

2019-2020 Academic Catalog and Student Handbook



Every effort has been made to make this publication accurate. However all policies, procedures, tuition and fees, and curricula are subject to change. Please refer to otc.edu for the most current information. This is not intended to be a contract explicit or implied, and the college reserves the right to make changes to the information contained herein.

Anti-Discrimination Statement

OTC is committed to providing equal opportunities for all persons and does not discriminate or retaliate on the basis of race, color, national origin, religion, sex, sexual orientation, marital status, age, disability, citizenship or legal immigration status, veteran status, or any other status protected by federal, state, and local laws ("protected status"). This extends to admissions, employment, services, and educational programs and activities that the college operates (collectively "programs and activities").

The following individuals have been designated to handle inquiries or complaints regarding the College's anti-discrimination policy:

Faculty and staff contact:

Ocki Haas

College Director for Human Resources
1001 E. Chestnut Expressway
Springfield, MO 65802
417-447-2631
haaso@otc.edu

Students, prospective students and third parties contact:

Kevin Luebbering

Title IX Coordinator and College Director of Equity and Compliance
1001 E. Chestnut Expressway
Springfield, MO 65802
417-447-8188
luebberk@otc.edu

For more information, see Policy 3.39 Anti-Harassment, Anti-Discrimination Grievance Procedures (available at: <https://about.otc.edu/policies/article-iii-personnel/3-39-discrimination/>).

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General Information

Click on a link below for detailed information.

- [Academic Calendar](#)
- [Academic Integrity](#)
- [Accreditation](#)
- [Assessment](#)
- [College District](#)
- [College History](#)
- [Mission, Vision and Core Values](#)
- [OTC Locations](#)

Enrollment Services

Click on a link below for detailed enrollment services information.

- [A+ Scholarship Program](#)
- [Admission Categories](#)
- [Admissions Policy](#)
- [Change of Schedule](#)
- [Confidentiality of Student Records](#)
- [Degree Audits](#)
- [Evaluation of Transfer Credit](#)
- [Fee Appeal](#)
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- [Financial Aid](#)
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- [Residency Classification](#)
- [Selective Admission Programs](#)
- [Transcripts](#)
- [Tuition](#)
- [Tuition Policy](#)
- [Veterans Affairs](#)
- [Withdrawal from all Classes](#)

Click on a link below for detailed academic related information.

- [Academic & Course Grade Appeal](#)
- [Academic Advisement](#)
- [Academic Fresh Start](#)
- [Academic Honors](#)
- [Academic Standing](#)
- [Classification of Students](#)
- [Commencement](#)
- [Course Load/Overload](#)
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- [Graduation Requirements](#)
- [Hardship Withdrawal](#)
- [High School Programs](#)
- [Honors Program](#)
- [Repeating Courses](#)
- [Scholastic Honors](#)

Student Support Services

OTC is committed to providing academic and personal support resources that may be needed to succeed in program coursework. Click on any of the resource links below for assistance and/or contact information to learn more.

- [Academic Advising](#)
- [Career Guidance](#)
- [Computer/IT Assistance](#)
- [Counseling](#)
- [Fitness Center \(Springfield only\)](#)
- [OTC Libraries](#)
 - [Hamra Library \(Springfield\)](#)
 - [Richwood Valley Campus Library](#)
- [OTC Cares](#)
- [Tutoring](#)

Additional Resources:

- [First Generation College Students](#)
- [International Students](#)
- [LGBTQ+ Students](#)
- [Online Students](#)
- [Pregnant and Parenting Students](#)
- [Students from Diverse Backgrounds](#)
- [Students with Disabilities](#)
- [Veteran, Military, and Dependent Students](#)

Degree & Certificate Overviews

A.A., A.S.

General Degree Requirements

The general requirements for an associate degree from OTC are as follows:

- At least 62 semester hours of college credit; fifteen (15) hours of coursework must be completed in residence.
- The completion of minimum requirements specified for each program.
- A cumulative grade point average of 2.00 (C) or better.
- Approval of the candidate for a degree by faculty and administration.

The following policies should be noted:

1. Students must take appropriate courses to satisfy the requirements in state and federal constitutions and in American history and regulatory infrastructures. See the course requirements for the appropriate courses.
2. A student who meets the standards set by the college for credit by exam may be granted credit up to a maximum of one half of the required credit for a degree or certificate.
3. A student will satisfy the catalog requirements in effect when student entered or re-entered (after one semester of absence) the college.
4. In determining the 2.00 minimum grade point average required for graduation, transfer grades will not be counted.

A candidate for a certificate or degree must:

1. File an "Application for Graduation" the semester prior to graduation with the Office of the Registrar.
2. For Technical Education courses, an approved technical skill assessment (TSA) should be taken by students who have completed a CTE program.
3. Contact the Office of the Registrar for deadline dates.

Prerequisite Concerns

If a student has questions or concerns regarding prerequisite courses, he/she should see the appropriate department chair or division dean. A course waiver form may be appropriate.

Associate of Arts Degree (A.A.)

The Associate of Arts degree is designed to allow a student who plans to transfer to a four-year college or university to complete the general education requirements. Of the 62 credit hours required, a

student must complete a designated core of general education courses and subject distributions; the remaining hours will consist of electives that are numbered 100 or higher. In order for an Associate of Arts degree to be awarded, 15 hours of coursework must be completed in residence and you must have a cumulative grade point average of 2.0 (C) or better.

Associate of Science Degree (A.S.)

The Associate of Science degree is a specialized degree for the students who intend to transfer to a college or university in a program that has an emphasis in science and/or math. The programs to which this degree applies have established articulation agreements with specific four-year colleges or universities. Each A.S. degree is designed to meet the lower-division general education requirements and program-specific prerequisite requirements of the receiving institution. In order for an Associate of Science degree to be awarded, 15 hours of coursework must be completed in residence and you must have a cumulative grade point average of 2.0 (C) or better.

