explores reading prints commonly used by millwrights and machine maintenance workers. Course competencies include comparing the types of prints, interpreting structural drawings, identifying parts from prints, and develops apprentice sketching drawing skills.

MILLWRGT 50423712 Fasteners for MMMP Trades (C-3) 0 Credits/Units
Course provides apprentices with a chance to compare fasteners and their uses, analyze fastener failures, and install mechanical fasteners.

MILLWRGT 50423713 Precision Measurements for MMMP Trades (C-4) 0 Credits/Units
This course develops apprentice skills in precision measurement. Types of measuring instruments will be compared and then measuring skills using tapes, steel rules, micrometers, calipers, indicators, and gauges will be developed.

MILLWRGT 50423714 Rigging for MMMP Trades (C-5) 1 Credits/Units
Apprentices will compare types of rigging equipment and their uses; determine safe loads, rig and crib loads, and move a load with cranes and hoists in this course.

MILLWRGT 50423715 Welding for MMMP Trades (C-6) 0 Credits/Units
Course compares common welding processes and develops apprentice skills related to welding, cutting, heating and using oxy-gas. Welding with arc, MIG and TIG is included, along with common cutting and joining techniques.

MILLWRGT 50423716 Metallurgy for MMMP Trades (C-7) 0 Credits/Units
This course develops apprentice skills regarding metallurgical concepts. Apprentices will compare various metals and their applications, apply metallurgical techniques to work processes, test metals for hardness, and examine heat treating applications.

MILLWRGT 50423717 Hydraulics for MMMP Trades (C-8) 0 Credits/Units
This course provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting hydraulic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with hydraulic systems and components.

MILLWRGT 50423718 Pneumatics & Compressed Air for MMMP Trades (C-9) 0 Credits/Units
This course provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting pneumatic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with pneumatic systems and components.

MILLWRGT 50423719 Vacuum Systems for MMMP Trades (C-10) 0 Credits/Units
Course introduces principles of vacuum systems and interpreting vacuum system schematics. Apprentices will then develop skills related to installing, repairing, replacing and applying troubleshooting principles to vacuum systems and components. Course examines preventative maintenance techniques commonly used on the job.

MILLWRGT 50423720 Pipefitting and Valves for MMMP Trades (C-11) 0 Credits/Units
Course introduces apprentices to pipe sizes, materials and schedules, examines fittings, tubing and valves, and develops skills related to layout, installation, and maintenance.

MILLWRGT 50423722 Packings, Seals, Gaskets for MMMP Trades (C-13) 0 Credits/Units
Apprentices will examine packing, seals, and gaskets and compare materials and applications. Then skills in layout, cutting, inspecting, removing, and installing these components will be developed

MILLWRGT 50423723 MSDS & Adhesives and Sealants for MMMP Trades (C-14) 0 Credits/Units
Course compares adhesives and sealant types and applications. Then apprentice skills will be developed related to applying adhesives and sealants to repair applications, interpreting MSDS information, and handling hazardous materials.

MILLWRGT 50423724 Preventative and Predictive Maintenance for MMMP Trades (C-15) 1 Credits/Units
Course examines both preventative and predictive maintenance concepts as they apply to millwright work processes and machine maintenance. Apprentices will develop skills related to assessing machine conditions and faults based on both preventative and predictive maintenance.

MILLWRGT 50423726 Green Awareness for the MMMP Trades (C-17) 1 Credits/Units
Green Awareness for the MMMP Trades examines how green projects and sustainable manufacturing initiatives relate to energy efficiency, energy consumption, waste reduction, and changing work processes for the MMMP related trades. Priorities related to cost awareness, energy efficiency, predictive and preventative maintenance, new materials, bearing maintenance, and precision laser alignment are included in this course.

MILLWRGT 50423730 Bearings for the MMMP Trades (M-1) 0 Credits/Units
Apprentices will examine bearing types and applications, and compare equipment bearings. Then learners will develop skills related to bearing inspection, selections, removal, mounting, lubrication, and diagnosing bearing failures.

MILLWRGT 50423731 Couplings & Alignment for the MMMP Trades (M-2) 1 Credits/Units
Course compares different coupling types and examines common misalignment problems. Apprentices will develop skills related to inspecting, troubleshooting, and preparing couplings for removal and installation, and also aligning and lubricating couplings.

MILLWRGT 50423732 Pumps for the MMMP Trades (M-3) 0 Credits/Units
Course compares different pump types and their applications. Apprentices will complete a field inspection of pumps and learn how to troubleshoot, remove, overhaul, install and perform preventative maintenance on pumps.

MILLWRGT 50423733 Belts, Sheaves, Pulleys, and Drives for the MMMP Trades (M-4) 0 Credits/Units
Course compares different belt types and drive components. Apprentices will develop skills related to inspecting, troubleshooting, removing, selecting, and installing belt drive systems.

MILLWRGT 50423734 Gears, Gearboxes, Gear Assemblies for the MMMP (M-5) 0 Credits/Units
Course compares gear types and applications. Apprentices will develop skills inspecting gear assemblies, troubleshooting gear problems, removing gears and components, and reassembling gear drive systems.

MILLWRGT 50423735 Mechanical Power Transmission for the MMMP Trades (M-6) 0 Credits/Units
Course examines drive transmission systems and their applications, including roller chains. Apprentices will develop skills inspecting power transmission systems and troubleshooting mechanical drive systems.

MILLWRGT 50423736 Conveyors for the MMMP Trades (M-7) 0 Credits/Units
Course examines chain, belt, and other types of conveyors and related components.

MILLWRGT 50423737 Equipment Installation for the MMMP Trades (M-8) 0 Credits/Units
Apprentices will layout equipment installations, plan for moving equipment, and set and level equipment.

MILLWRGT 50423738 Sheet Metal and Structural Steel Fabrication for the MMMP Trades (M-9) 0 Credits/Units
Course compares types of sheet metal and tools used by the trade. Apprentices will develop skills related to fabricating sheet metal and structural steel and then erecting steel.

MKTG 10104102 Marketing Principles 3 Credits/Units
This foundation course introduces students to the marketing process and how it operates in today's dynamic organizations. The entire marketing mix is examined on a broad scale. Topics include: market segmentation and targeting strategies, market research, consumer behavior, product development, pricing policies, distribution, and an overview of promotion. This basic course provides a comprehensive overview of the exciting world of marketing.

MKTG 10104103 Marketing Research 3 Credits/Units
Businesses today need current, accurate information upon which to base their decisions. In this class, students learn not only how to gather marketing information from primary and secondary sources using online and other sources, but also how to apply that information to make better marketing decisions.

MKTG 10104104 Selling Principles 3 Credits/Units

Introductory course designed to acquaint the student to the basic principles, concepts, and theories of business and consumer selling. Special emphasis is given to developing the selling process which includes prospecting and qualifying, planning and pre-approaching, approaching the customer, the sales presentation/demonstration, handling objections, closing the sale and post-sale service and follow-up. This course will also provide the learner with an opportunity to explore careers, opportunities, and benefits of personal selling

MKTG 10104111 Digital Innovations 3 Credits/Units

Explore cutting-edge technologies and practices used by companies to engage consumers. Topics may include Virtual Reality, Augmented Reality, Artificial Intelligence, big data, video game business models, and cryptocurrencies. Involves research, projects, and presentations.

MKTG 10104112 Marketing Design Strategies 3 Credits/Units

This course provides participants with opportunities to explore proven theories and practices of design principles and marketing communication strategies. Participants are challenged to create powerful marketing print and digital publications by utilizing current desktop publishing and image editing technologies.

MKTG 10104113 Leadership Ethics in the Digital Age 3 Credits/Units

The ability to influence people is critical to your personal and professional success. Today's marketers face rapid technological advancements in digital products and social media and its applications, which requires serious ethical considerations. This class will explore leadership principles, practices and contemporary ethical implications to develop the leader within you.

MKTG 10104114 Social Media Principles 3 Credits/Units

Social Media has transformed Advertising from a long-term Mass medium to a one-to-one communication utilizing almost instant feedback. How businesses are using Social Media as advertising tools as well as how to create and deploy a Social Media Campaign will be the main focus of this class. Additionally, the history and development of Social Medias such as Facebook, YouTube, Twitter and LinkedIn will be explored as well as the many ethical and potential legal concerns that have arisen over these new forms of communication. Finally, the concept of Viral Marketing will be examined and how it allows a Social Message to explode a message to millions of users in a brief time.

MKTG 10104115 Capstone Campaign 3 Credits/Units

The creation, execution and follow through of real-life campaigns will be the focus of this advanced class. Students will use current advertising tools in conjunction with a real business to research, design, create and implement a multi-media campaign. Previous knowledge of available advertising mediums including current social platforms (Twitter, Facebook, Hootsuite and other tools) are essential for this class. Students will be expected to work extensively outside of class time on the campaigns.

MKTG 10104125 Principles of Advertising 3 Credits/Units

Students are introduced to the theory and practice of integrated marketing communications. All elements in the promotions mix are summarized but the major emphasis is on advertising. Students examine the characteristics of major media alternatives including radio, television, newspapers, magazines, outdoor, direct response and alternative media. Advertising research, planning and creativity are also explored and practiced.

MKTG 10104126 Intro to Public Relations 3 Credits/Units

This course will focus on Public Relations fundamentals necessary for Integrated Marketing Communications. Various forms and styles of PR tools will be covered including Press Releases (traditional and social media press releases) Digital Media and Web PR, Press Kits and Press Rooms, Reputation Management, Crisis Communication, Cause Related Marketing, and Sponsorship.

MKTG 10104160 Sales Management 3 Credits/Units

The role of the Manager in the Sales process is explored in this advanced sales class. Creating a sales program, developing your sales force, motivating sales people, and developing companies to be more selling focused will all be explored through research, case studies, practical applications and projects. Sales skills will be enhanced though the role of a strong Sales Manager.

MKTG 10104162 Mobile Marketing 3 Credits/Units

Mobile internet usage continues to explode and it has been predicted that it will overtake desktop internet usage in the next five years. Successful businesses need to understand the current mobile landscape and how to harness the power of mobile marketing to reach key target markets. This survey course will examine how mobile marketing fits into your overall digital and social media strategy. We will investigate geo-marketing, localized marketing, designing for mobile media, mobile websites, mobile advertising, m-commerce and mobile spending, SMS and mobile apps. Students will develop a creative mobile marketing campaign that integrates with a traditional marketing plan.

MKTG 10104164 Marketing Digital Design 3 Credits/Units

Through extensive hands-on experience website builder sites are explored. The conceptual and practical aspects of website design are emphasized. Participants are introduced to principles and practices of Web Usability and Accessibility requirements. Participants are actively engaged in creating a website.

MKTG 10104165 Marketing Internship 3 Credits/Units

Students are assisted in selecting a supervised work experience related to a specific area of marketing. A team consisting of the employer, the student intern and MATC instructor/advisor work together to plan the objectives of the work experience as well as evaluate the intern's performance. Available to Marketing program students only. Prior to taking this course, students must complete two full semesters of Marketing program coursework and an overall GPA of 2.0 or higher.

MKTG 10104169 Digital Marketing 3 Credits/Units
This introductory course is designed to acquaint students to the basic foundations of internet marketing as part of the marketing communication mix. Emphasis areas include inbound marketing, relevant content development, SEO (Search engine optimization), SEM, Google AdWords, simple dashboard Google Analytics, PPC, web content analysis and webvertising options.

MKTG 10104180 Global Marketing 3 Credits/Units
Students explores how marketing strategies and tactics must be managed and adapted for success in different cultural, economic, geographic and political environments around the world. Students will develop marketing and management skills and perspectives in order to work effectively in the global marketplace.

MKTG 10104187 Global Studies Seminar 3 Credits/Units
This unique learning and travel experience gives students the opportunity to enhance their understanding of the global marketplace. Upon completion of the course and travel students will be familiar with the history, culture, social and business issues of the host country. Students will examine current trends and business practices relating to (but not limited to) management, marketing, hospitality and global strategies. Participation in this course requires travel to the host country. This experience is designed to help students develop a lifelong global mindset and to enhance abilities to communicate, work on international teams and think creatively.

MKTG 10104188 Marketing Portfolio 1 Credits/Units
E-portfolios are essential for today's job hunting marketplace. This course will help you to organize the marketing projects you have worked on throughout the program into an e-portfolio format. Additionally you will add other collateral materials to your portfolio including a resume that includes e-screening words for marketing, professional reference page and cover letter, and e-tabs within your portfolio. Your project collection on a thumb drive or your student drive will assist you with your portfolio preparation. Must be taken in final semester of Marketing program or by obtaining Consent of Instructor.

MKTG 10104336 Digital Strategic Planning 3 Credits/Units
This course provides the core elements of your future digital marketing plan. Review how to develop key marketing objectives including digital support tools and timelines to help you get measurable results. Understand how the right digital components can maximize audience engagement, customer value, and your brand voice. The capstone project will bring concepts together for implementation in your career area.

MKTG 10104337 Content Marketing 3 Credits/Units
Many marketers post content hoping it will engage their target audience. What really makes your target audience tick? Learn how to create content to drive engagement, and the mastery of distribution of your content to yield proven results. Develop content for each phase of your customer journey to help take your digital strategy to the next level.

MKTG 10104338 Digital Analytics 3 Credits/Units
Is your digital marketing strategy working? Which half of your digital marketing is work? Learn how to leverage data to ensure results including how to measure and optimize social media, digital advertising, and SEO. Understand the value of audience building and research, social listening and optimization, and how to maximize audience engagement. In addition, we will show you how to dive deep into your digital marketing results and determine your ROI.

MKTG 10104802 Honors - Marketing 2 Credits/Units
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

MTLFAB 10457100 Metal Repair Techniques 2 Credits/Units
This course covers safety, layout and measurement, grinding, drill press, lathe operation, filing, threading, properties of metals, oxy-acetylene welding, brazing and cutting, and SMAW, GMAW and FCAW.

MTLFAB 31457301 Fabrication 1 2 Credits/Units
In Fabrication 1 students will be introduced to the fundamentals of metal cutting and forming. Students will create assemblies from industrial drawings conforming to industry standards. Emphasis will be placed on the safety, basic layout techniques, bending calculations, and operation of manual and mechanical cutting/forming equipment.

MTLFAB 31457302 Fabrication 2 2 Credits/Units
In Fabrication 2 students will translate the competencies established in Fabrication 1 to programmable forming equipment. Students will create assemblies from industrial drawings conforming to industry standards. Emphasis will be placed on safe operation procedures, the selection of tooling, and calculations required to properly operate programmable forming equipment.

MTLFAB 31457303 **Fabrication 3** **2 Credits/Units**
Fabrication 3 builds upon the competencies established in the prior Fabrication courses. Students will create assemblies from industrial drawings conforming to industry standards. Emphasis will expand upon operational safety, tooling types and selection, multiple types and combinations of bending, as well as assembly techniques.

MTLFAB 31457304 **Fabrication 4** **2 Credits/Units**
The Fabrication Capstone course utilizes all the program competencies learned and combines them into final projects. Students will choose from established projects and create material lists, operational procedures, fabricate components, assemble, join, and finish. All assembles must be inspected per industry standards.

MTLFAB 31457305 **CNC Operation** **2 Credits/Units**
The CNC Operation course will develop student's ability to operate Computerized Numerical Control cutting equipment. Students will be trained in safety, program selection, operational procedures, editing and the basic maintenance of the equipment. Students will be introduced to programing methods applicable to each OEM manufacturer.

MTLFAB 31457306 **CNC Programming** **2 Credits/Units**
The CNC programing class students will develop ability to generate component programs utilizing computer software. Students will generate shape geometry, create parts, develop nests and cut parts.

MTLFAB 31457307 **Jig and Fixture Development** **2 Credits/Units**
Students will develop the concepts of design and building simple to intermediate jigs and assembly fixtures. Students will use computer software and metal fabrication equipment to build jig and fixtures for projects used in the class.

MTLFAB 31457308 **Metal Fabrication Occupational Development** **1 Credits/Units**
Applications of metal fabrication terminology, use of forms, contracting, professional ethics and employment relations are studied. Specific topics germane to the metal fabrication field in decision-making, responsibility and preparation for the metal fabrication career are covered.

MUSIC 20805202 **Choir 1** **1 Credits/Units**
Choir 1 allows the opportunity to apply existing knowledge of vocal performance technique within a full choir. Addresses musical performance skills through weekly rehearsal of choral music composed in the 18th through 21st centuries. Two public performances occur outside regular rehearsal time. Offered fall semester and open to all vocalists. No audition necessary.

MUSIC 20805203 **Choir 2** **1 Credits/Units**
Choir 2 is open to all vocalists interested in singing in a full choir. The course has an emphasis on modern music from diverse cultures and various musical genres. Two public performances occur outside regular rehearsal time. Offered spring semester and open to all vocalists. No audition necessary.

MUSIC 20805205 **Class Voice** **1 Credits/Units**
Class Voice is a fundamental course in singing which includes principles of voice production, anatomy of the larynx, breathing for singing, tone placement, resonance, articulation, and song interpretation. Open to all college students.