A.A.S.

Associate of Applied Science Degree (A.A.S.)

The Associate of Applied Science degree is oriented toward career and professional preparation. Each program is designed to provide a student with the skills and knowledge to enter the workforce after completing at least 62 credit hours of coursework. Requirements of A.A.S. degree programs may vary; however, a minimum of 25 percent of the required credit hours must consist of college-level transferable general education credits. The remaining required credit hours are specific to the program. In order for an Associate of Applied Science degree to be awarded, 15 hours of coursework must be completed in residence and you must have a cumulative grade point average of 2.0 (C) or better.

A.I.S.

Associate of Interdepartmental Studies (A.I.S.)

The Associate of Interdepartmental Studies degree is designed to provide a foundation of knowledge for students and to allow students to create a course of study that complements their career goals. Although designed as a non-transferrable degree, individual courses required for this degree may transfer, but may not necessarily fulfill the general education requirements at a four-year institution. In order for an Associate of Interdepartmental Studies degree to be awarded, 15 hours of coursework must be completed in residence and you must have a cumulative grade point average of 2.0 (C) or better.

A.I.T.S

Associate of Individualized Technical Studies (A.I.T.S)

The Associate of Individualized Technical Study (AITS) degree is open to any student whose educational goals cannot be accomplished through enrollment in one of OTC's existing degree programs. The student may design a degree which combines two or more discipline areas into a unique education plan. Faculty members within the disciplines will assist the student in planning the most appropriate course of study for the individual. In order for an Associate of Individualized Technical Studies degree to be awarded, 15 hours of coursework must be completed in residence and you must have a cumulative grade point average of 2.0 (C) or better.

Note: This program requires an approved AITS application. Please contact the Office of the Provost at academics@otc.edu to complete the process. When applying for admission, select the Associate of Arts (AA) degree. Upon your AITS application being approved, you will be moved into this program of study.

Students should consult with their faculty advisor and the institution to which they intend to transfer to ensure transferability of courses.

For Technical Education courses, an approved technical skill assessment (TSA) should be taken by students who have completed a CTE program.

Certificate of Achievement

The Certificate of Achievement is awarded to a student completing one of the allied health or technical career programs with fewer than 62 credit hours. Each career certificate is earned after completing a prescribed set of courses. Normally, two full semesters or their equivalent are required to complete the requirements for a one-year certificate. In order for a Certificate of Achievement to be awarded, you must have a cumulative grade point average of 2.00 (C) or better.

Note: The degree requirements and course listings in this catalog are subject to change within an academic year. Refer to otc.edu for the most recent listings.

Certificate of Specialization

The Certificate of Specialization is awarded to a student completing designated requirements within a program. These requirements will provide the student the knowledge and skills to further develop strengths in predefined areas of concentration many times related to their current or anticipated future employment. Certificates of Specialization are short-term programs of study. The credit hours earned in most programs may be applied toward a Certificate of Achievement and/or an Associate of Applied Science degree in the related field of study.

For Technical Education courses, an approved technical skill assessment (TSA) should be taken by students who have completed a CTE program.

Note: The degree requirements and course listings in this catalog are subject to change within an academic year. Refer to otc.edu for the most recent listings.

Programs of Study

Welcome to Ozarks Technical Community College 2019-2020 Programs of Study

OTC offers over eighty (80) degree programs including Associate of Arts, Associate of Science, Associate of Applied Science and Certificate of Achievements. All degrees and certificates are listed below by category: General Education, Business, Technical Education and Allied Health. The programs that include an (*) are offered fully online. Please note, the AAT degree is fully online with the exception of EDU-270.

Note: Any student entering a public institution of higher education **for the first time** after July 2019 who is pursuing an associate's or bachelor's degree from such institution shall successfully pass an examination on the provisions and principles of American civics with a score of seventy percent or greater as a condition of graduation from such institution. Please see the Missouri Civics Exam FAQ for additional information.

General Education/Transfer

Associate of Arts

Associate of Arts (A.A.)*

A.A. Degree: 62 Hours

The Associate of Arts degree is designed to allow a student who plans to transfer to a four-year college or university to complete the general education requirements. Of the 62 credit hours required, students must complete a designated core of general education courses and subject distributions; the remaining hours will consist of electives that are numbered 100 or higher.

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Requirements - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher

education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communication - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communication - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 7 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3

- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- COM-150 Intro Mass Communication Credits: 3
- CRM-210 Introduction to Criminal Justice Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- SOC-210 Urban Sociology Credits: 3

Core Electives - 5 Credit Hours

Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement. Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours, MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives).

Institutional Electives - 18 Credit Hours

The A.A. degree at OTC requires the completion of 62 credit hours. The 18 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is

eligible to enroll. For the most accurate transferability of a course, a student should contact the institution to which they plan to transfer.

Behavioral Science (A.A.)*

A.A.Degree - 62 Hours

The Associate of Arts in Behavioral Science is an interdisciplinary degree that provides a directed path of study for transfer to institutions offering baccalaureate and advanced degrees in Psychology, Criminology, Sociology, or related fields of study. The degree also provides the academic background required to secure entry level employment options in a variety of human service positions.

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Requirements - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo, indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5

- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-106 Jazz Appreciation Credits: 3

- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 7 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM 160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours

- PSY-110 Introduction to Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- or**
- HST-120 U.S. History I: to 1865 Credits: 3
- or**
- HST-130 U.S. History II: 1865-Present Credits: 3

Core Electives - 5 Credit Hours

Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement. Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours, MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives).