MUSIC 20805207 **World Music** **3 Credits/Units**
This course is designed to give students a broad overview of various musics from around the world. Over the course of the semester, students will learn how various societies view, perform, use, and disseminate music and gain respect for these musics through deeper understanding of their materials, processes, and values within their respective cultures. Our goal is to develop acute listening skills in order to identify the geographic origin of musical examples and associate appropriate cultural values with them. As a class, students will explore music from Sub-Saharan Africa, Indigenous American cultures, Latin America, South Asia, East Asia, Southeast Asia, and others. In addition, students will choose an additional music-culture to research individually.

MUSIC 20805209 **Swing Choir** **2 Credits/Units**
Vocal Jazz Ensemble is a small performing vocal ensemble that includes both pop choral music and music for a vocal jazz ensemble. Some musical selections are choreographed, but formal dance ability is not required. Prerequisite: concurrent enrollment in MATC Chorale and consent of the instructor.

MUSIC 20805211 **Orchestra 1** **1 Credits/Units**
Students will apply existing knowledge of performance technique on an individual instrument within a full orchestra. This course addresses musical performance skills through weekly rehearsals of orchestral music composed in the 18th through 20th centuries. Two public performances will occur outside the regular rehearsal time each semester. Open to all string players. Open to winds, brass, and percussion by audition.

MUSIC 20805212 **Orchestra 2** **1 Credits/Units**

Students will apply existing knowledge of performance technique on an individual instrument within a full orchestra. This course addresses musical performance skills through weekly rehearsals of orchestral music composed in the 18th, 19th, and 20th centuries. Two public performances will occur outside the regular rehearsal time each semester. Open to all string players. Open to winds, brass, and percussion by audition.

MUSIC 20805216 Concert Band 1 1 Credits/Units

Students will apply existing knowledge of performance technique on an individual instrument within a full concert band. Students will develop ensemble

performance skills for woodwind, brass, and percussion instruments. Musical repertoire ranges from original compositions for wind band to transcriptions and arrangements of popular music spanning several centuries. Two to three public performances will take place outside the regular rehearsal time each semester. Open to all winds, brass, and percussion following a seating placement audition with the conductor.

MUSIC 20805217 Concert Band 2 1 Credits/Units

Students will apply existing knowledge of performance technique on an individual instrument within a full concert band. Students will develop ensemble advanced performance skills for woodwind, brass, and percussion instruments. Advanced-level musical repertoire ranges from original compositions for wind band to transcriptions and arrangements of popular music from the 20th and 21st centuries. Two to three public performances will take place outside the regular rehearsal time each semester. Open to all winds, brass, and percussion following a seating placement audition with the

conductor.

MUSIC 20805219 Jazz Ensemble 1 1 Credits/Units

Students will apply existing knowledge of performance technique on an individual instrument within a standard jazz ensemble. Students in this course will rehearse and perform music in a variety of jazz styles from the 20th and 21st centuries while developing ensemble performance and solo improvisational skills. Several performances occur outside the regular rehearsal time by arrangement with the director. Open to jazz instrumentalists with permission of the director.

MUSIC 20805220 Jazz Ensemble 2 1 Credits/Units

Students will apply existing knowledge of performance technique on an individual instrument within a standard jazz ensemble. Students in this course will rehearse and perform music in a variety of jazz styles from the 20th and 21st centuries while developing ensemble performance and solo improvisational skills. Several performances occur outside the regular rehearsal time by arrangement with the director. Open to jazz instrumentalists with permission of the director.

MUSIC 20805221 Class Piano 1 1 Credits/Units

Students will be introduced to piano technique and musical notation for piano. Students will then apply these skills to elementary-level performance of music from a variety of genres and styles. Performance of fully notated music, improvised harmonization of melodies in major keys, and melodic improvisation based on written harmonic progressions will be explored at a beginning level.

MUSIC 20805222 Class Piano 2 1 Credits/Units

Students will build on foundations of piano technique and note-reading skills and apply them to intermediate-level performance of music from a variety of genres and styles. Performance of fully notated music, improvised harmonization of melodies in minor keys, and melodic improvisation in both major and minor keys will be explored at an intermediate level.

MUSIC 20805227 Music Appreciation 3 Credits/Units

Through an examination of select contemporary musical styles and a survey of the development of Western art music, students will learn how to actively listen to music and identify salient traits. Students will explore musical meaning, musical reception, and musical aesthetics as they apply to different cultures and different time periods. Attendance at two live musical performances outside the classroom is required.

MUSIC 20805260 Music Theory Fundamentals 3 Credits/Units

Music Theory Fundamentals serves as an introduction to Western musical notation and aural skills. Through a systematic study of musical vocabulary, rhythm, melody, and harmony, students will acquire the skills necessary in order to visually recognize, aurally identify, transcribe, analyze and compose music according to standards of Western notation. This course may also serve as preparation for Theory 1 (20-805-261) and Aural Skills 1 (20-805-267). Open to all students.

MUSIC 20805261 Music Theory 1 3 Credits/Units

Through a study of melodic and harmonic compositional language, students will analyze and compose music in the style of the common practice period. Students complete a final composition project exhibiting principles of voice leading. Requires literacy in Western musical notation, understanding of keys, and major and minor scales. Students must also register for Aural Skills 1 (20805267).

MUSIC 20805262 Music Theory 2 3 Credits/Units

This course further develops the content of Music Theory 1 by expanding diatonic harmonic structures to include seventh chords and non-diatonic harmonies. Students will analyze music featuring tonal modulation. Students will also analyze musical forms employing both micro- and macro-level terminology. Theoretical skills will be applied to practical keyboard exercises. Completion of a final composition project in homophonic texture and in the prevailing style of the common practice period is required.

MUSIC 20805263 Jazz History 3 Credits/Units

This course provides an introductory survey of major jazz performers, styles, and compositions in the 20th and 21st centuries. Students will examine musical developments in the genre of jazz as they relate to major historical events, social movements, and cultural trends in the United States. Students will examine historical recordings to develop listening skills and distinguish specific characteristics among a variety of jazz styles. Attendance at two live performances separate from regular class meetings is required.

MUSIC 20805267 Aural Skills 1 1 Credits/Units

Students will apply music reading and analytical skills learned in co-requisite Music Theory 1 to the performance and transcription of rhythm, melody and harmony. Students will sing simple melodies and rhythms alone and in ensemble, sing harmonies in ensemble, and notate comparable melodies, rhythms and harmonic progressions through aural recognition. Co-requisite: 20-805-261.

MUSIC 20805268 Aural Skills 2 1 Credits/Units

Students will apply music reading and analytical skills learned in co-requisite Music Theory 2 to the performance and transcription of rhythm, melody and harmony. Students will sing intermediate tonal melodies and perform multi-part rhythms alone and in ensemble, sing harmonies in ensemble, and notate comparable melodies, rhythms and harmonic progressions through aural recognition.

MUSIC 20805270 Chorale 1 1 Credits/Units

Madison College Chorale 1 is a mixed chamber chorus open to those who enjoy singing. It focuses on music of diverse cultures and spans various musical genres. Madison College Chorale 1 provides an opportunity to participate in learning and performing choral music. Offered in the fall semester and open to all singers. No audition necessary.

MUSIC 20805271 Chorale 2 1 Credits/Units

Madison College Chorale 2 is open to all singers interested in singing in a mixed chamber choir. The ensemble rehearses twice a week focusing on music rehearsal skills, stage presence and performance skills. Provides an opportunity to participate in learning and performing accompanied and a cappella choral music. Offered in the spring semester. No audition necessary.

MUSIC 20805278 Hist Pop/Rock Music 3 Credits/Units

History of Popular & Rock Music explores the history of popular and rock music in the United States from 1954 to the present, focusing on significant music genres, important artists/bands, the role of identity in music, and social history. The course intends to promote creative and critical thinking by emphasizing music literature, form and style analysis, and social and cultural criticism. Through our discourse, we will strive to connect musical and social histories by situating popular works/performances within the complex and volatile landscape of Western cultures throughout the last century to present day.

MUSIC 20805279 World Drumming Ensemble 1 1 Credits/Units

High-energy ensemble participation focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the

semester. Previous drumming experience and the ability to read music are not required.

MUSIC 20805280 World Drumming Ensemble 2 1 Credits/Units

The World Drumming Ensemble is a high-energy ensemble that focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the semester.

MUSIC 20805281 World Drumming Ensemble 3 1 Credits/Units

The World Drumming Ensemble is a high-energy ensemble that focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the semester.

MUSIC 20805282 World Drumming Ensemble 4 1 Credits/Units

World Drumming Ensemble is a high-energy ensemble that focuses on world drumming techniques and styles, ensemble listening skills, and techniques for creative improvisation. Warm-up activities, dexterity exercises, traditional music, and contemporary compositions lead a public performance at the end of the semester.

NATSCI 20806297 Independent Study - Science (1 cr) 1 Credits/Units

Students will work independently on a science project under the supervision of an instructor. Instructor permission is required.

NATSCI 20806298 Independent Study - Science (2 cr) 2 Credits/Units

Students will work independently on a science project under the supervision of an instructor. Instructor permission is required.

NATSCI 20806299 Independent Study - Science (3 cr) 3 Credits/Units
Students will work independently on a science project under the supervision of an instructor. Instructor permission is required.

NATSCI 20806807 Honors-Renewable Energy (2cr) 2 Credits/Units
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

NATSCI 20806907 Honors-Renewable Energy (3cr) 3 Credits/Units
Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

NRSAD 10543101 Nursing Fundamentals 2 Credits/Units
This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and fluid/electrolyte balance.

NRSAD 10543102 Nursing Skills 3 Credits/Units
This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach.

NRSAD 10543103 Nursing Pharmacology 2 Credits/Units
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.

NRSAD 10543104 Nsg: Intro Clinical Practice 2 Credits/Units
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration.

NRSAD 10543105 Nursing Health Alterations 3 Credits/Units
This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. It will also introduce concepts of leadership, team building and scope of practice.

NRSAD 10543106 Nursing Health Promotion 3 Credits/Units
This course will cover topics related to health promotion in the context of the family. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles and stages of development.

NRSAD 10543107 Nursing: Clinical Care Across Lifespan 2 Credits/Units
This clinical experience applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized.

NRSAD 10543108 Nursing: Introduction to Clinical Care Management 2 Credits/Units
This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients. It also provides an introduction to leadership, management and team building.

NRSAD 10543109 Nursing: Complex Health Alterations 1 3 Credits/Units
This class prepares the learner to expand knowledge from previous courses in caring for clients with alterations in musculoskeletal, cardiovascular, respiratory, endocrine, and hematologic systems as well as clients with fluid/electrolyte and acid-base imbalance, and alterations in comfort.

NRSAD 10543110 Nursing: Mental Health Community Concepts 2 Credits/Units

This class will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families and groups will be addressed. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups.

NRSAD 10543111 Nursing: Intermediate Clinical Practice 3 Credits/Units
This intermediate level clinical course develops the RN role when working with clients with complex health care needs. A focus of the course is developing skills needed for managing multiple clients and priorities. Using the nursing process, students will gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds.

NRSAD 10543112 Nursing Advanced Skills 1 Credits/Units
This course focuses on the development of advanced clinical skills. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation and nasogastric/feeding tube insertion.

NRSAD 10543113 Nursing: Complex Health Alteratations 2 3 Credits/Units
This course prepares the learner to expand knowledge and skills from previous courses in caring for clients with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary and the reproductive systems. The learner will also focus on management of care for clients with high risk perinatal conditions, high risk newborns and the ill child. Synthesis and application of previously learned concepts will be evident in the management of clients with critical/life threatening situations.

NRSAD 10543114 Nursing: Management and Professional Concepts 2 Credits/Units
This advanced clinical course covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice.

NRSAD 10543115 Nursing: Advanced Clinical Practice 3 Credits/Units
This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students will have the opportuinity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized.

NRSAD 10543116 Nursing Clinical Transition 2 Credits/Units
This clinical experience integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. The course promotes relatively independent clinical decisions, delegation, and working collaboratively with others to achieve client and organizational outcomes.

NRSAD 10543127 Paramedic to AD Theory 1 3 Credits/Units
This course will focus on basic nursing concepts that the beginning nurse will need to provide care to diverse populations. The nursing process will be introduced as a framework for organizing care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, skin integrity, and related principles of pharmacology.

NRSAD 10543128 Paramedic to AD Theory 2 3 Credits/Units
This course will cover topics related to health promotion in the context of the family. Nursing care of the developing family topics including reproductive, pregnancy, labor and delivery, postpartum, and the newborn child will be covered. Patterns of adaptive and maladaptive behaviors, family dynamics, and grief and loss will be addressed utilizing mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle changes. Nutrition, exercise/stress management, and risk reduction practices are addressed. Perioperative, malignancy, and chronic illness concepts are reviewed with related pharmacology concepts.

NRSAD 10543129 Paramedic to AD Skills 2 Credits/Units
This course focuses on development of basic skills, clinical skills, and physical assessment across the lifespan. Content includes basic supportive and hygienic cares, mathematic calculations and conversions related to clinical skills, aseptic technique, wound care, tracheostomy care and suctioning, the management of enteral tubes, medication administration, enemas, ostomy care, and physical assessment skills using a body systems approach.

NRSAD 10543130 Paramedic to RN Clinical 2 Credits/Units
This clinical course emphasizes basic nursing skills and application of the nursing process to clients and families across the lifespan. Emphasis is placed on assessment, relationships, communication, data collection, documentation, and medication administration.

NRSAD 10543164 Orientation Associate Degree Nursing 3 Credits/Units
Introduction to the Associate Degree Nursing Program for licensed practical nurses. Prerequisite: Admission to the ADN program and permission of the program director.

NRSAD 10543291 Community Cultural Health Care 3 Credits/Units

This theory and clinical course promotes an understanding of diverse cultures by looking at cultures and healthcare systems through classroom activity and a supervised field experience within a host country. The field experience host country will expose students to health issues, needs, services and systems within the host country. Students will have opportunities to prepare and present health education, provide health care and share in the history and epidemiology of the identified host country. This course requires students to participate in a "Global Studies Clinical" held when the host country is approved.

NRSAD 30543300 Nursing Assistant 3 Credits/Units
Prepares students for employment as nursing assistants. Students learn communication skills, basic nursing and personal care skills, clients' rights and care of clients with dementias. A supervised clinical experience with direct client care is a major component of the course. Upon completion, the student is eligible to take the certification for the Wisconsin Nurse Aide Registry. Enrollment Requirements: Must meet minimum age requirements listed in Class Notes, have completed Background Check, Health Screening and Reading Requirements.

NRSAD 31543301 Nursing Fundamentals - Practical Nursing Program 2 Credits/Units
This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introducted as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and flud/electrolyte balance.

NRSAD 31543302 Nursing Skills - Practical Nursing Program 3 Credits/Units
This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and vonversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach.

NRSAD 31543303 Nursing Pharmacology - Practical Nursing Program 2 Credits/Units
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.

NRSAD 31543304 Nursing: Intro to Clinical Practice 2 Credits/Units
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration.

NRSAD 31543305 Nursing Health Alterations - Practical Nursing Program 3 Credits/Units
This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problems solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. It will also introduce concepts of leadership, team building, and scope of practice.

NRSAD 31543306 Nursing Health Promotion - Practical Nursing Program 3 Credits/Units
This course will cover topics related to health promotion in the context of the family. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphais is placed on teaching and supporting healthy lifestyle choices. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development.

NRSAD 31543307 Nursing: Clinical Care Across the Lifespan 2 Credits/Units
This Clinical experience applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized.

NRSAD 31543308 Nursing: Intro to Clinical Care Management 2 Credits/Units
This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients. It also provides an introduction to leadership, management and team building.

NRSAD 31543356 Growth and Development 2 Credits/Units
Studies growth and development from conception through the older adult, based on Erickson's conceptualization of the developmental process through the entire life cycle. Implications for nursing practice in caring for middle and older age individuals in a variety of settings are explored. Prerequisites: one year each of high school math and science with a grade of C or better in each course, each semester.

OPTOMET 31516301 Ophthalmic Pre-Testing 3 Credits/Units

Covers the history of optometry, relationships between optometry, ophthalmology and opticianry and various paraprofessional careers in vision care. The course involves the study of and practical experience in patient pre-testing such as case history, visual acuity, color vision, pupil evaluation and depth perception as well as the specialized testing procedures such as keratometry and blood pressure.

OPTOMET 31516305 Basic Optical Concepts 3 Credits/Units

Covers the properties of light and the function of a lens in vision correction. Included is a review of basic math needed in vision care and the physiological aspects of vision. This course begins the study of the neutralization and verification of spectacle lens powers, to include spherical, cylindrical and prism lenses.

OPTOMET 31516315 Ocular Anatomy 2 Credits/Units

Familiarizes the optometric technician with the form and function of the human eye. The foundation of the lecture material is the anatomy of the eye, but we will discuss the physiology and function of the eye as much as possible. We will also discuss the actions and uses of diagnostic pharmaceutical agents, as their function is based on interference with normal ocular physiology. This course also covers optometric terminology as well as prescription translation.

OPTOMET 31516325 Optical Dispensing 1 3 Credits/Units

Covers frame definition, parts and types of frames, measurement of frames and lenses, alignment of frames, inserting and removing lenses, introduction to dispensing of eyewear and frame repairs. This is a hybrid course that meets weekly for 2 hours classroom, 2 hours lab and 1 hour online.

OPTOMET 31516326 Optical Dispensing 2 2 Credits/Units

This course assists the student in developing a mastery of the alignment and adjustment of eyewear. It also covers the various lens materials, multifocal styles and lens tints.

OPTOMET 31516327 Clinical Ophthalmic Procedures 2 Credits/Units

This course prepares the technician to assist the doctor in advanced office techniques in the area of ultrasound, in-office surgical procedures, case history, scribing, instrument maintenance and repair and ophthalmic imaging. Students will also study various systemic diseases and their effect on the eye. The performance of the various skills is emphasized in the laboratory sessions.

OPTOMET 31516330 Contact Lenses 3 Credits/Units

Gives the student in-depth exposure to the technical aspects of clinical contact lens practice. Lecture and laboratory experiences emphasize lens verification, patient education and evaluation.

OPTOMET 31516335 Ophthalmic Specialty Testing 3 Credits/Units

Provides the student experience and knowledge in areas of special vision care procedures: subjective refraction, visual field testing, slit lamp, Goldmann and non-contact tonometry, basic concepts of orthoptics and the treatment of eye diseases including instillation of eye medications and eye patching. Patient instruction and assistance are emphasized in laboratory sessions. Prerequisites: 31-516-301, 31-516-305 and 31-516-315.

OPTOMET 31516339 Human Relations - Optometric Technician Program 1 Credits/Units

Introduces students to their personal and vocational responsibilities as an optometric technician. The development of communication skills one needs as an optometric technician are introduced. The ethical and legal responsibilities of an optometric technician are defined. Time management techniques will be presented. Basic concepts of stress and how it affects behavior, and stress management are discussed. The course also covers writing a job application letter and resume as well as interview techniques. This is a hybrid course that meets weekly for 1 hour classroom and 1 hour online.

OPTOMET 31516340 Patient Relations/Pract Manage 2 Credits/Units

Provides a study of front office management techniques including telephone and appointment book management, filing, recall systems, bookkeeping and insurance claim processing. This is a hybrid course that meets weekly for 1 hour classroom and 1 hour online.

OPTOMET 31516345 Preclinical 2 Credits/Units

Prepares students for clinical affiliation by having them complete vision screenings on patients from the college. Class discussions are held analyzing the results of the screening as well as the students' performance.

OPTOMET 31516346 Preclinic A 1 Credits/Units

Prepares students for clinical work. Students explore their professional responsiblities of providing quality eye care. Students then participate in class discussions, explore variations of visual screenings and student responsibilities.

OPTOMET 31516347 Preclinic B 1 Credits/Units

Prepares students for clinical work. Students perform screenings on patients and then participate in class discussions. Explore variations of visual screenings and student responsibilities.

OPTOMET 31516350 Clinical Experience 3 Credits/Units

Students participate 40 hours per week for six weeks of assigned clinical experience in an optometric or clinic setting. The student is expected to achieve specific educational objectives determined for this experience. Prerequisite: satisfactory completion of all first-semester courses plus enrollment in second-semester courses.

OPTOMET 31516351 Clinical Experience 2 3 Credits/Units

Students participate 34 hours per week for eight weeks of assigned clinical experience in an ophthalmic clinic setting. The student is expected to achieve specific educational objectives determined for this experience. Pre-requisite: satisfactory completion of all courses (first and second semester).

OTASST 10514171 Introduction to Occupational Therapy 3 Credits/Units

Provides an overview of history, philosophy, ethics, and scope of occupational therapy practice. Examines legal responsibilities, professional resources, and organization. Students practice basic skills related to therapeutic relationships and determine their own suitability to a career in occupational therapy. Pre-requisites: Algebra, Chemistry and Biology. Co-Requisites: 10-514-172, 10-514-173, 20-806-206

OTASST 10514172 Medical and Psychosocial Conditions 3 Credits/Units

Introduces medical and psychosocial conditions as they relate to occupational therapy practice. Topics include etiology, symptomology, treatment and contraindications. Pre-requisites: Algebra, Chemistry and Biology. Co-Requisites: 10-514-171, 10-514-173, and 20-806-206

OTASST 10514173 Activity Analysis and Application 2 Credits/Units

Provides instruction in activity analysis with hands on experience in activities across the lifespan. Students apply the teaching/learning process and adhere to safety regulations. Pre-requisites: Algebra, Chemistry and Biology. Co-Requisites: 10-514-171, 10-514-172, and 20-806-206

OTASST 10514174 OT Performance Skills 4 Credits/Units

Emphasis on the development of skills related to assessment and intervention in the areas of sensory, motor, cognition and communication.

OTASST 10514175 Psychosocial Practice 3 Credits/Units

Examines the role of the OTA in the service delivery to individuals affected by mental health conditions. Provides opportunity for development of skills related to psychosocial assessment and interventions. Pre-requisites: 10-514-171, 10-514-172, 10-514-173 & 20-806-206. Co-requisites: 10-514-174, 10-514-176, 10-514-178

OTASST 10514176 OT Theory and Practice 3 Credits/Units

Examines the theoretical foundations that guide OT practice. Apply group dynamics and demonstrate leadership skills.

OTASST 10514178 Geriatric Practice 3 Credits/Units

Examines the role of the OT in the service delivery to elders in a variety of settings. Includes analysis of the impact of age-related changes and disease processes on the function of the elderly. Pre-requisites:10-514-171, 10-514-172,10-514-173 & 20-806-206. Co-requisites: 10-514-174, 10-514-175, 10-514-176

OTASST 10514179 Community Practice 2 Credits/Units

Explores practice options and interventions for occupation-based community practice. Students articulate the unique role of occupational therapy within the community. Prerequisites: 10-514-174, 10-514-175, 10-514-176, 10-514-178. Co-requisites: 10-514-177, 10-514-182, 10-514-183, 10-514-184

OTASST 10514184 OTA Fieldwork 1 2 Credits/Units

Integrate classroom theory and practice into a Fieldwork Level I experience. Provides experiences to assist in the development of communication, professional and observational skills.

OTASST 10514185 OT Practice and Management 2 Credits/Units

Provides opportunities to practice clinical management skills, continuous quality improvement measurement, and administrative concepts and procedures. Students create a professional development plan.

OTASST 10514186 OTA Fieldwork IIA 5 Credits/Units

Develop skills and behaviors necessary for entry-level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork IIB.

OTASST 10514187 OTA Fieldwork IIB 5 Credits/Units

Develop skills and behaviors necessary for entry level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork IIA.

OTASST 10514189 OT Phys Rehab Practice 4 Credits/Units

Explores interventions relative to major physical disability diagnoses seen in OT practice. Evaluation, treatment interventions, assitive technology and documentation are emphasized relative to the biomechanical, neurodevelopmental and rehabilitative approaches to practice.

OTASST 10514190 **OT Pediatric Practice** **4 Credits/Units**
Explores interventions relative to major pediatric- diagnoses seen in OT practice. Evaluation, treatment interventions, assitive technology and documentation are emphasized within the context of the child's occupations.

PARALEG 10110101 **Introduction to Law** **3 Credits/Units**
Provides students with an introduction to the American legal system, legal ethics, legal terminology, legal research and writing, and the common law of torts.

PARALEG 10110102 **Civil Litigation I** **3 Credits/Units**
Outlines the initial stages of civil litigation, including initial client contact, investigation, pleadings and motions.

PARALEG 10110103 **Civil Litigation 2** **3 Credits/Units**
Covers the civil litigation procedure during discovery, trial, and appeal.

PARALEG 10110104 **Legal Research** **3 Credits/Units**
Provides students with an application of legal research techniques, using traditional and computer-assisted resources. Involves extensive hands-on legal research exercises and document preparation exercises.

PARALEG 10110105 **Legal Writing** **3 Credits/Units**
Concentrates on the skills required for legal writing and analysis.

PARALEG 10110106 **Family Law** **3 Credits/Units**
Family Law covers the basic legal concepts in the area of family relations, particularly divorce.

PARALEG 10110107 **Legal Aspects of Business Organizations** **3 Credits/Units**
Acquaints students with legal aspects of the formation, operation, and dissolution of the five principal types of business organizations utilized in the United States.

PARALEG 10110108 **E-Discovery and Digital Tools** **2 Credits/Units**
This course provides an introduction to litigation software programs which are being used in law offices, corporations, and government law departments nationwide. Two main types of software are used for instruction: (1) case management software which is used to organize various aspects of a lawsuit including events, parties, witnesses, issues, and research; and (2) E-Discovery software utilized for document review and coding. Hypothetical litigation scenarios will be used to simulate actual pretrial E-Discovery exercises.

PARALEG 10110110 **Real Estate Law - Paralegal** **3 Credits/Units**
Includes drafting real estate descriptions, listing contracts, offers to purchase, deeds, land contracts, mortgages, foreclosure pleadings, transfer tax returns, and leases.

PARALEG 10110114 **Administration Of Estates - Paralegal Program** **3 Credits/Units**
Basic legal concepts surrounding powers of attorney, wills, trusts, and intestacy, including probate forms and procedures as well as inheritance tax returns are covered in the Administration of Estates class.

PARALEG 10110115 **Administrative Law** **3 Credits/Units**
Administrative Law is designed to acquaint students with the process by which government agencies make and administer rules and regulations as well as how agencies adjudicate cases and controversies involving those rules.

PARALEG 10110122 **Bankruptcy Law** **3 Credits/Units**
Considers pre and post-judgment collection rights, creditor protection devices, State and Federal consumer protection laws, and Federal bankruptcy laws.

PARALEG 10110141 **Computer Applications - Legal** **3 Credits/Units**
Students develop technology skills using various law office computer applications.

PARALEG 10110142 **Paralegal Internship** **3 Credits/Units**
Students gain practical experience working in a legal environment under the supervision of an attorney or other qualified professional for a minimum of 140 hours.

PARALEG 10110144 **Paralegal Clinic Internship** **3 Credits/Units**
Students gain practical experience working in a legal environment under the supervision of an attorney or other qualified professional for a minimum of 140 hours.?

PARALEG 10110160 **Employment Law - Paralegal** **3 Credits/Units**
Employment Law covers the analysis of federal and state laws governing employment relationships, job discrimination, sexual harassment, workplace privacy, labor standards, and human resource management.

PARALEG 10110168 **Criminal Law 1 - Paralegal** **3 Credits/Units**
Provides an introduction to substantive and procedural criminal law emphasizing the elemental analysis of criminal statutes, the drafting of prosecutorial documents, and the Constitutional rights of defendants.

PARALEG 10110171 **Immigration Law** **3 Credits/Units**
Students explore the following content areas of immigration law: interview techniques and case management; temporary visas for business, pleasure, investing, studying, and employment; family-based permanent residency; employment-based permanent residency; political asylum; refugee status; citizenship; and the appeal process.

PARALEG 10110173 **Contract Law in a Global Economy** **3 Credits/Units**
This survey course explores the common law of contracts, contracts of sale under Article 2 of the UCC, and the legal issues and risks that affect business transactions in the global marketplace.

PARALEG 10110175 **Orientation to the Paralegal Profession** **1 Credits/Units**
This course will (i) introduce students to the paralegal profession; (ii) acquaint students with the classes offered in the paralegal program; (iii) provide students with tools for success in the paralegal program and the paralegal career field; (iv) administer the required paralegal program entrance keyboarding test; and (v) advise and enroll students in their upcoming semester courses.

PARALEG 10110176 **Career Building Techniques - Paralegal** **2 Credits/Units**
This course will focus on internship and career strategies; effective portfolios, resumes and cover letter; the internship experience; interview techniques; finding an internship site including sites for students interested in receiving the Program's International Certificate; job hunting resources and alternative career paths; strategies for success in the work place; and advancing in your career; and getting your next job.

PHILOS 10809166 **Intro to Ethics: Theory & App** **3 Credits/Units**
This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations.

PHILOS 20809258 **Philosophy Through Film** **3 Credits/Units**
This course is a general introduction to philosophy for students who may or may not be interested in taking any further philosophy classes. It will use the uniquely vivid and compelling medium of film to introduce students to important philosophical questions about such things as personal identity, consciousness, ethics and morality, freewill and determinism, the limits of knowledge, time travel, and the possibility of intelligent machines. Readings that explore the topics introduced through the assigned films will be drawn from a range of authors from both Western and non-Western philosophical traditions. Students' ability to think critically and creatively will be developed through the exploration of proposed answers to various philosophical questions with an emphasis on how to evaluate the reasons given in support of and in opposition to proposed answers.

PHILOS 20809259 **Classics in Philosophy** **3 Credits/Units**
This course examines influential Ancient Greek classical texts of philosophy (in translation) by such writers as Plato, Aristotle, and the Hellenistic philosophers. Examples of the texts are: Plato's Republic, Aristotle's Nicomachean Ethics, and Marcus Aurelius' Meditations. Learners will be introduced to a range of important ideas, arguments, and theories advanced by these philosophers. The emphasis of the course will be on a close, critical reading of a few texts resulting in interpreting, understanding, analyzing, and crucially evaluating the various ideas, arguments, and theories that arise from the text.

PHILOS 20809260 **Intro Philosophy** **3 Credits/Units**
This course introduces various fields of philosophy, philosophical methodology and the history of philosophy. Examines some philosophical issues in depth and develops the ability to think, speak and write critically about these problems that have concerned human beings for centuries.

PHILOS 20809261 **Elementary Logic** **4 Credits/Units**

A course in contemporary formal (symbolic) logic covering both propositional and predicate logic with identity. Students will learn to translate arguments into symbolic notation and then test validity using natural-deduction proof procedures, truth tables, truth trees, and counter examples. Fulfills the Quantitative Reasoning Part B requirement at UW-Madison, as well as the logic requirement at Edgewood College. Assumes a solid background in Algebra.

For a course focused on critical thinking and informal logic, see course #20809264, Introduction to Logic and Critical Thinking (previously called Reason in Communication), which fulfills the Quantitative Reasoning Part A requirement at UW-Madison as well as the logic requirement at Edgewood College.

PHILOS 20809262 **Contemporary Moral Issues** **3 Credits/Units**

This course introduces students to several different ethical theories and how they apply to contemporary moral controversies, such as the death penalty, war and terrorism, reproductive choices, immigration, environmental ethics, and free speech. This course aims at showing how many moral controversies are as much about the legitimate use of state authority as they are about moral disagreement.

PHILOS 20809263 **East/West World View** **3 Credits/Units**

East/West Worldviews examines worldviews and their underlying assumptions. Worldviews are sometimes rooted in philosophy, religion and myth, each characterized by its rituals and symbols. The course focuses on the religions originating in India (Hinduism and Buddhism); in East Asia (Confucianism, Taoism, Shintoism, Zen Buddhism); and in the Middle East (Judaism, Christianity, Islam). Also includes Western rationalism and the scientific view of the cosmos. It studies the ways in which philosophy and/or religion affects the concepts of nature, self, society and ultimate reality.

PHILOS 20809264 **Introduction to Logic and Critical Thinking** **3 Credits/Units**

An informal logic course (previously called Reason in Communication) that emphasizes critical thinking. Students will learn argument structure, different forms of inductive reasoning, how to recognize informal fallacies, and how to distinguish better and worse reasoning in the media and our everyday lives. Fulfills the Quantitative Reasoning Part A requirement at UW-Madison, as well as the logic requirement at Edgewood College.

This course includes an introduction to propositional logic, but for those students interested in a formal (symbolic) logic course, see course #20809261, Elementary Logic, which fulfills the Quantitative Reasoning Part B requirement at UW-Madison, as well as the logic requirement at Edgewood College.

PHILOS 20809266 **Ethics In Medicine** **3 Credits/Units**

Behavior within the healthcare system, whether as a patient or as a healthcare worker, presents challenges that differ from the typical consumer environment or the typical workplace. This course explores these differences and presents and discusses ethical issues particular to medicine. Heightens awareness and examines ways to conduct one's self within this healthcare environment.

PHILOS 20809268 **Intro to Social and Political Philosophy** **3 Credits/Units**

An introduction to major historical and contemporary philosophical theories about society and the prerequisites of an ethical human culture. 'Culture' includes those qualities that we tend to take for granted, such as fairness and justice, autonomy and dignity, equality and opportunity. The philosophical nature of legitimacy and limits on power and domination in a liberal society are discussed and include readings from Hobbes, Locke, Rousseau, Mill, Rawls, Nozick, Marx and Walzer. While contemporary arguments, both good and bad, about what kind of society America should be surround us daily, a discussion of the philosophical justification for such arguments is a meaningful way of understanding the competing claims about social justice.