Program Specific Courses - 9 Credit Hours

- PSY-210 Research Methods Behav Sci Credits: 3
- PSY-220 Statistics for Behav Science Credits: 3
- SOC-215 Deconstructing Social Problems Credits: 3

Program Specific Electives - 9 Credit Hours

- PSY-130 Life Span Development Psychology Credits: 3
- PSY-285 Abnormal Psychology Credits: 3
- CRM-230 Introduction to Criminology Credits: 3
- CRM-260 Criminal Law and the Courts Credits: 3
- SOC-219 Cultural Diversity Credits: 3
- SOC-225 Sociology of Family Credits: 3

Criminal Justice (A.A.)*

A.A.Degree: 62 Hours

The Associate of Arts in Criminal Justice provides a directed path of study for transfer to institutions offering baccalaureate and degrees in Criminal Justice and Criminology. The degree also provides the academic background required to secure entry level employment options in a variety of criminal justice and human service positions.

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Core - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo, indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3

- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 7 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM 160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4

- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
and
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- COM-150 Intro Mass Communication Credits: 3
- CRM-210 Introduction to Criminal Justice Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PLS-201 International Relations Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- SOC-210 Urban Sociology Credits: 3

Core Electives - 5 Credit Hours

Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement. Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours, MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives).

Program Specific Courses - 12 Credit Hours

- CRM-210 Introduction to Criminal Justice Credits: 3
- CRM-250 Policing in America Credits: 3
- CRM-260 Criminal Law and the Courts Credits: 3
- CRM-270 Institutional and Community Based Corrections Credits: 3

Institutional Electives - 6 Credit Hours

The A.A. Criminal Justice degree at OTC requires the completion of 62 credit hours. The 6 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll. For the most accurate transferability of a course, a student should contact the institution to which they plan to transfer.

English (A.A.)

A.A.Degree: 62 Hours

The Associate of Arts in English provides a directed path of study for transfer to institutions offering baccalaureate and advanced degrees in English. The degree provides the academic background necessary to begin upper-division coursework in the discipline.

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Requirements - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo, indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5

- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3

- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 7 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- COM-150 Intro Mass Communication Credits: 3
- CRM-210 Introduction to Criminal Justice Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

- PSY-130 Life Span Development Psychology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PLS-201 International Relations Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- SOC-210 Urban Sociology Credits: 3

Core Electives - 5 Credit Hours

Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement. Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours, MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives).

Program Specific Courses - 12 Credit Hours

- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3

Program Specific Electives - 6 Credit Hours

- ENG-150 Technical Writing Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-210 Creative Writing - Short Story Credits: 3
- ENG-215 Creative Writing - Poetry Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3

Social Work (A.A.)

A.A. Degree: 62 Hours

The Associate of Arts in Social Work is an interdisciplinary degree that provides a directed path of study for transfer to institutions offering baccalaureate and advanced degrees in Social Work.

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Core - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and

knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo, indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 7 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3

- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours

- PSY-110 Introduction to Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- **or**
- HST-120 U.S. History I: to 1865 Credits: 3
- **or**
- HST-130 U.S. History II: 1865-Present Credits: 3

Core Electives - 5 Credit Hours

Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement. Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours, MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives).

Program Specific Courses - 18 Credit Hours

- PSY-220 Statistics for Behav Science Credits: 3
- PSY-285 Abnormal Psychology Credits: 3
- SOC-219 Cultural Diversity Credits: 3
- SWK-200 Introduction to Social Work Credits: 3
- SWK-213 Social Welfare Policy and Services Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- **or**
- ECO-275 Principles of Microeconomics Credits: 3

Associate of Science

Biological Clinical Science (A.S.)

A.S. Degree: 62 Hours

This Associate of Science degree program prepares students to transfer to a four-year college or university to major in a health-related profession. Because requirements vary at each four-year college or university, students should check with their faculty advisor or the school to which they intend to transfer to ensure they are taking the appropriate courses.

Biological Clinical Science Program Requirements - 24 Credit Hours

- BCS-102 Intro to Bioclinical Science Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-200 Microbiology Credits: 4
- BCS-205 Human Physiology Credits: 4
- BCS-210 Pathophysiology Credits: 3
- HSC-120 Medical Terminology Credits: 3

General Education Requirements - 41 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5

- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 3 Credit Hours

PHL 105 is recommended.

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3

- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 8 Credit Hours

- BIO-100 Life Science Credits: 4
or
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
or
- CHM-160 General Chemistry I Credits: 4
and
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours

- PSY-110 Introduction to Psychology Credits: 3
- PLS-101 American Government and Politics Credits: 3

Institutional Electives - 9 Credit Hours

The A.S. degree in Bioclinical Sciences at OTC requires the completion of 62 credit hours. The 12 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll. For the most accurate transferability of a course, a student should contact the institution to which they plan to transfer.

Biology (A.S.)

A.S. Degree: 62 Hours

This Associate of Science degree program prepares students to transfer to a four-year college or university to major in biology. Because requirements vary at each four-year college or university, students should check with their faculty advisor or the school to which they intend to transfer to ensure they are taking the appropriate courses.

General Education Requirements - 41 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and

knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 5 Credit Hours

- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 3 Credit Hours

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3

- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 9 Credit Hours

- BIO-160 General Biology I Credits: 4
- CHM-160 General Chemistry I Credits: 4
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- COM-150 Intro Mass Communication Credits: 3
- CRM-210 Introduction to Criminal Justice Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- SOC-210 Urban Sociology Credits: 3

Program Specific Courses - 21 Credit Hours

- BIO-170 General Biology II Credits: 4
- BIO-250 Genetics Credits: 4
- CHM-170 General Chemistry II Credits: 4
and
- CHM-171 General Chemistry II Lab Credits: 1
or
- CHM-200 Survey of Organic Chemistry Credits: 5
- PHY-120 General Physics I Credits: 4 **or**
- PHY-220 Physics Engrs & Scientists I Credits: 5
- PHY-130 General Physics II Credits: 4 **or**
- PHY-222 Physics Engrs & Scientists II Credits: 5

Institutional Electives - 9 Credit Hours

The A.S. Biology degree at OTC requires the completion of 62 credit hours. The 9 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll. For the most accurate transferability of a course, a student should contact the institution to which they plan to transfer.

Chemistry (A.S.)

A.S. Degree: 62 Hours

The Associate of Science degree in Chemistry is designed for students who plan to transfer and complete a Bachelor of Science degree at a four-year institution. The degree requirements allow students more flexibility in course selection allowing them to focus on their discipline requirements.

Note: Completion of this degree does not guarantee that all lower-division general education requirements have been met for a baccalaureate degree. In selecting courses for this degree, students are highly encouraged to consult their faculty advisor and the institution to which they intend to transfer to determine if it is an appropriate choice.

General Education Requirements - 32 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 5 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 3 Credit Hours

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3

- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 9 Credit Hours

- BIO-160 General Biology I Credits: 4
- CHM-160 General Chemistry I Credits: 4
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Specific Program Requirements - 18 Credit Hours

- CHM-170 General Chemistry II Credits: 4
- CHM-171 General Chemistry II Lab Credits: 1
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- PHY-120 General Physics I Credits: 4 **or**
- PHY-220 Physics Engrs & Scientists I Credits: 5
- PHY-130 General Physics II Credits: 4 **or**
- PHY-222 Physics Engrs & Scientists II Credits: 5

Program Electives -12 Credit Hours

- CHM-225 Environmental Chemistry Credits: 3
- CHM-242 Organic Chemistry I Credits: 5
- CHM-243 Organic Chemistry II Credits: 5
- CHM-250 Intro Quantitative Analysis Credits: 5
- ATS-100 Introduction to Scientific Research Credits: 1

Engineering (Options: Mechanical, Civil, Electrical, Physics) (A.S.)

A.S. Degree: 62 Hours

The Associate of Science degree in Engineering incorporates the essential course work for the first two years of study in any engineering field. Some of the course requirements vary within the engineering departments cooperating in this program. In such cases, students will need to consult with the advisor as to the appropriate class for a particular engineering major. Students should consult with their faculty advisor and the institution to which they intend to transfer to ensure transferability of courses.

General Education Requirements - 29 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 10 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5

Natural Sciences - 10 Credit Hours

- CHM-160 General Chemistry I Credits: 4
- CHM-161 General Chemistry I Lab Credits: 1
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ECO-270 Principles of Macroeconomics Credits: 3
or
- ECO-275 Principles of Microeconomics Credits: 3
- PLS-101 American Government and Politics Credits: 3
or
- HST-120 U.S. History I: to 1865 Credits: 3
or
- HST-130 U.S. History II: 1865-Present Credits: 3

Engineering Program Requirements - 33 Credit Hours

Students in the Physics Option should take PHY 115 in place of DDT 200. Engineering students need to take DDT 200.

- EGR-100 Study and Careers in Engineering Credits: 1
- DDT-200 Production Design Drafting Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3
- PHY-222 Physics Engrs & Scientists II Credits: 5
- Humanities Elective *6

*Selection of course is based on the program of study requirements at the four year transfer institution.

Degree Option Courses 11-12 Credit Hours

Mechanical Engineering

- ENG-102 Composition II Credits: 3 **or**
- ENG-150 Technical Writing Credits: 3 **or**
- COM-105 Public Speaking Credits: 3
- EGR-201 Engineering Statics Credits: 3
- CSC-140 C++ Programming Credits: 4
- MTH-230 Linear Algebra Credits: 3

Civil Engineering

- ENG-102 Composition II Credits: 3 **or**
- ENG-150 Technical Writing Credits: 3 **or**
- COM-105 Public Speaking Credits: 3
- EGR-201 Engineering Statics Credits: 3
- EGR-204 Statics and Dynamics Credits: 3
- PHY-110 Introduction to Geology Credits: 4

Electrical Engineering

- ENG-150 Technical Writing Credits: 3

- COM-105 Public Speaking Credits: 3
- EGR-204 Statics and Dynamics Credits: 3
- MTH-230 Linear Algebra Credits: 3

Physics Option (Intended for those who want to transfer to an undergraduate physics program)

The Physics option is designed for those wishing to pursue a degree in Physics. Any students planning to transfer to an engineering program should not enroll in this option.

- CSC-140 C++ Programming Credits: 4
- EGR-201 Engineering Statics Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3
- COM-105 Public Speaking Credits: 3
- MTH-230 Linear Algebra Credits: 3
- PHY-115 Introduction to Astronomy Credits: 4

Mathematics (A.S.)

A.S. Degree: 62 Hours

The Associate of Science in Mathematics develops a pathway for students who plan to transfer and complete a Bachelor of Science in mathematics or related field at a four-year institution. The degree requirements allow students more flexibility in course selection allowing them to focus on their discipline specific requirements.

General Education Requirements

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 5 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- **and**
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 3 Credit Hours

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 9 Credit Hours

- BIO-160 General Biology I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 6 Credit Hours

- ECO-270 Principles of Macroeconomics Credits: 3
- PLS-101 American Government and Politics Credits: 3
- or
- HST-120 U.S. History I: to 1865 Credits: 3
- or
- HST-130 U.S. History II: 1865-Present Credits: 3

Computer Applications - 3 Credit Hours

- CIS-120 Introduction to Computer Programming Credits: 3

Program Specific Requirements - 17 Credit Hours

- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-215 Algebraic Structures Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- Elective Courses: 6 Credits MTH 210, MTH 230, MTH 241.

Institutional Electives - 10 Credit Hours

The A.S. Math degree at OTC requires the completion of 62 credit hours. The 10 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll. For the most accurate transferability of a course, a student should contact the institution to which they plan to transfer.

Pre-Pharmacy (A.S.)

A.S. Degree: 63 Hours

The Associate of Science degree in Pre-Pharmacy will prepare student who intend to apply for a Doctor of Pharmacy (Pharm.D) program. This is not designed as a terminal degree, but a degree to fulfill the prerequisites for many area pharmacy schools. The requirements are consistent with the course requirements to transfer into University of Missouri - Kansas City, but students should investigate all institutions for their individual requirements.