PHILOS 20809276 **Business Ethics** **3 Credits/Units**

Most of us will spend a large portion of our lives immersed in the world of work. As employees and/or employers, we face decisions everyday that depend on fundamental moral assumptions about honesty, fairness, liberty and privacy. We are all likely to have different ideas about what these concepts mean, or ought to mean, and justify our actions accordingly. This course aims to help us evaluate the moral choices we make in a business setting, and to that end philosophers employ the use of argument. By careful use of argument we will critically assess not only moral choices in the workplace, but also the moral assumptions that underlie capitalism, the economic system under which most people in the world are working. The issues that arise is business affect us all in critical ways. Whether we are debating the merits of affirmative action in hiring, corporate responsibility and profits, terms of employment, conflicts of interest or whistleblowing, this course will examine our assumptions and help us reach a clearer understanding of what we ought to do and why.

PHOTO 10203105 **Photo Composition** **2 Credits/Units**

A survey of composition as an important tool of the photographer that helps to establish purpose and meaning to visual statements. Includes an introduction to the history of photography and the field of professional photography through the work of some noted photographers. Written and photographic assignments are required.

PHOTO 10203107 **Studio Photography 1** **3 Credits/Units**
Basic theory and practical application of the fundamentals of photography. Students will learn the basics of DSLR cameras, lenses, the light meter, digital exposure and capture, basic studio lighting with hot lights and studio equipment handling.

PHOTO 10203108 **Studio Photography 2** **3 Credits/Units**
Continuation of Studio Photography 1 with emphasis on advanced studio strobe lighting techniques, and metering and exposure for extreme scenes. Students will also learn the differences between professional digital backs and DSLR systems through hands-on experience with each format.

PHOTO 10203109 **Studio Photography 3** **3 Credits/Units**
This is an advanced level studio course offering students the opportunity to hone their skills. The course consists of 3 projects created by the instructor and 3 created by the student. Student may choose to create images that express their individual areas of interest. Images that are created in this course may be used in final portfolios.

PHOTO 10203120 **Lighting Technique** **2 Credits/Units**
Lighting Techniques is a first-semester course and provides the cornerstone for concurrent and future photography and video production courses you will take in the program. Become familiar with the characteristics and qualities of light. Acquire specific skills in hard and soft light; lighting direction; incident and reflective exposure determination; lighting for shape and texture; lighting glassware; lighting reflective subjects; basic lighting for simple portraiture; and operation of professional lighting equipment in the studio.?

PHOTO 10203121 **Commercial Photography 1** **3 Credits/Units**
Professional digital photography with an emphasis on the production of photographic illustration of high quality for use in advertising, promotion and print ad. It combines lectures and demonstrations along with practical experience. Students will polish their photographic skills while developing additional skills in commercial photography.

PHOTO 10203124 **Portrait Photography** **2 Credits/Units**
Theory and principles of professional digital portrait photography. Studio and environmental portraiture. Emphasis on lighting, posing and character analysis.

PHOTO 10203125 **Business Of Photography** **1 Credits/Units**
This course is designed to help students understand the basic principles of creating a photo business. Throughout the semester students will research and create their own business plans. Areas such as sales revenue forecast, marketing, overhead and capital spending plan will be explored.

PHOTO 10203126 **Advanced Digital Studio Portrait** **2 Credits/Units**
Develops advanced studio portrait skills utilizing digital capture equipment for photo output. Emphasis on special projects and cooperative shooting situations with other programs using a wide variety of tools, materials and techniques.

PHOTO 10203129 **Professional Nature and Conservation Photography** **2 Credits/Units**
Closely surveys the fields of nature and conservation photography, including digital photo techniques and use of equipment and techniques for adjustment and manipulation of images. The work of successful professional nature photographers will be examined as examples for student work. The course includes photography in the field and review of student work by the instructor and classmates. The course will also include strategies for making a living from nature and conservation photography. Prerequisites: Student must have completed the first year of the Photography program, have a working knowledge of Adobe Photoshop and own a digital single lens reflex camera. Non-program professionals may enroll in the class with the consent of the instructor.

PHOTO 10203130 **Introduction to Photography and Video** **2 Credits/Units**
An Introduction to the common elements of the photography and videography process. The basic principles of effective composition, lighting, exposure and control of motion and focus are covered. Basics of portraiture and product photography is studied in a studio environment. Specific requirements to video content creation are addressed. Participants provide their own video-enabled DSLR camera. Please contact your program director prior to any camera purchase.

PHOTO 10203131 **Digital Photo 2** **2 Credits/Units**
A continuation of the Intro to Digital Photo course.

PHOTO 10203134 **Electronic Imaging** **3 Credits/Units**
This course explores advanced computer skills, issues and skills unique to electronic image handling, utilization of image enhancement software, operation of desktop scanners as input devices, preparation of image for the World Wide Web, and legal and ethical issues regarding electronic image handling and manipulation.

PHOTO 10203141 **Color Photography 1** **3 Credits/Units**
Basic introduction to additive and subtractive color theory using digital color principles. Digital image capture, manipulation and output will be covered, along with basic color management principles and techniques.

PHOTO 10203142 **Color Photography 2** **3 Credits/Units**
Uses hands-on exercises and assignments, requiring students to apply basic principles and techniques of digital color workflow to real-world imaging situations. Students will also learn and apply advanced principles and techniques of digital color workflow, and create their first significant digital color print portfolio.

PHOTO 10203173 **Photojournalism** **2 Credits/Units**
Photography for publication with the visual image used to relate events, ideas or circumstances. Students are exposed to techniques in which news stories can be communicated through visual images in print.

PHOTO 10203174 **Photography on Location** **3 Credits/Units**
From portraits and fashion to architecture and product, working on location presents unique challenges and involves a broad base of knowledge and resources. This class will cover a wide range of information pertaining to working on location. With a heavy focus on lighting techniques, from on camera flash to full strobe set ups and the production side of location photography.

PHOTO 10203176 **Photographic Communication** **2 Credits/Units**
Exploratory in nature, with emphasis on personal projects and the development of an individual style and identity. Students will be required to produce their own web site and self-promotion pieces.

PHOTO 10203185 **Portfolio Preparation - Photography Program** **2 Credits/Units**
This course teaches students how to assemble a professional photographic portfolio, showing prospective employers skills and capabilities learned during coursework in the Photography Program. Learning is enhanced via visits to the class by local photo professionals, who show their work to students and review student work. The Portfolio Show highlights the semester's efforts. Departmental approval of the finished portfolio is required.

PHOTO 10203199 **Photography Internship** **1 Credits/Units**
Off-campus experience in a professional photography setting.

PHYED 20807210 **Conditioning/Weight Training** **1 Credits/Units**
This course provides the learner to develop the knowledge skills process and understanding of exercise/resistance training through short lectures and physical activity using the fitness center to enhance muscular conditioning and personal fitness. The course also covers basic information about diet, nutrition, and weight management.

PHYED 20807213 **Co-Ed Flag Football** **1 Credits/Units**
This course will cover the skills, rules and strategies of flag football. It emphasizes individual and team offensive, defensive and kicking techniques as well as concepts of team organization and play. Considerable time is spent playing the game. Teams will be divided as equally as possible between gender and skill-level.

Course can be held at Truax on the new soccer field. In case of inclement weather, alternate site could be the gymnasium (would require advance schedule planning) or even the fitness center for conditioning work.?

PHYED 20807214 **Pickleball** **1 Credits/Units**
Pickleball, a fun activity for all ages, is played with a paddle and a wiffleball on a badminton sized court with a three-foot-high net. Development of basic skills, ball placement, teamwork, and match play are emphasized during extensive active practice and play. ?

PHYED 20807215 **Walking & Running for Fitness** **1 Credits/Units**
Provides instruction on the fundamentals of walking and/or running as a lifelong form of exercise, recreation, leisure, and/or competition. Provides students of any fitness level with group instruction on walking/running basics in conjunction with individualized programming set up by the instructor.

PHYED 20807219 **Introduction to Kinesiology** **2 Credits/Units**
This course is intended to introduce students to the field of Kinesiology. Introductory material about physical activity and health will be provided, and departmental faculty and invited speakers will discuss their areas of expertise. In addition, career opportunities in Kinesiology will be discussed.

PHYED 20807223 **Beginning Volleyball** **1 Credits/Units**
This is an introductory course in power volleyball. It includes skills basic to the power game as well as rules and strategy for the beginner player. Fitness activities specific to volleyball will be included.

PHYED 20807229 **Swimming for Fitness** **1 Credits/Units**
Swimming for Fitness is designed to help the student achieve and maintain a good fitness level and perfect swimming strokes. Recommendation: Intermed Swim, 20807231 or ability to swim 500 yards continuously and ability to perform front crawl, back crawl and breast stroke in good form.

PHYED 20807230 **Beginning Swimming** **1 Credits/Units**

This course introduces basic aquatic skills including front crawl, backstroke, breast stroke, and sidestroke. It also emphasizes the knowledge and skills necessary in treading water, diving and self rescue.

PHYED 20807245 Social Dance 1 Credits/Units
Social Dance is an introductory class in contemporary ballroom dance styles including the waltz, foxtrot, swing, tango and the cha-cha.

PHYED 20807247 Jazz 1 1 Credits/Units
This is an introductory course in contemporary jazz dance technique. Emphasizes the development of warm-up sequences, isolations, contractions, jazz walks, progressions, turns, combinations and improvisation

PHYED 20807248 Ballet 1 Credits/Units
Ballet introduces classical ballet technique and emphasizes the acquisition of proper ballet technique, postural alignment and increased flexibility.

PHYED 20807250 Badminton 1 Credits/Units
Badminton is an introductory course in competitive badminton which develops basic skills, strategy and knowledge of the rules of the game.

PHYED 20807254 Beginning Yoga 1 Credits/Units
This course introduces the practice of yoga. It explores the philosophy that underlies yoga as a means of stress management, fitness and conditioning. Designed for beginners, the course teaches gentle movements, yoga poses, breathing techniques and meditations that relax both the mind and the body.

PHYED 20807255 Prev/Care Athletic Injuries 2 Credits/Units
This course is designed to give an introduction to the care and prevention of athletic injuries, including emergency care, taping techniques and treatment/rehabilitation of injuries. It is also useful for students interested in the fields of athletic training, teaching or coaching.

PHYED 20807258 First Aid and CPR 2 Credits/Units
This course provides students with the knowledge, analytical skills and physical skills necessary in an emergency to help sustain life, reduce pain, and minimize the consequences of injury or medical emergency.

PHYED 20807264 Intermediate Yoga 1 Credits/Units
Enhances the practice of yoga. Continues the exploration and the philosophy that underlies yoga as a means of stress management, fitness and conditioning. Designed for intermediate participants, the course covers yoga poses, breathing techniques and meditations that relax both the mind and the body.

PHYED 20807266 Wellness Today 2 Credits/Units
Wellness Today is a contemporary approach to the total wellness concept. It covers fitness and exercise, nutrition and stress management, culminating with personal planning toward lifetime wellness

PHYED 20807267 Health & Fitness for Life 1 Credits/Units
A contemporary approach to the total wellness concept. It covers fitness, nutrition and stress management, culminating with personal planning toward lifetime wellness.

PHYED 20807268 Blueprint for Healthy Living 2 Credits/Units
Relax and practice manageable steps towards a healthier life during an offsite retreat in this class. Learn to incorporate balanced nutrition, stress management, yoga, meditation and more into your lifestyle. Then, travel to an offsite location and stay for three days and two nights immersed in a positive wellness environment with others.

PHYED 20807269 Stress Management Foundations 1 Credits/Units
Innovative approach to viewing stress as necessary and healthy, this course is designed to help individuals build resilience to stress. Combines interactive exercises, self reflective experiences, foundations of mindfulness based meditations, foundations of mindfulness based movements, guided imagery to improve mental focus, progressive muscle relaxation to aid deep relaxation, and specific breathing techniques to promote healthy self regulation and coping skills.

PHYED 20807271 Bicycle Conditioning 1 Credits/Units
Provides the opportunity for the learner to develop the knowledge skills process and understanding of cardiovascular endurance and fitness through short lectures and physical conditioning on stationary fixed-gear "spinning" bikes with music as a motivator.

PHYSICS 10806139 Survey of Physics 3 Credits/Units
This course emphasizes understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics.

PHYSICS 10806143 **College Physics 1** **3 Credits/Units**
This course presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation and applications. Topics include laboratory safety, unit conversions and analysis, kinetic, dynamics, work, energy, power, temperature and heat.

PHYSICS 10806154 **General Physics 1** **4 Credits/Units**
Presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.

PHYSICS 20806220 **Physics of Everyday Life** **3 Credits/Units**
Have you ever looked at something and said to yourself "I wonder how that works?" If so, this is the course for you. Physics of Everyday Life will explore basic principles of physics including classical mechanics, fluids, heat, resonance, waves, light and electricity and magnetism through the lens of everyday objects. We will gain insight through studying objects such as bumper cars, roller coasters, light bulbs, musical instruments, and microwave ovens.

PHYSICS 20806221 **University Physics 1** **5 Credits/Units**
University Physics 1 is the first semester of a one-year introductory course. Students develop a conceptual understanding of the basics of physics and are provided with practical hands-on lab experience, which helps to broaden the understanding of physics. This course covers the basic properties of motion, force, energy, momentum, rotation, fluids, heat and relativity. It stresses developing good problem-solving strategies.

PHYSICS 20806222 **University Physics 2** **5 Credits/Units**
University Physics 2 studies thermodynamics, electricity, magnetism, sound, geometric and physical optics through lecture, demonstrations and laboratory work.

PHYSICS 20806223 **University Physics 1-Calculus-Based** **5 Credits/Units**
This course is intended for students of science or engineering. The course covers mechanics and heat. It consists of five one-hour lectures and one three-hour laboratory per week and is equivalent to Physics 201 at the University of Wisconsin.

PHYSICS 20806224 **University Physics 2-Calculus Based** **5 Credits/Units**
This course is intended for students of science or engineering, and is a continuation of 20-806-223. It covers electricity, magnetism, light and sound and is equivalent to Physics 202 at the University of Wisconsin.

PHYSICS 20806235 **Modern Physics** **3 Credits/Units**
Modern Physics introduces students of science or engineering to special relativity, quantum physics, the Schrodinger equation, atomic structure, statistical physics, band theory of solids, semiconductors, nuclear physics, and special topics.

PHYSICS 20806287 **Special Topics: Energy Storage** **2 Credits/Units**
Study of energy storage systems for the renewable energy industry. The class will examine various types of storage technology, including electrochemical storage for both the electric and transportation sectors.

PHYSICS 20806290 **Renewable Energy for International Development** **3 Credits/Units**
The 3 credit Renewable Energy for International Development provides an examination of energy and economics in developing countries with special consideration given to renewable energy sources. The course combines 8 weeks of online instruction with 10 days of travel and study abroad in Costa Rica. Students will learn to specify, design, and install renewable energy systems for the developing world. Students will install operational renewable energy systems in the field with current renewable energy equipment. An alternate 1 credit course is also offered for transfer credit as 10-140-112, (Renewable Energy for the Developing World) that does not include the 8 weeks of online instruction.

PHYSICS 20806291 **Introduction to Renewable Energy** **3 Credits/Units**
This course provides an introduction to renewable energy technology. The course is grounded in the fundamentals of energy, power, and the first and second laws of thermodynamics. A scientific approach is used to examine various energy sources, including fossil fuels, nuclear, biomass, biofuels, solar, hydro, wind, geothermal, and ocean/tidal power. Various types of energy storage technology are also examined. Science and engineering challenges are examined for each energy technology, along with economic and environmental impacts. This course is suitable for any student with an interest in renewable energy, particularly those pursuing studies in scientific, technical, and engineering fields.

PHYSICS 20806292 **Solar Photovoltaic Technology** **3 Credits/Units**
Examines the scientific principles, engineering design, and economic analysis of solar photovoltaic systems. Complete a site assessment, specify hardware components, and model economic performance for a solar PV system. This course can be applied as an elective for several STEM degree programs at Madison College and four-year universities, particularly those with program emphases in sustainability and renewable energy.

PHYSICS 20806293 **Solar Photovoltaic Installation Lab** **1 Credits/Units**
In this hands-on course, students will install one or more fully operational full scale solar photovoltaic (PV) systems. The course is taught at the Commercial Avenue Campus Solar Training Lab, which features pitched roof, flat roof, and pole mount solar PV systems. Students will learn safe workplace practices, electrical code compliance, and interconnection commissioning procedures while working with solar panels, racking systems, DC/AC power inverters and other balance of system components. The course is taught as a two-day intensive short course in order to replicate the type of installation practices and working conditions that are common in the solar industry.

PHYSICS 31806363 **Science 1** **2 Credits/Units**
Science 1 covers basic principles of physics that have frequent and common practical applications for students pursuing vocations in trade and industry. This course relates applications to student vocational fields. Includes measurement, mechanics, machines, properties of matter, fluid principles, heat and electricity. Features lecture, discussion and laboratory.

PLASTIC 50463501 **Industrial Math 1** **1 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLASTIC 50463502 **Industrial Math 2** **1 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLASTIC 50463713 **Schematics for Apprentices** **1 Credits/Units**
Explore the basics of schematic print reading for the injection mold set up apprentice, and study topics including hydraulics, pneumatics, and electrical schematics. Print types, symbols, technical specifications, and how this information is used by the trade are included.

PLASTIC 50463714 **Introduction to Injection Molding** **2 Credits/Units**
Build skills and apply reading electrical, hydraulic, and pneumatic schematics to plastic injection molding in this course designed for the injection mold setup apprentice. Study topics such as injection molding, thermosets and thermoplastics, mold set up and start up, and the structure and properties of plastic.

PLASTIC 50463715 **Injection Mold Design** **2 Credits/Units**
Designed to introduce apprentices to blueprint reading and mold design. Apprentices will be introduced to various aspects of piece part design, mold design, and mold construction as they build skills in interpreting industrial prints. Course competencies include mold teardown and analysis, 3D modeling, and rapid prototyping.

PLASTIC 50463716 **Fundamentals of Plastics Processing** **2 Credits/Units**
Provides the injection mold setup person with an examination of plastics properties and structures; explores plastics processing and manufacturing; and reviews material selection and testing, material drying, and polymer heating, flow and solidification. Techniques for troubleshooting processes are introduced.

PLASTIC 50463717 **Plastic Processing Design & Troubleshooting** **2 Credits/Units**
Study various molding processes, including the injection molding process, during this course for the injection mold set up apprentice. This course provides the injection mold setup person with an examination of process optimization, quality, product testing, scientific injection molding principles, and fundamentals of learning manufacturing. Project based activities will help develop problem-solving and troubleshooting skills in the apprentices' final semester of related instruction.

PLUMBNG 50427550 **Trade Plumbing Semester 1** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427551 **Trade Plumbing Semester 2** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427552 **Trade Plumbing Semester 3** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427553 **Trade Plumbing Semester 4** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427554 **Trade Plumbing Semester 5** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427555 **Trade Plumbing Semester 6** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427556 **Trade Plumbing Semester 7** **2 Credits/Units**

Madison Area Technical College

This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427557 **Trade Plumbing Semester 8** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PLUMBNG 50427751 **Sanitary Drains 1** **2 Credits/Units**
Plumbing related instruction of sanitary drain systems. Course includes a review of codes and trade practices related to sanitary drains, drainage systems, components and applications.

PLUMBNG 50427752 **Vents and Venting Systems** **2 Credits/Units**
This course is designed to provide the apprentice with the skills to identify and design sanitary vent piping in a plumbing system in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

PLUMBNG 50427753 **Water Distribution 1** **2 Credits/Units**
Provides the apprentice with the skills to identify, design, install, and service various applications for water supply systems listed in plumbing codes. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. Topics will include commercial to single-family and private well pump systems. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Plumbing Apprentice students only.

PLUMBNG 50427754 **Water Distribution 2** **2 Credits/Units**
Provides the apprentice with the skills to identify, design, install, and service cross connection controls, water treatment equipment and multi-purpose piping systems in various plumbing systems in accordance with the Wisconsin Plumbing Code. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

PLUMBNG 50427755 **Sanitary Drains 2** **2 Credits/Units**
Provides the apprentice with the skills to identify, design, install, and service various applications for storm water, clear water, and drainage systems. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

PLUMBNG 50427756 **Private On-Site Wastewater Treatment Systems (POWTS)** **2 Credits/Units**
Provides the apprentice with the skills to identify, design, install, and service various applications for private on-site wastewater treatment systems that are listed in plumbing codes or individual component manuals. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. Other topics will include pretreatment, soil evaluation, site planning, and new technologies. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations.

PLUMBNG 50427757 **Green Plumbing Applications** **2 Credits/Units**
Provides Plumbing apprentices with an introduction to green applications and prepares students to take certification exams: Union Programs: UA Green Awareness Certification (geared toward journey workers, not apprenticeship) WTCS Programs: Green Plumbers USA Certification Program Learning materials from both certificate programs have been incorporated.

PLUMBNG 50427758 **Plumbing Advanced Topics/TSA** **2 Credits/Units**
Provides the apprentice with the opportunity to select and complete an applied plumbing project in collaboration with the instructor. Projects will apply the skills required to identify, design, install, and service various plumbing applications that are listed in plumbing codes. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course builds upon the theory, work experience, and the application of plumbing code principles addressed in previous coursework to support completing an applied hands-on project.

POLISCI 10809122 **Intro to Amer Government** **3 Credits/Units**
Introduction to American Government focuses on the structure and functioning of state and local governments within the context of federalism. It emphasizes decision making, structure, theory, behavioral characteristics and citizen participation.

POLISCI 20809216 **Introduction to Education and Teaching** **3 Credits/Units**
Women and the Law gives students access to basic legal information and explores fundamental issues that relate to gender and the law. The course covers five broad subject areas, and gives students an opportunity to explore a subject of particular interest to him/her concerning gender and the law. It enables students to access legal information, to use such information for their own needs and to practice using legal knowledge, in the workplace or in their personal lives.

POLISCI 20809218 **Law and Society** **3 Credits/Units**
Law and Society deals with the nature of law and legal processes as instruments of social control. Students are introduced to legal structures and processes, and examine the philosophy of law within political, social and economic frameworks.

POLISCI 20809220 **American Foreign Policy** **3 Credits/Units**

American Foreign Policy addresses conduct of the U.S. as an international actor. It covers problems, challenges and persistent patterns in American policy since the close of World War II. How foreign policy is made is included and attention is given to the interactions of individuals, groups, roles and organizations.

POLISCI 20809221 **American Ntl Govt** **3 Credits/Units**

American National Government utilizes a systems approach to emphasize the relationships between structure and behavior. Political theory and methodology are stressed. Students are encouraged to improve research and analytical skills. The course includes the U.S. Constitution, elections, interest groups, parties, mass media, congress, judiciary, the presidency and bureaucracy.

POLISCI 20809222 **State and Local Government** **3 Credits/Units**

State and Local Government addresses the functioning of state and local governments and relates them and their activities to the federal government. Behavioral characteristics of state and local governments in the total decision-making process are stressed. Discussion covers the importance and functioning of political parties, special interest groups, elections, legislatures, courts and executives.

POLISCI 20809223 **International Relations** **3 Credits/Units**

International Relations covers methods employed by nation-states in interacting with each other and the forces influencing the nature of interaction. Includes institutions that have been erected in nation-states' quest for power, peace and security. It emphasizes nationalism, ideology, regional integration and trade.

POLISCI 20809227 **Political Theory** **3 Credits/Units**

Political Theory is a subcategory within the broader social science discipline of Political Science. This course examines core political thinkers, concepts, and ideologies necessary to study and understand various political phenomena and critical interactions. This course presents fundamental knowledge and basic skill / ability training to research and discuss important political phenomena.

POLISCI 20809242 **Public Policy** **3 Credits/Units**

Public Policy is a subcategory within the discipline of Political Science. This course examines the public policy process in the United States using "project-based learning" methodology. Public policy is what elected officials and citizens do when government intervention is necessary to resolve a public problem. Upon completion of this course, students will be able to do the following: (a) Summarize the public policy-making process; (b) Analyze the costs and benefits of proposed public policy, and (c) Evaluate the success and failure of implemented public policy.

POLISCI 20809243 **Comparative Politics** **3 Credits/Units**

This course teaches students how to use comparative methodology to analyze and evaluate various political institutions. Students enrolled in this course will (a) use "most-similar" and "most-different" approaches to study political phenomena within a global context and (b) develop "core abilities" such as critical thinking abilities and communication skills.

POLISCI 20809244 **Russian Politics** **3 Credits/Units**

This undergraduate course advances student knowledge, understanding, and appreciation of the Russian political system using a multidisciplinary approach. In this course students use "worlds systems theory" and "comparative methodology" to (a) "review" relevant political system history, (b) "summarize" important informal & informal institutions, (c) "analyze" critical political system variables, and (d) "evaluate" political system variables within a globalizing international environment.

POLISCI 20809245 **Latin American Politics** **3 Credits/Units**

Gender and Politics covers topics such as feminism, intersectionality, political participation and representation, and social movements. Students in this course will analyze, evaluate, and compare the effects of strategies to enhance gender equality, and women's political participation and representation, across state, national, and international institutions.

POLISCI 20809246 **African Politics** **3 Credits/Units**

This undergraduate course advances student knowledge,understanding, and appreciation of the African political system using an interdisciplinary approach (i.e., social sciences and humanities). In this course students use worlds systems theory and comparative methodology to (a) review relevant political system history, (b) summarize important informal & information institutions, (c) analyze critical political system variables, and (d) evaluate political system variables within a globalizing international environment.

POLISCI 20809247 **East Asian Politics** **3 Credits/Units**

undergraduate course advances student knowledge,understanding, and appreciation of the Asian political system using an interdisciplinary approach (i.e., social sciences and humanities). In this course students use worlds systems theory and comparative methodology to (a) review relevant political system history, (b) summarize important informal & information institutions, (c) analyze critical political system variables, and (d) evaluate political system variables within a globalizing international environment.

POLISCI 20809248 **Politics of India** **3 Credits/Units**

This course examines the Political system of India by summarizing, analyzing, and evaluating its formal/informal political insitutions. This course provides each student with fundamental knowledge and basic skill/ability training to engage in meaningful Global Studies.

PSYCH 10809188 **Developmental Psychology** **3 Credits/Units**

Developmental Psychology is the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others.

PSYCH 10809199 **Psychology Of Human Relations** **3 Credits/Units**

This course explores the relationship between general psychological principles and our everyday lives. Students are given the opportunity to achieve a deepened sense of awareness of themselves and others. This understanding is applied to human relations at home and on the job.

PSYCH 20809201 **Human Sexuality** **3 Credits/Units**

Human Sexuality covers how intimate relationships develop, how to maintain warmth and closeness in relationships and how sexuality is expressed throughout the life cycle. Also covers practical information regarding sexually transmitted diseases, contraception and pregnancy.

PSYCH 20809210 **Psychology of Men** **3 Credits/Units**

Psychology of Men examines and analyzes ways biology, culture and society shape identity and life experiences of the American male. Included in the course are historical views, socialization, manliness, competitiveness and sports, violence and war, work and success, sexuality, health, relations with other men, women and children, and alternatives for men.

PSYCH 20809225 **Social Psychology** **3 Credits/Units**

Social Psychology is the study of the individual in the social setting. Topics include interpersonal attraction, aggression, sex roles, attribution, altruism, obedience, conformity, attitude change and others.

PSYCH 20809231 **Intro Psychology** **3 Credits/Units**

Introduction to Psychology is a study of individual and social behavior including its psychological and physiological bases, development, motivation, emotion, perception, learning and behavior disorders. This course is a prerequisite for several college transfer courses in psychology.

PSYCH 20809233 **Developmental Psychology** **3 Credits/Units**

Developmental Psychology covers the principles of human growth and behavioral development, from conception to death. Topics include methods of studying human behavior, theoretical approaches, individual differences, patterns and sequences of development, and relationships with peers and others.

PSYCH 20809234 **Psychology of Women** **3 Credits/Units**

Review psychological theories and research on women and gender, focusing on uniquely female experiences throughout the life cycle. We will explore the diversity of women by examining the impact of social factors such as race, ethnicity, class, and sexual orientation as they relate to sexism, gender roles, sex differences, language, emotion, motivation, relationships, sexuality, employment, victimization, parenting, and health.

PSYCH 20809237 **Abnormal Psych** **3 Credits/Units**

Abnormal Psychology covers the definition of abnormal behavior, assessment techniques, and descriptions of psychological disorders. It examines theoretical perspectives (biological, psychological, sociocultural) and approaches to treating these disorders.

PSYCH 20809239 **Child Human Development** **3 Credits/Units**

This course covers the biological, cognitive and psychosocial aspects of development from conception through childhood.

PSYCH 20809249 **Educational Psychology** **3 Credits/Units**

This course provides the opportunity for learners to develop knowledge, skills and understanding of educational psychology. Learners will explore contemporary and historical theories surrounding teaching and learning. We will explore both pedagogical (child) and andragogical (adult) learning theory focusing on research, best practices, motivation, development, individual differences, diversity, technology and areas of controversy and debate.

PSYCH 20809296 **Cognitive Psychology** **3 Credits/Units**

This course will focus on the theoretical and empirical issues involved in both learning and cognitive processes. The nature of decision-making, language, memory, concept attainment, learning, perception, and problem solving, along with applications of these concepts will be explored.

PSYCH 20809297 **Sport and Performance Psychology** **3 Credits/Units**

Sport and Performance Psychology is the multi-disciplinary study of the important elements connected to the psychology of the human being ability to achieve peak performance. The course will address the components required for success on the ball field, in the classroom, on the stage or while at work in one's career.

PSYCH 50809551 **Job Relations** **0 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

PTASST 10524139 **PTA Patient Interventions** **4 Credits/Units**
An introduction to basic skills and physical therapy interventions performed by the physical therapist assistant.

PTASST 10524140 **PTA Professional Issues 1** **2 Credits/Units**
Introduces the history and development of the physical therapy program; legal and ethical issues; the interdisciplinary health care team; and professional communication skills.

PTASST 10524142 **PTA Therapeutic Exercise** **3 Credits/Units**
Provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt, and assess responses to therapeutic exercises.

PTASST 10524143 **PTA Therapeutic Modalities** **4 Credits/Units**
Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA.

PTASST 10524144 **PTA Princ of Neuro Rehab** **4 Credits/Units**
Integrates concepts of neuromuscular pathologies, physical therapy interventions, and data collection in patient treatment.

PTASST 10524145 **PTA Princ of Musculo Rehab** **4 Credits/Units**
Integrates concepts of musculoskeletal pathologies, physical therapy interventions, and data collection in patient treatment.

PTASST 10524146 **PTA Cardio and Integumentary Management** **3 Credits/Units**
Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions, and data collection in patient treatment.

PTASST 10524147 **PTA Clinical Practice 1** **2 Credits/Units**
Provides a part-time clinical experience to apply foundational elements, knowledge, and technical skills pertinent to physical therapy practice.

PTASST 10524148 **PTA Clinical Practice 2** **3 Credits/Units**
Provides another part-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings.

PTASST 10524149 **PTA Rehab Across the Lifespan** **2 Credits/Units**
A capstone course that integrates concepts of pathology, physical therapy interventions and data collection across the lifespan. In addition the PTA's role in health, wellness and prevention; reintegration, and physical therapy interventions for special patient populations will be addressed. Pre-requisites: 10-524-144, 10-524-145, 10-524-146, 10-524-147; Co-requisites: 10-524-148, 10-524-150, 10-524-151.

PTASST 10524150 **PTA Professional Issues 2** **2 Credits/Units**
Incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communication strategies. Pre-requisites: 10-524-144, 10-524-145, 10-524-146, 10-524-147; Co-requisites: 10-524-148, 10-524-149, 10-524-151.

PTASST 10524151 **PTA Clinical Practice 3** **5 Credits/Units**
Provides a full-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings.

PTASST 10524156 **PTA Applied Kinesiology 1** **4 Credits/Units**
Introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landsmarks of the lower quadrant in addition to assissing range of motion and strength.

PTASST 10524157 **PTA Applied Kinesiology 2** **3 Credits/Units**
Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification of muscles, joints, and other landmarks. Assess range of motion and strength of the axial skeleton and upper quadrant. Integrate analysis of posture and gait.

RADTEC 10526149 **Radiographic Procedures 1** **5 Credits/Units**

Prepares radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. Corequisites: 10-526-150, 10-526-158, 10-526-159, and 10-526-168.

RADTEC 10526158 Introduction to Radiography 3 Credits/Units

Introduces students to the role of radiography in health care. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences. Corequisites: 10-526-149, 10-526-159, 10-526-168.

RADTEC 10526159 Radiographic Imaging 3 Credits/Units

Introduces radiography students to the process and components of imaging. Students determine the factors that affect image quality including contrast, receptor exposure, spatial resolution and distortion.

RADTEC 10526168 Radiography Clinical 1 2 Credits/Units

This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

RADTEC 10526174 ARRT Certification Seminar 2 Credits/Units

Radiography prepares individuals for a career in diagnostic radiology (x-ray) as a radiographer. The radiographer is a technologist who produces images of the human body to aid physicians in the diagnosis of injuries and diseases. Grades of the program are eligible to take the entry-level certification examination administered by the American Registry of Radiography Technologists (AART) and may obtain employment in x-ray departments associated with hospitals, medical clinics, veterinary clinics, and private offices.

Program curriculum focuses on theoretical and applied radiography and includes a clinical experience in a radiographic department. The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Students learn to use x-ray imaging machines to demonstrate body parts on x-ray films for diagnostic purposes, including diagnostic radiology, bedside and trauma procedures, pediatric radiography, and special procedures.

RADTEC 10526189 Radiographic Pathology 1 Credits/Units

Prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications, and prognosis and locate the radiographic appearance of pathologies.