General Education Requirements - 34 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences- 5 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-105 Public Speaking Credits: 3

Natural Sciences - 17 Credit Hours

- BCS-165 Human Anatomy Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-160 General Chemistry I Credits: 4
- CHM-161 General Chemistry I Lab Credits: 1
- PHY-120 General Physics I Credits: 4

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3

Program Specific Courses - 29 Credit Hours

- ATS-202 Introduction to Cell Biology Credits: 3
- BCS-200 Microbiology Credits: 4
- BIO-170 General Biology II Credits: 4
- CHM-170 General Chemistry II Credits: 4
- CHM-171 General Chemistry II Lab Credits: 1
- CHM-242 Organic Chemistry I Credits: 5
- CHM-243 Organic Chemistry II Credits: 5
- HSC-120 Medical Terminology Credits: 3

Associate of Arts in Teaching

Associate of Arts in Teaching (A.A.T.)*

A.A.T. Degree: 65 Hours

The Associate of Arts Degree in Teaching (A.A.T.) is a directed path of study preparing students for transfer and upper division coursework at four-year institutions offering teacher education programs and certification for levels PK-12. This degree requires students to satisfy the A.A. general education transfer block, 12 hours of teacher education professional coursework and at least 9 hours of elective credit. Students must also achieve a minimum cumulative GPA of 2.75 and a passing score on all state-required general education exams.

NOTE: If a student has transfer equivalencies from any prior colleges attended, these grades are not currently figured into the OTC GPA. A.A.T students should note that the Missouri Department of Elementary and Secondary Education requires that four year schools calculate all prior credits and grades in the computation of a cumulative GPA. Therefore, all transfer equivalencies will be figured into your transfer cumulative GPA when a student seeks admission into a four-year Teacher Education program of study.

In addition, some institutions may not accept any grade in any teacher education course that is lower than a B. Please check with the transfer institution to determine specific admission requirements.

Students must contact the intended transfer institution to verify adequate completion of all necessary coursework for their desired teaching certificate.

A student meeting all degree requirements except for the 2.75 GPA and/or successful completion of the state-required general education exam may graduate with an A.A. degree.

General Education Requirements

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3

Oral Communications - 3 Credit Hours

- COM-105 Public Speaking Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3

- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- THR-101 Introduction to Theater Credits: 3

Note: The level and type of Teacher Certification, as well as the transferring four-year institution can impact which General Education required course is the best fit.

Please consult an advisor from the four-year institution you intend to transfer to regarding the selection of courses specific to their program.

Natural Sciences - 8 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BIO-100 Life Science Credits: 4
(preferred course)
- BIO-105 Environmental Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- CHM-161 General Chemistry I Lab Credits: 1
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-105 Introduction to Physics Credits: 4
(preferred course)

- PHY-110 Introduction to Geology Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 9 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Program Specific Courses - 13 Credit Hours

- EDU-150 Intro to Teacher Education Credits: 1
- EDU-225 Technology for Teachers Credits: 3
- EDU-250 Educational Psychology Credits: 3
- EDU-270 Teaching Prof w/ Field Exp Credits: 3
- EDU-222 Fdns of Educ in Diverse Scty Credits: 3

Note: These are courses that are required for the A.A.T. degree.

Some universities may not accept coursework for transfer for any grade lower than a B in these professional education classes.

Additional Electives - 14 Credit Hours

Courses must be numbered 100 or higher.

Elective courses are dependent upon the certification path and transfer school. Specific details regarding the most appropriate selection of electives must be made in conjunction with advisement from the transfer institution.

Certificate of Achievement

Biological Clinical Science Certificate

Certificate: 30 hours

This Associate of Science degree program prepares students to transfer to a four-year college or university to major in a health-related profession. Because requirements vary at each four-year college or university, students should check with their faculty advisor or the school to which they intend to transfer to ensure they are taking the appropriate courses.

Biological Clinical Science Certificate Requirements

- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-205 Human Physiology Credits: 4
- BCS-200 Microbiology Credits: 4

General Education Requirements - 12 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communication - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- PSY-110 Introduction to Psychology Credits: 3

Institutional Elective - 3 Credit Hours

The 3 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll. For the most accurate transferability of a course, a student should contact the institution to which they plan to transfer.

Engineering (Options: Mechanical, Civil, Electrical, Physics) Certificate

Certificate: 30 hours

The Certificate in Engineering incorporates the essential course work for the first year of study in any engineering field. Some of the course requirements vary within the engineering departments cooperating in this program. In such cases, students will need to consult with the advisor as to the appropriate class for a particular engineering major. Students should consult with their faculty advisor and the institution to which they intend to transfer to ensure transferability of courses.

Engineering Certificate Program Specific Course - 1 Credit Hour

- EGR-100 Study and Careers in Engineering Credits: 1

General Education Requirements - 29 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 10 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5

Natural Sciences - 10 Credit Hours

- CHM-160 General Chemistry I Credits: 4
- CHM-161 General Chemistry I Lab Credits: 1
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 6 Credit Hours

- ECO-270 Principles of Macroeconomics Credits: 3
or
- ECO-275 Principles of Microeconomics Credits: 3
- PLS-101 American Government and Politics Credits: 3
or
- HST-120 U.S. History I: to 1865 Credits: 3
or
- HST-130 U.S. History II: 1865-Present Credits: 3

Business

Associate of Arts

Business (A.A.)*

A.A. Degree: 63 Hours

The Associate of Arts Degree in Business is a directed path of study preparing students for transfer and upper division work at four-year institutions offering business and accounting programs. This degree requires students to satisfy the A.A. general education transfer block, 15 hours of business related coursework and at least 6 hours of additional credit from electives.

Each transfer institution will have specific admission requirements for their institution and business and/or accounting program. Students should contact the intended transfer institution to verify they have met all transfer requirements and the college's choices within the general education transfer block and additional courses beyond the 15 hours of business coursework that are appropriate for their desired degree.

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Requirements - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo, indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences- 3 Credit Hours

OTC math courses approved with CORE 42 designation (MTH 128, MTH 128S, MTH 130, MTH 130S, MTH 138) have guaranteed transfer to all Missouri public higher education institutions. Any math course with a CORE 42 prerequisite will satisfy the math general education credit. The higher level math courses may not have direct transfer to all four-year universities. Students should check with their receiving institution for transferability of these courses.

- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-105 Public Speaking Credits: 3

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines, and a limit of no more than 3 credit hours of performance courses can be applied to Humanities and Fine Arts)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- REL-101 Intro to Old Testament Credits: 3
- REL-102 Intro to New Testament Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 7 Credit Hours (from at least 2 disciplines, including one course with a lab component)

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4

- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours

- ECO-270 Principles of Macroeconomics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- **or**
- HST-120 U.S. History I: to 1865 Credits: 3
- **or**
- HST-130 U.S. History II: 1865-Present Credits: 3

Core Electives - 5 Credit Hours

Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement. Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours, MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives).

- ECO-275 Principles of Microeconomics Credits: 3
- **and**
- Core Elective Credits: 2

Program Specific Courses - 15 Credit Hours

- ACC-220 Principles of Accounting I Credits: 3
- ACC-225 Managerial Accounting Credits: 3
- BUS-110 Principles of Business Credits: 3
- BUS-140 Business Communications Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3

Institutional Electives - 4 Credit Hours

- BUS-111 Principles of Insurance Credits: 3
- BUS-160 Business Law Credits: 3
- BUS-185 Professional Readiness Credits: 3
- CIS-201 Computer Apps for Business Credits: 3
- MTH-210 Statistical Methods Credits: 3

Associate of Applied Science

Accounting and Business Management (A.A.S.)*

A.A.S. Degree: 64 Hours

The Accounting program prepares students with a foundation of coursework in accounting principles, theory and practice, and exposes them to complex problems and relationships in connected fields of business, cost management, tax and economics. A co-op education/internship option in the final semester provides for practical work experience in an office or industry where students can apply the accounting concepts and skills that they have learned.

Accounting Program Requirements - 48 Credit Hours

- ACC-120 College Accounting, Part I Credits: 3
 - ACC-125 College Accounting, Part II Credits: 3
 - ACC-130 Accounting Software Applications Credits: 3
 - ACC-135 Payroll Accounting Credits: 3
 - ACC-220 Principles of Accounting I Credits: 3
 - ACC-225 Managerial Accounting Credits: 3
 - BUS-110 Principles of Business Credits: 3
 - BUS-115 Personal Finance Credits: 3
 - BUS-140 Business Communications Credits: 3
 - BUS-150 Principles of Management Credits: 3
 - BUS-160 Business Law Credits: 3
 - BUS-185 Professional Readiness Credits: 3
 - CIS-101 Technology & Digital Literacy Credits: 3
 - CIS-201 Computer Apps for Business Credits: 3
 - Related Electives Credits: 6
- Related Electives: May choose courses from the following program areas: ACC • BUS • CIS • ECO

General Education Requirements - 16 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicate courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 4 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4

- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Business and Marketing (A.A.S.)*

A.A.S. Degree: 63 Hours

The curriculum for an A.A.S. degree in Business and Marketing is designed to provide a broad, general background in business as well as a foundation in the basics needed for entry-level positions in various business activities: accounting, retailing, marketing or management.

Note: Students wishing to transfer to a four-year college Business program should contact the college to which they wish to transfer to determine the courses appropriate for transfer.

Business and Marketing Program Requirements

- ACC-120 College Accounting, Part I Credits: 3 **or higher**
- ACC-125 College Accounting, Part II Credits: 3 **or higher**
- BUS-110 Principles of Business Credits: 3
- BUS-130 Principles of Marketing Credits: 3
- BUS-140 Business Communications Credits: 3
- BUS-150 Principles of Management Credits: 3
- BUS-160 Business Law Credits: 3
- BUS-185 Professional Readiness Credits: 3
- BUS-260 Business Strategy Credits: 3
- BUS-290 Co-Operative Ed/Intern/Related Elective Credits: Variable 1-3
- CIS-101 Technology & Digital Literacy Credits: 3

- **Related Electives Credits: 12**

Related Electives: BUS 100, BUS 111, BUS 115, BUS 120, BUS 125, BUS 145, BUS 170, BUS 200, BUS 245, CIS 201, ECO 275 ,PSY 255, PSY 275.

General Education Requirements - 18 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 3 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM 160 General Chemistry I Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours

- ECO-270 Principles of Macroeconomics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- **or**
- HST-130 U.S. History II: 1865-Present Credits: 3
- **or**
- PLS-101 American Government and Politics Credits: 3

Certificate of Achievement

Accounting and Business Management Certificate

Certificate: 33 Hours

The Accounting program prepares students with a foundation of coursework in accounting principles, theory and practice, and exposes them to complex problems and relationships in connected fields of

business, cost management, tax and economics. A co-op education/internship option in the final semester provides for practical work experience in an office or industry where students can apply the accounting concepts and skills that they have learned.

Accounting and Business Management Certificate Requirements

- ACC-120 College Accounting, Part I Credits: 3
- ACC-125 College Accounting, Part II Credits: 3
- ACC-130 Accounting Software Applications Credits: 3
- ACC-135 Payroll Accounting Credits: 3
- BUS-110 Principles of Business Credits: 3
- BUS-115 Personal Finance Credits: 3
- BUS-140 Business Communications Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-201 Computer Apps for Business Credits: 3
- ENG-101 Composition I Credits: 3
- Mathematics Elective (MTH 105 or higher) Credits: 3

Administrative Assistant - Certificate*

Certificate: 33 Hours

The curriculum for the Administrative Assistant certificate is designed to provide a general background in business and improve skills in current procedures and technology used in the business environment.