RADTEC 10526190 Radiography Clinical 5 2 Credits/Units

This fifth-level clinical course prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

RADTEC 10526191 Radiographic Procedures 2 5 Credits/Units

Prepares radiography students to perform routine radiologic procedures on various parts of the body including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

RADTEC 10526192 Radiography Clinical 2 3 Credits/Units

This second level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

RADTEC 10526193 Radiography Clinical 3 3 Credits/Units

This third level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting.

RADTEC 10526194 Imaging Equipment Operation 3 Credits/Units

Introduces radiography students to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions. Prerequisite: 10-526-193. Corequisites: 10-526-195, 10-526-196 and 10-526-199

RADTEC 10526195 Radiographic Image Analysis 2 Credits/Units

Prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors.??

RADTEC 10526197 Radiation Protection & Biology 3 Credits/Units
Prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and hoe radiation affects cell biology. Students apply standards and guidelines for radiation exposure.

RADTEC 10526198 Radiography Clinical 6 2 Credits/Units
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

RADTEC 10526199 Radiography Clinical 4 3 Credits/Units
This fourth level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

RADTEC 10526230 Advanced Radiographic Imaging 2 Credits/Units
Explores the factors that impact image acquisition, display, archiving and retrieval. Guidelines for selecting exposure factors and evaluating images within digital systems are discussed. Principles of digital system quality assurance and maintenance are presented.

RADTEC 10526231 Imaging Modalities 2 Credits/Units
Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy.

RESPC 10515111 Respiratory Survey 3 Credits/Units
Examines the role of the Respiratory Therapist within the healthcare community. Reviews the ethical, legal, and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored. Pre-requisities: Acceptance into the Respiratory Therapy program. Corequisites: 20-806-206, General Anatomy & Physiology and 10-806-134, General Chemistry.

RESPC 10515112 Respiratory Airway Management 2 Credits/Units
Focuses on adult respiratory critical care including management of mechanical ventilation and artificial airways.

RESPC 10515113 Respiratory Life Support 3 Credits/Units
Focuses on adult respiratory critical care including management of mechanical ventilation. Prerequisites: 10-515-175, 10-515-112 Corequisites: 10-515-178 & 10-515-179.

RESPC 10515171 Respiratory Therapeutics1 3 Credits/Units
Introduces the topics of medical gas administration and humidity and aerosol therapy. The learner will apply physics, math and patient assessment concepts to oxygen, aerosol and humidity therapy.

RESPC 10515172 Respiratory Therapeutics 2 3 Credits/Units
Introduces therapeutic procedures including arterial puncture, bronchial hygiene, lung expansion therapy, and pulmonary rehabilitation.

RESPC 10515173 Respiratory Pharmacology 3 Credits/Units
Examines basic pharmacology principles, drug dosage, and calculations. Medications for inhalation including mucolytics, bronchodilators, and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers, and antimicrobials.

RESPC 10515174 Respiratory/Cardiac Physiology 3 Credits/Units
Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent Respiratory Therapist.

RESPC 10515175 Respiratory Clinical 1 2 Credits/Units
Introduces respiratory Therapy practice in the hospital setting. Includes the development of skills such as basic therapeutics, patient assessment, medical record review, safety practices, patient interaction, and communication.

RESPC 10515176 Respiratory Disease 3 Credits/Units
Exploration of signs, symptoms, causes, progression, and treatment of obstructive, restrictive and infectious diseases or disorders of the body that affect the respiratory system. Prerequisites: 10-515-175. Corequisites: 10-515-177, 10-515-178, and 10-515-179

RESPC 10515178 Respiratory Clinical 2 3 Credits/Units

Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 12 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical.

RESPC 10515179 **Respiratory Clinical 3** **3 Credits/Units**

Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 19 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical.

RESPC 10515180 **Respiratory Neo/Peds Care** **2 Credits/Units**

Provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, noninvasive and invasive therapeutic interventions.p

RESPC 10515181 **Respiratory/Cardio Diagnostics** **3 Credits/Units**

Advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine.

RESPC 10515182 **Respiratory Clinical 4** **3 Credits/Units**

Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modification in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 26 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical.

RESPC 10515183 **Respiratory Clinical 5** **3 Credits/Units**

Focuses on the completion of respiratory therapy competencies and transition to employment. This course includes the complete program competency list. At the completion of this clinical learners must demonstrate competence in all of the required and/or simulated competencies. The instructor may identify specific competencies to be addressed during this clinical.

RESPC 10515184 **Neonatal Pediatric Resuscitation (NRP)** **1 Credits/Units**

Provides the student with the practice, theory and skills needed to provide advanced ventilation and resuscitation to infants and children.

RLEST 10194182 **Real Estate Law and Sales** **4 Credits/Units**

Designed to acquaint students with the field of real estate as well as Wisconsin real estate law. This course also meets the educational requirements for the Wisconsin Real Estate Salesperson's examination. It covers topics such as laws of agency, property ownership, real estate contracts, title issues, real estate financing, fair housing laws, landlord/tenant laws, business ethics, and various other subjects related to the real estate profession. It is particularly oriented toward Wisconsin laws.

RLEST 10194185 **Real Estate Broker Management** **4 Credits/Units**

Designed to build on the Real Estate Law course, Real Estate Brokerage looks at real estate management including business and financing management, trust accounts, proper use of forms, agency contracts, ethical requirements, office management and transactional concerns. The course is oriented toward real estate brokerage in Wisconsin and fulfills the educational requirement for the Real Estate Broker license in Wisconsin.

RLEST 10194195 **Real Estate Internship** **3 Credits/Units**

Requires work experience within an approved organization as well as under the sponsorship of someone at the management level. The real estate intern is required to complete 140 hours of supervised work. The intern will complete a final work report at the completion of the semester while the sponsor will complete a job performance evaluation. Class time concentrates on the internship experience. The intern prepares a resume and develops a job strategy as a means of preparing for full-time work upon graduation.

SMENG 31461324 **Engine Fundamentals** **5 Credits/Units**

This nine-week course covers the principles of small internal combustion engines, including two-cycle and four-cycle. Design, construction, engine testing, and diagnosing are all covered. Students become familiar with the tools, machines and equipment that are used for engine repair work in the power equipment shop.

SMENG 31461325 **Engine Diagnostics** **5 Credits/Units**

This nine-week course covers diagnostics, repairing, re-assembly and engine break-in. Other topics covered include engine tune-up, carburetion and electrical systems as well as snowmobiles, chainsaws, sharpening and balancing of rotating elements are included

SMENG 31461326 **Electrical & Drivetrains 1** **5 Credits/Units**

This nine-week course covers electrical systems in great detail. Students study the basic principles of electricity and magnetism. The proper use of meters is covered. Students learn how to service and troubleshoot charging, ignition, starting, safety interlocks and instruments. Concepts and understanding of drivetrains, their function, and diagnostics are covered.

SMENG 31461327 **Electrical & Drivetrains 2** **5 Credits/Units**

This nine-week course is a continuation of Electrical & Drivetrains 1. This additionally covers power transmissions of all of the above equipment. Topics include transmissions, clutches, hydro transaxles, wheels, tires, belts, chains and stern drives. ATVs also are studied in detail.

SMENG 31461328 **Engine Lab 1** **1 Credits/Units**

Students work on individual projects that have been approved by the instructor to continue developing advanced technical knowledge and skill in any of the motorcycle, marine or small engine service areas.

SMENG 31461329 **Engine Lab 2** **1 Credits/Units**

Students continue work on individual projects that have been approved by the instructor to continue developing advanced technical knowledge and skill in any of the motorcycle, marine or small engine service areas.

SMLBUS 10145102 **Small Business Development** **3 Credits/Units**

Provides an introduction to prospective small business owners to the principles involved in planning and operation. Attention is given to small business appraisal and opportunities. Emphasis will be placed on factors that contribute to a successful business operation.

SMLBUS 10145105 **Operations Management** **3 Credits/Units**

Small business management strategies are applied to policies and operations. Included are applications to budgeting, marketing potentials, forecasting, layout, staffing, work flow, scheduling, and general business decisions. E-commerce is also explored.

SMLBUS 10145106 **Small Business Marketing** **3 Credits/Units**

Developing and refining the marketing and promotion plans for a small business. Topics for discussion include merchandise/service resources, budgeting, study of competition, market segmentation, pricing, promotion, non-media ways to get customers to come to your business, and strategic planning.

SMLBUS 10145108 **Field Experience** **2 Credits/Units**

Employment in an approved occupation related to the student's future business plans is a prerequisite. Reports and discussion in class are coordinated with student employment. Employee appraisal, evaluation and harmony on the job will also be topics of discussion. The course requires a minimum of 144 hours of employment.

SMLBUS 10145117 **Introduction to Entrepreneurship** **3 Credits/Units**

Dreaming of starting your own business? This course is designed to inspire and nurture the entrepreneurial spirit. Students will examine the entrepreneurial process and characteristics of successful entrepreneurs, how to identify and evaluate entrepreneurial opportunities, and the critical elements of an effective business plan -- including management, marketing, and financial data. So whether you dream of a new business, or have a plan that needs further development, this course can help you reach your goals.

SMLBUS 10145122 **Studies in Gratitude, Optimism, and Well-Being** **3 Credits/Units**

Explore mindfulness and resilience techniques that assist in achieving work or other life goals. Examine research-based exercises and strategies to increase gratitude, develop optimism and improve well-being. Learn how to develop habits, overcome obstacles and align character strengths to daily activities. Implement coping mechanisms to foster a purpose-driven life.

SMLBUS 10145123 **Leading Your Life with Emotional Intelligence** **3 Credits/Units**

Explore the history and research, as well as the different components of emotional intelligence that affect all aspects of your life. Learn how our emotions drive learning, decision-making, creativity, relationships and mental health. Develop strategies to help you build cooperative relationships, handle difficult situations, and create energy and enthusiasm to foster meaningful change in your personal and professional life. Create an action plan to improve and strengthen your emotional intelligence as well as experiment with techniques that facilitate working with others of varying emotional backgrounds and competency levels.

SMLBUS 10145165 **Entrepreneurship for the Small Farmer or Butcher** **3 Credits/Units**

Course for students who are interested in owning a small farm or a butcher shop. Students will gain a linear knowledge of starting up a small farm or a bucher shop while learing the how to maintain their business in a sustainable manner.

SMLBUS 10145185 **Customer Service Management** **3 Credits/Units**

This course examines the general state of customer service in organizations for both internal & external customers. Explores how a business can enhance their competitive position by adopting and implementing a variety of service initiatives. Topic areas range from practicing necessary customer service skills, such as communication, listening and conflict management to discussing service strategies used by top companies.

SOC 10809172 **Introduction to Diversity Studies** **3 Credits/Units**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored.

SOC 10809197 Contemporary Amer Society 3 Credits/Units

This is an interdisciplinary course covering issues that illustrate how our traditional institutions (such as family, education, media, the workplace, the economy and government) are being changed by global political, demographic, multicultural and technological trends. By exploring contemporary issues, students expand their use of critical-thinking skills.

SOC 20809202 Social Problems 3 Credits/Units

This course examines the major issues confronting society: economic and political change, nationalism, racial and ethnic relations, sexism, socioeconomic class, crime and justice, health and education, and family life. It discusses causes, effects, possible solutions and future trends. This course requires student participation in reading, writing and discussion.

SOC 20809203 Intro Sociology 3 Credits/Units

Introduces students to the field of Sociology. Defines and examines the concepts and realities of social structure, culture, socialization, complex organizations, class, inequality, social groups and social change. Special emphasis is given to institutions such as the family, religion, education, politics, economics and the media.

SOC 20809204 Marriage and the Family 3 Credits/Units

Examines the changes in the structure, function and definition of family from a social science perspective. The social, historical, cultural and economic sources of these changes are explored along with a critical examination of what these changes have meant for children, women, men, and society as a whole, especially in recent decades. Contemporary issues and debates are explored, with an emphasis on research evidence. The goal of the course is for students to evaluate their assumptions about marriage and family as they become more informed by social science research, and, on a practical level gain knowledge and insight for navigating the challenges of intimate relationships and family life.

SOC 20809207 Criminology 3 Credits/Units

Course develops a sociological framework for the study of crime. It starts by building a foundation for exploring crime—what social factors influence our definition of crime, how we measure crime, the trends and changes in crime rates and patterns, and approaches to crime control. Students will examine theories from a range of inter-disciplinary perspectives on the etiology and causes of crime and criminal behavior. Throughout the course there is an emphasis on current research, policies and practices on how we respond the crime problem. The goal of this course is to get students thinking about the nature of crime and justice, the complex sources of crime, and to engage in critical thinking on how we respond to crime. What is working? What is not working? What research can we critically examine? What are the social costs of current practices? How can we do better?

SOC 20809229 Social Movements 3 Credits/Units

The Social Movements course examines social movements from a sociological perspective with an emphasis on the United States. It anaylzes what constitutes a social movement using a cross cultural as well as a cross political system approach. This course also analyzes the causes of social movements, underscoring the issues of race, class, gender, religion, ethnicity and multiculturalism in regard to legal, political and social equality. Finally, the course will evaluate prospects for social change.

SOC 20809240 Introduction to Latin America 3 Credits/Units

Introduction to Latin America provides an interdisciplinary introduction to Latin America. Focuses are on history, politics, economics, society and culture. This course provides a broad and multi-faceted exposure to several themes in particular: historical legacies that shape Latin American life, the experience of revolution and counter-revolution, various economic development strategies, contemporary social change and cultural expression. All of these themes include specific case studies as well as a general overview.

SOC 20809251 Sociology of the Middle East and North Africa 3 Credits/Units

In this age of globalization and multiculturalism, this course provides the opportunity for the learner to develop the knowledge skills process and understanding of a sociological analysis of the political, cultural, and social history of the Middle East and North Africa (MENA). It will follow a comparative approach in assessing the patterns and processes of social, political, economic, and cultural developments in various Middle Eastern and North African states and societies. The focus will be on several key issues such as ethnic and religious diversity, colonialism, culture and cultural reform, nationalism, overview of the East/West relations, the role of religion and current areas of conflict. As a sociology course, emphasis will be placed upon the interactions between the structures and institutions of the corresponding societies, their people, and those abroad. No prior background of the region will be assumed or expected. However, students enrolled in this class will be expected to follow the news related to the Middle East on a daily basis.

SOC 20809252 Race and Ethnicity in the U.S. 3 Credits/Units

Explores how the social constructions of race and ethnicity shape U.S. society and examines structural inequalities and majority-minority group relations. Emphasizes explanations of forms of racism, ethnic and racial prejudice and discrimination; historical background; and forms of cultural resistance and common experiences of African Americans, Indian Americans, Latinos, Asian Americans and other marginalized racial and ethnic groups. Considers employment, housing, political, legal, educational, and familial and health consequences of unequal power. Discusses current policy debates and proposed solutions to inequalities.

SOC 20809253 Sociology of Gender 3 Credits/Units

Sociologically examines the importance and power of gender, particularly as it pertains to the status of women and men in society. Students explore the social construction of gender and its impact on identity, roles, relationships, and life experiences. Attention is given to the gender socialization process as well as the ways in which gender impacts romantic and family relationships, division of labor, parenthood, sexuality, crime and violence, media, employment, health, education, religion, political participation, and power. Throughout the course, students reflect upon past, present, and future gender patterns, considering the cultural reinforcement of gender norms as well as the ways in which individuals and institutions challenge them.

SOC 20809255 Introduction to LGBTQ+ Studies 3 Credits/Units

Introduction to LGBTQ+ Studies is a sociology course that provides students with the conceptual and analytical tools to understand the LGBTQ+ community. Students will be able to examine historical documents and experiences to comprehend social constructionism, critically unpack the concepts of intersectionality and matrix of domination, understand interactive dynamics within historically oppressed and marginalized groups, dissect positions normalization within social institutions, identify patterns of activism and identity politics, critique contemporary legal and political debates regarding rights and inequalities, analyze the representation of LGBTQ+ within popular culture, and breakdown concerns over assimilation as a concept and a practice. This course will focus mainly on the United States but will include discussions on the global. Academically, the main approach applied in this course will be from Sociology and its subfield of Queer Theory, though work used will be interdisciplinary in nature.

SOC 20809275 Sociology of Religion 3 Credits/Units

This course introduces students to the sociological study of religion, including understanding the significance of religion for social structures and culture, the interaction of religion and society, and the religious dimension in secular societies.

SOC 20809277 Couple Relationships 1 Credits/Units

Introduces students to empirical research findings on relationship and marriage success and failure as well as to one of the most nationally recognized skills-based prevention programs for couples. Students will learn to distinguish the patterns that erode as well as protect relationships; students will gain skills and strategies that research has identified for strengthening intimate relationships.

SOC 20809291 Technology and Society 3 Credits/Units

This sociology course introduces students to the field of Science and Technology Studies. Examines its history, the role of science and technology in our everyday lives, and applications of science and technology. Topics include AI, surveillance, medicine, the role of the market in science and technology, the role of data, and the ethical consequences of technology.