Administrative Assistant Certificate Requirements

- BUS-101 Microcomputer Keyboarding Credits: 1
- BUS-105 Business English Credits: 3
- BUS-110 Principles of Business Credits: 3
- BUS-112 Document Processing Credits: 3
- BUS-135 Integrated Business Applications Credits: 3
- BUS-140 Business Communications Credits: 3
- BUS-155 Customer Service Credits: 2
- BUS-165 Administrative Procedures Credits: 3
- BUS-185 Professional Readiness Credits: 3
- ENG-101 Composition I Credits: 3
- Mathematics Elective (MTH 105 or higher) Credits: 3

Related Electives Credits: 3

- ACC-120 College Accounting, Part I Credits: 3
- ACC-125 College Accounting, Part II Credits: 3
- BUS-111 Principles of Insurance Credits: 3
- BUS-115 Personal Finance Credits: 3

- BUS-125 Selling Credits: 3
- BUS-170 Human Resources Management Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-201 Computer Apps for Business Credits: 3

Business and Marketing Certificate*

Certificate: 30 Hours

The curriculum for an A.A.S. degree in Business and Marketing is designed to provide a broad, general background in business as well as a foundation in the basics needed for entry-level positions in various business activities: accounting, retailing, marketing or management.

Note: Students wishing to transfer to a four-year college Business program should contact the college to which they wish to transfer to determine the courses appropriate for transfer.

Business and Marketing Certificate Requirements

- ACC-220 Principles of Accounting I Credits: 3
- BUS-110 Principles of Business Credits: 3
- BUS-130 Principles of Marketing Credits: 3
- BUS-140 Business Communications Credits: 3
- BUS-150 Principles of Management Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ENG-101 Composition I Credits: 3
- Mathematics Elective (MTH 105 or higher) Credits: 3
- Related Elective Credits: 3

Note:

Related Electives: BUS 100, BUS 111, BUS 115, BUS 120, BUS 125, BUS 145, BUS 170, BUS 200, BUS 245, CIS 201, ECO 275, PSY 255, PSY 275.

Technical Education

Associate of Science

Computer Science (A.S.)

A.S. Degree: 62 Hours

This Associate of Science degree program prepares students to transfer to a four-year college or university to major in a computer science-related degree program. Students will be introduced to a

variety of topics such as algorithm design, data structures, computer programming, and structured mathematics. Since requirements vary at each four-year college or university, students should check with their faculty advisor or the school to which they intend to transfer to ensure they are taking the appropriate courses.

Computer Science Program Requirements - 34 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-120 Introduction to Computer Programming Credits: 3
- CIS-130 Web Site Development I Credits: 3
- CIS-131 Web Site Development II Credits: 3
- CIS-150 C# Programming I Credits: 3 **or** CIS 170
- CIS-151 C# Programming II Credits: 3 **or** CIS 171
- CSC-210 Data Structures Credits: 4
- CIS-250 Database and Query Credits: 3
- CIS-260 Software Engineering Project Credits: 3
- **Related Electives: Credits: 6**

Related Elective: May choose a course from the following areas: CSC, CIS 125 or higher, or MTH 130 or higher.

General Education Requirements - 28 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 10 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 8 Credit Hours

PHY 220 is a required Natural Sciences course for the program. Select an additional course for completion of the 8 credit hour natural sciences requirement.

- PHY-220 Physics Engrs & Scientists I Credits: 5
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3

Note: *If CIS 150 is a program selection, CIS 170 or CIS 171 can be taken as an elective. If CIS 170 is a program selection, CIS 150 or CIS 151 may be taken as an elective.

Fire Service Administration (A.S.)* BEGINNING SPRING 2020

BEGINNING SPRING 2020

A.S. Degree: 64 Hours

The Fire Service continues to place an emphasis on formal education for all ranks within a fire department organization. The OTC Fire Science Program developed the Fire Service Administration degree in conjunction with the OTC Fire Science Technology Advisory Board in order to provide that formal education and better prepare future company officers and chief officers. The overall goal of this degree is to provide learning opportunities which introduce, develop and reinforce academic and occupational knowledge, skills and attitudes required for job acquisition, retention and advancement. Additionally, the program provides opportunities to retrain and upgrade present knowledge and skills. Career choices for Fire Service Administration students include the following: firefighter, fire inspector,

fire instructor, fire investigator, fire protection systems installer, U.S. Forest Service, as well as various military branches. OTC graduates have employment opportunities locally, statewide, nationally and internationally.

While this degree can be completed without pre-requisites, the ability to take the Missouri Division of Fire Safety certification exams may require other course certifications prior to being eligible for testing. The OTC Fire Science Program Director can provide those details.

OTC has developed procedures for evaluating past training experiences and certifications for professional equivalency college credit; inquiries should be directed to the lead instructor or department chair.

Students wishing to transfer to a four-year institution are strongly encouraged to seek the advice of the lead instructor or department chair of the FST program to determine courses appropriate for transfer.