SOC 20809293 Field Experience in Latin America 1 Credits/Units

This 1-credit experiential learning course is designed to complement the Introduction to Latin America course offered at Madison College. Students will spend 10 days on the island of Cuba visiting historic and cultural sites and receive instruction in English. Students gain exposure to Cuban history and culture and the Spanish language, and engage in cross-cultural observation.

SOC 20809295 Victimology 3 Credits/Units

This sociology course introduces students to the study of victimization. Studies patterns, theories, and consequences of different victimization types. Explores evolution of victims' rights movement and strategies to empower victims. Looks at how social inequalities shape perceptions and treatment of victims.

SOCSCI 20809206 Introduction to Women's Studies 3 Credits/Units

Women's status and roles in contemporary U.S. society are investigated by analyzing various disciplines and institutions such as the family, law, medicine, psychology, education, religion and the media as they impact upon the socialization process and the classification of people by gender.

SOCSCI 20809215 Education in a Pluralistic Society 3 Credits/Units

Students will engage and explore diverse educations of people in the United States, and beyond through lenses of privilege, oppression, and opportunity. With self-analysis, reflection, historical investigation, contemporary school programming, schools and society, and communication-skill building, students learn how to be culturally responsive to contexts of communities.

SOCSCI 20809230 Statistics for the Social Sciences 4 Credits/Units

This course provides the learner with an introductory understanding of statistics for the social sciences and how statistics are applied to the social world. Learners will build skills in analytical and critical thinking through the application of quantitative knowledge to social questions. Discussion will center on problems of data collection, analysis, interpretation, and reporting. Course components will focus on measuring variables, measures of central tendencies, the utility of descriptive statistics, and introduction to inferential statistics and its predictive nature, the differences between samples and populations, and the increased capacity to read and display statistical information. Learners will develop statistical knowledge and skills through the use of software, SPSS, increasing their technological abilities.

SOCSCI 20809254 Research Methods for the Social Sciences 3 Credits/Units

Students interested in economics, political science, psychology, and sociology are prepared to critically evaluate scholarly research; design a sound, ethically conducted study; collect data; analyze qualitative and quantitative data; evaluate findings, and improve scientific writing skills. Take as general elective or Social Science Data Analytics Certificate course.

SOCSCI 20809256 International Perspectives on Gender and Women 3 Credits/Units

Explore diverse experiences of gender and women with an international focus. Interdisciplinary in nature, course topics and themes vary each semester. Opportunities to learn from, network with, and empower women as well as cultivate cultural sensitivity and intercultural communication - valuable skills in a global community and economy. Study abroad option available

SOCSCI 20809257 Gender and Women's Studies-Study Abroad Experience 1 Credits/Units

Step outside the United States and explore the realities of gender and women in other countries and cultures. Through a combination of experiential learning, class discussions, and personal reflections, students will gain a deeper appreciation for the complex gender dynamics at work in our global community.

SOCSCI 20809269 Energy And Society 3 Credits/Units

The American experience is better understood within the context of the history of energy consumption and production. Our nation's future is inextricably connected to our resolution of the challenges we face with respect to energy. Analyses and solutions require an interdisciplinary approach. The course "Energy and Society" considers the technical, economic, political, environmental, ethical and social contexts of the topic of energy.

SOCSCI 20809294 Introduction to Data Analytics 3 Credits/Units

This course is an introduction to data analytics. Topics include data collection and cleaning, handling missing data, exploratory data analysis, basic statistical methods, and techniques for visualization of data. Useful data science tools will be introduced, including Excel, SQL, and statistics packages like R or Tableau.

SOCSCI 20809908 Honors-Ethnic Studies (3cr) 3 Credits/Units

Qualified Honors student pursues special concentration of study with faculty member. Requires an Honors Project Contract and permission from Honors faculty. May be taken more than once. Eligibility: 1) min. 12 credits at Madison College, 3.5+ GPA; or 2) High School 3.5+ GPA and letter of recommendation. See website at https://madisoncollege.edu/honors.

SPANISH 10802102 Introductory Spanish Conversation 1 3 Credits/Units

Introductory Spanish Conversation is a three-credit, non-college transfer class. At the end of the course, students will be able to carry on uncomplicated conversations about concrete, limited topics. To emphasize speaking and listening skills, the course includes substantial practice in understanding and producing the spoken language. Basic grammatical and structural concepts are introduced, and the development of vocabulary skills is highlighted. Cultural topics are also discussed.

Introductory Spanish Conversation is intended for (a) students who want an introduction to Spanish for communicative purposes and (b) students who need a one-semester introduction to the language before beginning the more intensive college-transfer Spanish courses.

SPANISH 20802211 Spanish 1 4 Credits/Units

This course is for students beginning the study of Spanish or those who need to review the basics before going on to Spanish 2. Students will learn to participate in uncomplicated conversations on everyday topics and gain a better understanding of and appreciation for people and cultures other than their own.

SPANISH 20802212 Spanish 2 4 Credits/Units

This course is for students who have completed 1 year of high school Spanish OR 1 semester of college Spanish. Students will learn to understand more complicated conversations and readings and respond with longer, more complex sentences and even paragraphs. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

SPANISH 20802213 Spanish 3 4 Credits/Units

This course is for students who have completed 2 years of high school Spanish OR 2 semesters of college Spanish. Students will learn to speak and write at an intermediate level, with an ability to discuss topics that require higher level thinking and more complex structures. Emphasis will be placed on gaining a better understanding of and appreciation for other cultures.

SPANISH 20802214 Spanish 4 4 Credits/Units

This course is for students who have completed 3 years of high school Spanish OR 3 semesters of college Spanish. Students will expand their ability to speak and write at an intermediate level, increasing both the quality and quantity of language produced. Emphasis will be placed on gaining a deeper understanding of and appreciation for other cultures.

SPANISH 20802215 Spanish 5 3 Credits/Units

This course is for students who have completed 4 years of high school Spanish OR 4 semesters of college Spanish. Students will study advanced grammar with the objective of improving their ability to speak and write accurately in Spanish. Readings of cultural, historical and literary significance will be used to advance students' proficiency.

SPANISH 20802218 Spanish 6 3 Credits/Units

This course is an in-depth study of important cultural-historical issues of the Hispanic world from pre-Columbian times to present day. Literary readings will be used to advance language proficiency with emphasis on advanced grammatical structures, writing, research, oral communication and analysis. Spanish 6 is offered through the study abroad program in Costa Rica.

SPEECH 10801198 Speech 3 Credits/Units

This course presents the basic techniques of effective public speaking and listening for students in degree or diploma programs. Students improve their oral communication skills through analysis of purposive listening, preparing and presenting informative and persuasive speeches and using the group process to discuss issues and solve problems. It emphasizes audience analysis, audio-visual techniques, speaker evaluation and group work.

SPEECH 20810202 Theory & Practice of Argumentation and Debate 3 Credits/Units

This course focuses on the theory and practice of argumentation. On the theoretical level, we will seek to conceive the operations of social and personal transformation that can take place during debate. In particular, we will focus on the means by which arguments can turn on established bases of authority. These sites of commonplace meaning will not only be approached as potential supports for claims, but also as sites in which uncertainty can be created. On the practical level, we will interpret, analyze, and counter present-day arguments. We will also construct arguments of our own and test them in live debates. Finally, we wil consider the ways in which the contemporary U.S. government and mass media are actually structured, with an eye to developing pragmatic startegies for effecive advocacy.

SPEECH 20810211 Oral Interpretation 3 Credits/Units

Explores the possibilities offered by the full range of the human voice. Students will be challenged to create theatre in the minds of audience members through interpretation techniques. Concepts covered include selected projects in children's literature, prose, poetry, drama, and reader's theatre.

STEAM 50435550 Hot Water Heating Systems 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435552 Refrigeration Servicing 2 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435555 Steam Applications 2 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435558 Pneumatic Controls for HVAC 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435570 Gas and Oil Burner Service 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435571 System Start, Test, & Balance 2 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435575 Science for Steamfitters 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435580 Basic Drawing for Steamfitters 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435581 System Layout & Design 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435583 Applied Field Drawing for Steamfitters 1 Credits/Units

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435584 CAD for Steamfitters 1 Credits/Units

Madison Area Technical College

This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435585 **Mathematics for Steamfitters 1** **0 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

STEAM 50435586 **Mathematics for Steamfitters 2** **0 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

SURGT 31512317 **Surgical Technologist Functional Microbiology** **1 Credits/Units**
Introduces general classification, structure and physiology of microorganisms. Students learn the relationship between microorganisms and the human host as well as microbes in the hospital environment. Examines the study of the disease process, transmission of disease and methods of controlling microbial growth. Reserved for Surgical Technologist Pre-Petition students until open registration. Pre/Co requisites: Medical Terminology and General A&P, or A&P 1 and 2. Computer Skills are highly recommended.

SURGT 31512327 **ST: Introduction** **4 Credits/Units**
Provides the foundational knowledge of infection control and asepsis. Legal and ethical issues encountered in the healthcare environment are explored. Simulated laboratory practice enables the learner to develop beginning technical skills.

SURGT 31512328 **ST: Fundamentals 1** **4 Credits/Units**
Includes the basic clinical skills needed by the Surgical Technologist in the scrub role. Learners develop skills in identifying basic instrumentation, supplies, drains, catheters, dressings and sponges. Includes practice experience in creating a sterile field, draping, passing instruments and supplies, performing counts and preparing supplies.

SURGT 31512329 **ST: Fundamentals 2** **2 Credits/Units**
Builds upon and reinforces the role of the Surgical Technologist as a member of the operating room team. Discusses care of the patient before, during and after surgery with emphasis on surgical wounds, wound closure materials, and vital signs. Includes lecture and lab experiences.

SURGT 31512330 **ST: Clinical 1** **3 Credits/Units**
Apply basic surgical theories, principles, and procedural techniques in the operating room. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. Surgical rotation case requirements are documented.

SURGT 31512331 **ST: Surgical Procedures** **4 Credits/Units**
Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology, diagnostic interventions and surgical interventions for a variety of surgical procedures. Incorporates integration of basic health sciences and technical knowledge to complete a plan of action for a surgical procedure.

SURGT 31512332 **ST: Clinical 2** **4 Credits/Units**
Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Surgical rotation case requirements are documented

SURGT 31512334 **ST: Clinical 3** **4 Credits/Units**
Enhances the student's technical experience and employee skills. Serves as a transition between student and employee. Application of advanced skills for the entry-level Surgical Technologies in the clincal setting.

TEL&CBL 50451590 **Voice Data Video Install Sem 6** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

TEL&CBL 50451591 **Voice Data Video Install Sem 1** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

TEL&CBL 50451592 **Voice Data Video Install Sem 2** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

TEL&CBL 50451593 **Voice Data Video Install Sem 3** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

TEL&CBL 50451594 **Voice Data Video Install Sem 4** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

TEL&CBL 50451595 **Voice Data Video Install Sem 5** **2 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

THERMASS 10537136 Musculoskeletal Anatomy for the Massage Therapist 4 Credits/Units
This course introduces students to the anatomy and function of the skeletal and muscular systems of the body. Students learn the names, locations, insertion points, and actions of many of the muscles of the human anatomy. Furthermore, students apply what they learn and develop the essential palpation skills to identify the bones and muscles that comprise the musculoskeletal system. Students also acquire necessary skills for practical range of motion movements.

THERMASS 10537137 Kinesiology for the Massage Therapist 3 Credits/Units
Building upon foundational knowledge from musculoskeletal anatomy, students deepen their understanding with an emphasis on muscle groups used to perform specific actions. Furthermore, students directly apply this knowledge through the practice of ROM, postural and gait assessments to identify muscles involved in specific injuries. Finally, students learn how to integrate assessment techniques into a treatment plan for a more comprehensive approach to patient care.

THERMASS 10537139 Pathology and Medical Terminology for the Massage Therapist 3 Credits/Units
In this course, students learn the types of diseases that affect each of the major body systems and more specifically the signs and symptoms of selected pathologies and disorders that could prove to be a contraindication to massage therapy. Students will also learn the benefits of an integrative and palliative approach to manage chronic conditions and how to approach treatment planning with this in mind. Students will also gain a foundational understanding of medical terminology, a basic understanding of pharmacology and the possible interactions between medications and massage.

THERMASS 31537340 Therapeutic Massage 1 4 Credits/Units
Introduces students to the field of touch therapies and provides students with basic instruction in therapeutic massage theory and technique. Topics covered include: (1) the development of the massage professional; (2) the therapeutic relationship; (3) the history of massage; (4) educational and legal requirements; (5) professional standards and ethics; (6) sanitation and safety procedures; (7) proper draping techniques; (8) proper body mechanics; (9) massage session preparation; (10) Swedish massage techniques; and (11) chair Massage. Many learning activities support students to develop mindfulness skills and increased body awareness.

THERMASS 31537342 Therapeutic Massage 2 4 Credits/Units
Students continue to build upon conceptual framework as established in Therapeutic Massage 1. Topics covered include: (1) research literacy; (2) wellness concepts and stress reduction methods; (3) benefits and effects for therapeutic massage; (4) indications and contraindications to massage therapy; (5) endangerment sites; (6) consultation and record keeping; (7) the development of the massage professional; (8) full body therapeutic massage techniques; (9) proper draping techniques; and (10) proper body mechanics.

THERMASS 31537344 Specialized Techniques for Therapeutic Massage 4 Credits/Units
In this course, students acquire more in-depth treatment planning, documentation and time management skills to prepare for their clinical experience. Students also learn how to adapt therapeutic and stress reduction massage techniques to clients with special needs including: pregnant clients, the elderly, oncology patients and individuals with particular health challenges. Students learn clinical approaches to therapeutic massage such as trigger point therapy and sports massage and explore spa therapies such as hydrotherapy, hot stone and aromatherapy massage. Students also gain a foundational understanding of eastern bodywork theory and technique and examine a variety of modalities to emphasize on career exploration.

THERMASS 31537346 Therapeutic Massage Clinic and Business Practices 4 Credits/Units
This course provides students with opportunities for synthesis and refinement of their massage techniques and treatment planning skills applied to a diverse clientele, within a professional clinic setting. The clinic provides students with valuable hands-on training in the following massage business practices: appointment scheduling, record keeping, customer service and professional communication. Most importantly, students learn to create a restful, relaxing atmosphere for clients. In the business portion of the class, students explore career opportunities, examine Wisconsin's requirements for licensure and prepare for the national and state exams. Students must provide proof of certification CPR before beginning clinic.

URBN FOR 10001101 Introduction to Arboriculture 2 Credits/Units
Examines career specialties and jobs within arboriculture. Provides an overview of tree, shrub, and turf establishment, development, and growth and factors that influence tree health. Introduction to use and maintenance of landscape equipment, tools, and facilities are also covered.

URBN FOR 10001102 Plant Health Care Applicator 2 Credits/Units
The focus of this class is training to successfully pass the Wisconsin Department of Agriculture and Consumer Protection's pesticide applicator exam (which will be proctored in this class). Additionally, students will be familiarized with chemical handling, mixing, calibration, and application via field exercises.

URBN FOR 10001103 Arboriculture 2 Credits/Units
Gain familiarity with techniques, tools, and pieces of equipment used in the management of trees and tree populations. This course serves to create an awareness of arboricultural careers as applied to commercial, municipal, and utility employers.

URBN FOR 10001105 Tree Identification, Dendrology & Silvics 3 Credits/Units

Identify local trees using both common and scientific names, plus tree families in North America. Examine how trees interact with their environment and with one another at different places and over time. Builds on concepts of plant biology and ecology, with an emphasis on woody plant systematics and silvics.

URBN FOR 10001110 Tree Biology 2 Credits/Units

An overview of the tree system with an emphasis on growth and development, compartmentalization of wounds, and how the tree adapts to the urban environment. Includes plant functions, physiology, adaptations, root systems, planting, and basic risk assessment. Diagnose health and structural abnormalities and follow the process to plant a tree.

URBN FOR 10001113 Ornamental Plant Health Care for Arboriculture 3 Credits/Units

Classification and identification of ornamental plant insects, diseases, and abiotic agents, emphasizing their modes of plant damage. Diagnostics, damage assessment, sample preparation, and control strategies are introduced.

URBN FOR 10001118 Landscape Plant Identification 2 Credits/Units

Introduction to identification of woody trees, shrubs and common plant life in the Madison area. Emphasizes methods for identifying large and small canopy trees and ecological characteristics. Introduces industry context.

URBN FOR 10001121 Tree Crew Practicum 1 2 Credits/Units

Implement beginning-level techniques used by arborists who work on tree crews. Perform ground-related activities with limited opportunities to work aloft; participate as a member of a working crew, gain introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and work site management. Build teamwork and communication skills.

URBN FOR 10001122 Tree Crew Practicum 2 2 Credits/Units

Builds on the knowledge and skills learned in Tree Crew Practicum 1. Implement intermediate-level techniques used by arborists on tree crews. Perform ground related activities with limited opportunities to work aloft; participate as a member of a working crew, gain experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and work site management. Build teamwork and communication skills.

URBN FOR 10001123 Tree Crew Practicum 3-Capstone 2 Credits/Units

Builds on knowledge and skills learned in Aerial Tree Crew Practicum 2. Implement advanced-level techniques used by arborists who work on tree crews. Perform ground related activities with limited opportunities to work aloft; participate as a member of a working crew, gain experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and work site management. Build teamwork and communication skills.

URBN FOR 10001124 Fundamentals of Aerial Tree Work 3 Credits/Units

Introduction to the basic safety requirements, equipment, and techniques employed by arborists who work aloft. Topics include applied rope-and-saddle and aerial lift usage, electrical hazard recognition, and common knots used in the industry.

URBN FOR 10001125 Aerial Tree Work Practicum 1 2 Credits/Units

Implement techniques employed by arborists who work aloft. Perform independent study activities and participate as a member of a working crew, gaining introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work, and worksite management.

URBN FOR 10001126 Aerial Tree Work Practicum 2 2 Credits/Units

Builds on the knowledge and skills learned in Aerial Tree Work Practicum 1. Includes independent study activities of a progressively more comprehensive nature. Assume the role of a crew leader and participate in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work activities, and worksite management.

URBN FOR 10001127 Aerial Tree Work Practicum 3-Capstone 2 Credits/Units

Builds on the knowledge and skills learned in Aerial Tree Work Practicum 2. Includes independent study activities of a progressively more comprehensive nature. Assume the role of sales arborist and operations manager. Participate in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, and ground work activities.

URBN FOR 10001133 Equipment and Chainsaw Safety and Operation 3 Credits/Units

Personal protective equipment, safe operation, routine maintenance, and common cutting techniques and practices within the industry. Operate a variety of hand held power equipment (chain saws) and a variety of large machinery and industry equipment. Field exercises simulate tree removal operations.

URBN FOR 10001138 Landscape Management 1 3 Credits/Units

Introduction to the planning, installation and maintenance process of living and non-living landscape materials and turf. Includes cost estimating.

URBN FOR 10001139 Landscape Management 2 3 Credits/Units

Manage the planning, installation and maintenance of living and non-living landscape materials and turf. Perform plant health care treatments, including pest and insect management,

URBN FOR 10001149 Ecological Basis for Natural Resources Management 3 Credits/Units
Introduction to the principles of ecology that underlie the practice of natural resource management. Discus factors operating to develop and maintain ecosystems and communities. Examine the application of important ecological principles in various natural resources management strategies. Develop skills in data collection, preparation of technical reports, use of library resources, use of computer models and critical thinking.

URBN FOR 10001173 Urban Tree Maintenance 2 Credits/Units
The art and science of tree pruning are the primary objectives of this course. Young tree training and mature tree maintenance are introduced and practiced. Proper pruning cuts and techniques specified by ANSI-A300 are taught throughout this class.

URBN FOR 10001198 Soil and Water Resources 3 Credits/Units
Analyze integrated concepts of soil and water resources at the landscape level. Examine physical, chemical, and biological interactions relating to watershed processes and response to land use and management

URBN FOR 10001199 Forest, Fisheries, and Wildlife 3 Credits/Units
Integrated introduction to principles and practices of fisheries, forestry, and wildlife management, including production of goods and services while maintaining ecosystem integrity and functions; emphasis on contemporary issues.

VETTECH 10091105 Occupational Preparation 1 Credits/Units
This course acquaints new students with general competencies necessary to be employed as a veterinary and laboratory animal technician. Addresses the students' personal safety, health and stress management. Discusses memberships in professional organizations, certification, licensing and internship preparation. Briefly discusses animal loss and bereavement.

VETTECH 10091107 Animal Disease 1 2 Credits/Units
Covers etiology, symptoms, transmission, diagnosis, prevention and control of diseases that are transmissible from animals to humans as well as animals to animals. Reporting requirements and handling of diagnostic samples involving high-exposure diseases are also discussed.

VETTECH 10091108 Animal Disease 2 2 Credits/Units
Covers etiology, symptoms, transmission, diagnosis, prevention and control of common diseases in a wide variety of animal species. Toxic plants and other substances, as well as reporting and monitoring of federally regulated diseases will also be discussed.

VETTECH 10091109 Pharmacology 1 - Animals 2 Credits/Units
Introduction to drugs and other substances used in veterinary medicine. Emphasizes drug usage, client education, measurement, administration, and safe storage of antiparasitics, antiinflammatories, antibiotics and nervous system drugs.

VETTECH 10091110 Pharmacology 2 2 Credits/Units
Introduction to drugs and other substances used in veterinary medicine. Emphasizes drug usage, client education, measurement, administration, and safe storage of cardiac, respiratory, gastrointestinal, chemotherapy, ophthalmic and other drugs.

VETTECH 10091120 Veterinary Clinical Pathology 1 3 Credits/Units
Students are introduced to laboratory equipment, elementary laboratory procedures and the princiles of microscopy, parasitology, urine analyais, hematology and bacteriology.

VETTECH 10091121 Veterinary Clinical Pathology 3 3 Credits/Units
Continues to expand upon the principles, procedures and skills learned in Vet. Clinical Pathology 1 and 2, including hematology, parasitology, urine analysis, microbiology, cytology, mycology, virology, serology, immunology and blood chemistries. Will continue to expand upon the use of automated laboratory procedures for hematology and clinical chemistries.

VETTECH 10091122 Advanced Topics in Veterinary Medicine 1 Credits/Units
Current topics and advanced diagnostic procedures in veterinary medicine.

VETTECH 10091123 Lab Animal Science 1 2 Credits/Units
This course includes the history of laboratory animal technology and laboratory animal uses. Emphasizes the Animal Welfare Act and other regulations pertaining to the care of laboratory animals. Covers laboratory animal husbandry in depth as students provide care and treatment for a colony of laboratory animals. Pre-requisites: 10-806-105, 10-091-170, 10-091-171 or concurrent enrollment in all of the above.

VETTECH 10091124 Veterinary Clinical Pathology 2 3 Credits/Units

Second in sequence of three courses. Students utilize laboratory equipment, including the microscope and complete selected laboratory procedures, including parasitology, mycology, urine analysis, hematology, serology, bacteriology, cytology and blood chemistries.

VETTECH 10091127 Surgical Nursing 1 3 Credits/Units
This introductory course to surgical nursing covers surgical instruments, package prep, patient prep, anesthesia, monitoring and post-op care.

VETTECH 10091128 Animal Nursing 1 2 Credits/Units
Designed to build nursing skills learned in 10-091-172, Animal Care & Management 2, with emphasis on large animal anesthetic techniques, surgical preparation and monitoring.

VETTECH 10091131 Veterinary Office Procedures 1 1 Credits/Units
Covers the development of appropriate public, client and staff relations; telephone etiquette, making appointments, managing records, client services and education, and personal grooming and attire. Legal requirements of record keeping as well as an introduction to the rules and regulations governing the veterinary and laboratory animal technician will also be discussed.

VETTECH 10091132 Veterinary Office Procedures 2 1 Credits/Units
A computer based course covering office documents, patient records, billing, estimates, etc., using veterinary office software.

VETTECH 10091140 Animal Anatomy & Physiology 1 3 Credits/Units
Lectures will emphasize terminology, functions, location, identification and organization of anatomical structures that are parts of body systems. Students dissect and study cadavers and tissue specimens from common domestic species.

VETTECH 10091152 Surgical Nursing 2 3 Credits/Units
This course focuses on the continuation of basic surgical nursing and anesthesia skills. Also covers basic dental prohylaxis, dental radiography, and cardiopulmonary resuscitation.

VETTECH 10091153 Diagnostic Imaging 3 Credits/Units
Explores concepts in veterinary radiology, electrocardiography, ultrasound, endoscopy and other special imaging procedures and technologies.

VETTECH 10091158 Internship - Veterinary Technician Program 4 Credits/Units
Internship (work experience) is a very important phase of practical training for students enrolled in the veterinary program. It generally follows the second semester of classwork in the program. The internship course is offered during the summer term and requires a minimum of eight weeks, and completion of a minimum of 288 hours. The student's work is supervised by assigned instructors. Prerequisite: completion of all first-year program courses, or consent of instructors.

VETTECH 10091170 Veterinary Medical Terminology - Veterinary Technician Program 2 Credits/Units
Teaches acceptable veterinary medical terminology for common clinically recognizable diseases, operations, systems and procedures, as well as common medical signs, abbreviations and colloquial vocabulary.

VETTECH 10091171 Animal Care and Management 1 3 Credits/Units
Focuses on handling and husbandry of the animals most commonly seen in veterinary medicine. Includes animal behavior, nutrition, and healthcare. Prerequisite: 10-091-170 Veterinary Medical Terminology, 10-806-105 Animal Biology, 10-091-105 Occupational Preparation.

VETTECH 10091172 Animal Care And Management 2 3 Credits/Units
Focuses on handling, medical nursing and disease processes of animals most commonly seen in veterinary medicine.

VICOM 10206109 Intro to Electronic Design 2 Credits/Units
Provides students with a working knowledge of the technical part of digital photography workflow, including the basic principles of working with Adobe Photoshop.

VICOM 10206125 Instructional Media Systems 3 Credits/Units
This advanced course serves as a continuation of Multimedia Presentation. Media integration and various delivery types are addressed with an emphasis on instructional use. Concepts include identifying a target demographic, learner styles, designing interactivity, and planning non-linear projects.

VICOM 10206128 Compositing and Special Effects 3 Credits/Units
Chroma keying, 3D, expressions, mattes, rotoscoping, motion tracking, particles and advanced camera effects are the main focus of this course. Students will use After Effects and Motion to create movies for various delivery methods, using storyboarding and previsualizaton techniques prior to development.

VICOM 10206129 **Motion Design** **2 Credits/Units**
The focus of this course is learning the basic tenets of animation and movement for time-based media, with an emphasis on communication design. Learners will use Adobe After Effects to integrate typography, illustration, photography, video, and audio files to create industry relevant projects. Concept development, asset creation, file management, the timeline, character animation, effects, transitions, masking, and rendering for multiple output types will be covered in detail.

VICOM 10206130 **Video Production** **3 Credits/Units**
The student will become familiar with basic video production techniques for studio and fieldwork. Learning the basics of camera techniques, studio and field experiences, live studio recording and video team productions will be covered. In addition, the student will learn digital editing software to produce finished video projects, such as educational, promotional and service videos. Students will need their own video-enabled DSLR camera. Please contact the course instructor prior to any camera purchase.

VICOM 10206131 **Sound Production Techniques** **3 Credits/Units**
This is an introductory sound production course in which students will learn to create clean, consistent, and intelligible audio recordings within a project driven curriculum. Students will learn sound principles, critical listening skills, and apply digital recording, editing, and mixing techniques to industry standards.

VICOM 10206142 **Advanced Video Production** **3 Credits/Units**
Digital Video Production and Editing is an advanced course in documentary, short film and motion graphics production. Building on the skills learned in Video Production 1. This course emphasizes advanced editing and video graphics.

VICOM 10206144 **Audio Internship** **1 Credits/Units**
The internship program is designed to provide students with an opportunity to relate current educational material from the college classroom to practical experience under the direction of professionals in extended work assignments.

VICOM 10206147 **Introduction to DSLR Video Production** **2 Credits/Units**
The student will become familiar with shooting video on a DSLR camera and how shooting video differs from still photography. During this introductory course, the students will learn to shoot, capture and digitally edit their video to produce a final video project.

VICOM 10206151 **Advanced Audio Techniques** **3 Credits/Units**
Students will gain skills in on-location and studio audio capture techniques and best practices, hardware and software interconnects and troubleshooting, audio post-production editing, sweetening, and processing, project management skills, and voice-over recording and processing. Completion of Sound Production Techniques, 10206131 is recommended but not required.

VICOM 10206153 **Audio Project Management** **3 Credits/Units**
An introduction and review to small business and freelance practices specific to audio production. Course will review areas such as business setup, legal organization, pricing, time management, timekeeping, bidding, management of subcontractors and billing. This course will teach best industry practices in all of those areas and how to operate a small freelance business.

VICOM 10206162 **Video Project Management** **3 Credits/Units**
An introduction and review to small business practices specific to operation of a small visual arts business. Course will review areas such as business setup, legal organization, pricing, time management, timekeeping, bidding, management of subcontractors and billing. This course will teach best industry practices in all of those areas and how to operate a small freelance business.

WELD 31442312 **Oxy Fuel Welding and Thermal Cutting** **2 Credits/Units**
Perform manual and semi-automatic cutting and gouging using oxy-fuel and plasma arc cutting processes. Also, oxy-fuel and plasma cutting safety and proper handling of cylinders is covered. Applications will be to English and metric dimension.

WELD 31442314 **Arc Welding Theory** **2 Credits/Units**
Emphasizes welding theory, safe use of welding equipment, hand and power tools, oxy-fuel and plasma arc cutting, AWS joint, weld procedures, and defects and their causes. Electrical applications, effects of welding machine power sources, electrode selection and welding symbols will also be covered.

WELD 31442315 **Basic Arc (SMAW)** **2 Credits/Units**
Students in this course will develop manipulative skills on all types of joints in the flat position using shielded metal arc welding electrodes on mild steel. Welding techniques used for structural, pipe and maintenance welding will be developed.

WELD 31442318 **Gas Tungsten Arc Welding 1 (GTAW/TIG)** **2 Credits/Units**
Emphasis is placed on gas tungsten arc welding (TIG) techniques of stainless steel. Development of skills and techniques on all types of joints in flat and horizontal positions. Aluminum and steel techniques may also be covered.

WELD 31442320 **Welding Occupational Development** **1 Credits/Units**
Applications of welding terminology, use of forms, contracting, professional ethics and employment relations are studied. Specific topics germane to the welding field in decision-making, responsibility and preparation for the welding career are covered.

WELD 31442321 **Arc Welding (SMAW) Vertical** **2 Credits/Units**
Students develop manipulative skills on all types of joints in the vertical up and down positions, using E7018 & E6010 shielded metal arc welding electrodes on mild steel. Students will also develop welding techniques used for fillet and groove weld competencies to AWS D1.1 structural steel welding code.

WELD 31442322 **Advanced Welding Techniques** **2 Credits/Units**
Develops manipulative skills on all types of joints in the overhead and/or pipe positions using E7018 & E6010 shielded metal arc welding electrodes on mild steel. Develop welding techniques used for fillet and groove weld competencies to AWS D1.1 structural steel welding code. Course also includes air carbon arc gouging (ACC), repairs, and other advanced welding processes and applications for related trades.

WELD 31442323 **Basic Gas Metal Arc Welding (GMAW/MIG)** **2 Credits/Units**
Students develop manipulative skills on all types of joints in the flat, horizontal and vertical up and down position using short circuiting transfer. Students will perform gas metal arc welding techniques using 1/8" to 1/2" structural fabricated parts, as per AWS code standards. Emphasis is placed on operating gas metal arc welding equipment in a safe manner and determining machine set-up for metal thickness, wire size and speed.

WELD 31442326 **Flux Cored & Advanced Gas Metal Arc Welding (FCAW/GMAW)** **2 Credits/Units**
Continuation of development of skills and techniques on all types of joints in the flat, horizontal and vertical up and down positions, using short circuiting and spray arc transfer. Students will also learn flux-cored gas shielding and self shielding welding techniques. Mild steel, stainless steel and aluminum (1/16" to 1" thickness) are the metals used in welding joint assemblies, as per AWS code standards.

WELD 31442328 **Gas Tungsten Arc Welding 2 (GTAW/TIG)** **2 Credits/Units**
Students develop manipulative skills on all types of joints in the flat, horizontal, vertical, over head and pipe positions. Gas tungsten arc welding of stainless, aluminum, and steel welding techniques will be covered using 1/8" to 1/32" (11 ga to 20 ga) structural fabricated parts, pipe, repair welding and for other related trades, as per AWS and ASME welding code standards.

WELD 31442332 **Oxy-Fuel Cutting 1** **1 Credits/Units**
The Oxy-Fuel Cutting 1 course will introduce the students to manual cutting using a handheld torch. The students will also be introduced to the plasma cutting process. Oxy-fuel and plasma cutting safety with proper handling of cylinders is covered.

WELD 31442390 **Fundamentals of Metallurgy** **2 Credits/Units**
Introduction to metallurgy with emphasis on applications, selection, identification methods and alloy influences. Properties are studied utilizing testing, micro-structure interpretation and heat treatment processes. Tool steels, weld heat effects, failure analysis as well as machinability variations in cast iron, alloy steels and non-ferrous materials are covered in detail.

WELD 32442313 **Related Welding** **1 Credits/Units**
A lecture/hands-on course; students learn basic welding processes, equipment operations and safety procedurs. Emphasizes welding procedures and practices commonly used in the machine tool industry.

WELD 50442500 **Fundamentals of Arc Welding** **4 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.

WELD 50442504 **Advanced Pipe Welding Techniques** **4 Credits/Units**
This course description is unavailable at this time. Please contact the center offering the course for more information.