Fire Service Administration Program Requirements - 33 Credit Hours

- FSA-209 Emergency Management Credits: 3
- FST-111 Strategy and Tactics Credits: 3
- FST-210 Fire Department Officer Credits: 3
- FST-211 Fire Officer II Credits: 3
- FST-215 Fire Service Instructor I Credits: 3
- FST-216 Fire Instructor II Credits: 3
- FST-230 Fire Investigation I Credits: 3
- FST-240 Occupational Safety & Health for Emergency Responders Credits: 3
- FST-250 Fire Service Reports & Comm Credits: 3
- FST-275 Legal/Contemp Issues-FST/EMS Credits: 3
- FST-280 Capstone Assessment Credits: 3

General Education Requirements - 28 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3
- or

- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
or
- MTH-130S College Algebra With Support Credits: 4

Written Communication - 6 Credit Hours

- ENG-100 Composition I With Support Credits: 5
or
- ENG-101 Composition I Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communication - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 3 Credit Hours

- PHL-105 Introduction to Ethics Credits: 3
- SPN-101 Beginning Spanish I Credits: 3

Natural Sciences - 4 Credit Hours

- CHM-101 Introductory Chemistry Credits: 4

Social and Behavioral Sciences - 9 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ECO-270 Principles of Macroeconomics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Program Specific Course - 3 Credit Hours

- BUS-110 Principles of Business Credits: 3

Associate of Applied Science

Agriculture (Options: Animal Science, Plant Science, General Agriculture) (A.A.S.)

A.A.S. Degree: 65 Hours

The Associate of Applied Science degree in Agriculture allows students to develop academic abilities and skills associated with the agriculture industry. Students with long-term goals of obtaining a Bachelor of Science degree in any chosen field of Agriculture will benefit from these courses. The student may choose a specific option to pursue within the field of Agriculture. The options include Animal Science, Plant Science or General Agriculture. Prior to beginning a desired option, students should meet with an academic advisor to specify the courses required to meet their desired goals.

Agriculture - Options: Animal Science, Plant Science, General Agriculture Program Requirements - 21 Credit Hours

- AGR-100 Introduction to Agriculture Credits: 3
- Option Elective Credits: 18

Institutional Requirement - 2 Credit Hours

- OTC-101 Navigating College Credits: 2

General Education Requirements - 42 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3

- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 9 Credit hours (from at least two disciplines)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3

- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Natural Sciences - 8 Credit Hours (from two disciplines)

- BIO-100 Life Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 9 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Core Electives - 4 Credit Hours

Credit received from an OTC course may be greater than the MOTR transfer equivalency. The additional credit provided from OTC for a MOTR approved course will move the additional credit to the Core electives (e.g. CHM 160 at OTC = 4 credit hours. MOTR equivalency = 3 credit hours; additional 1 hour moved to Core electives). Any course with an approved MOTR number or additional hours from a MOTR approved course can be utilized to fulfill the Core electives requirement.

Option Electives for Agriculture

Option A: Animal Science - 18 Credit Hours

- AGR-145 Landcare Equipment Operation and Maintenance Credits: 4
- AGR-160 Animal Science Credits: 4
- AGR-180 Plant and Soil Science Credits: 4
- AGR-210 Wildlife Management Credits: 4
- AGR-220 Agriculture Business Management Credits: 3
- AGR-235 Soils Credits: 3
- AGR-262 Livestock Management Credits: 4
- AGR-265 Livestock Breeding Credits: 4
- AGR-268 Forage Management Credits: 4

Option B: Plant Science - 18 Credit Hours

- AGR-112 Woody Ornamental Identification Credits: 4
- AGR-116 Ornamental Herbaceous ID Credits: 4
- AGR-145 Landcare Equipment Operation and Maintenance Credits: 4
- AGR-160 Animal Science Credits: 4
- AGR-180 Plant and Soil Science Credits: 4
- AGR-212 Greenhouse Horticulture Credits: 3
- AGR-214 Landscape Design Credits: 4
- AGR-225 Urban Forestry Credits: 4
- AGR-235 Soils Credits: 3
- AGR-268 Forage Management Credits: 4

Option C: General Agriculture - 18 Credit Hours

- AGR-112 Woody Ornamental Identification Credits: 4
- AGR-116 Ornamental Herbaceous ID Credits: 4
- AGR-160 Animal Science Credits: 4
- AGR-180 Plant and Soil Science Credits: 4
- AGR-212 Greenhouse Horticulture Credits: 3
- AGR-214 Landscape Design Credits: 4
- AGR-220 Agriculture Business Management Credits: 3
- AGR-235 Soils Credits: 3
- AGR-262 Livestock Management Credits: 4
- AGR-265 Livestock Breeding Credits: 4
- AGR-268 Forage Management Credits: 4

Agriculture—Turf and Landscape Management (A.A.S.)

A.A.S. Degree: 64 Hours

This option in the Agriculture program is designed to train people for careers in the land care industry. Job opportunities include a wide range of occupations from residential lawn care to country clubs and from home landscaping to city landscaping and beyond. Extensive lab work and comprehensive class

work will prepare students for a lifetime of earning potential. This option is accredited by the Professional Landcare Network (PLANET), 950 Herndon Parkway, Suite 450, Herndon VA 20170, (703) 736-9666

Agriculture - Turf and Landscape Management Program Requirements - 48 Credit Hours

- AGR-112 Woody Ornamental Identification Credits: 4
- AGR-113 Pest Management Credits: 3
- AGR-114 Environmental Stewardship Credits: 2
- AGR-180 Plant and Soil Science Credits: 4
- AGR-185 Irrigation Dsn, Install, Main Credits: 3
- AGR-190 Turfgrass Management Credits: 4
- AGR-212 Greenhouse Horticulture Credits: 3
- AGR-214 Landscape Design Credits: 4
- AGR-215 Landscape Construction and Maintenance Credits: 4
- AGR-218 Computer Designs in Landscaping Credits: 2
- AGR-220 Agriculture Business Management Credits: 3
- AGR-280 Turf and Landscape Management Capstone Credits: 2
- AGR-290 Co-operative Education/Internship Credits: 3
- Related Electives Credits: 6-8
- TEC-285 Occupational Seminar Credits: 1

Related Electives: AGR 105, AGR 116, AGR 145, AGR 155, AGR 225, AGR 235

General Education Requirements - 16 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

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Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

Core 422Active-Hidden2018-05-01 07:52:412018-05-01 07:52:41

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Apprenticeship Skilled Trades (Option: Construction Craft Laborer Leadership) (A.A.S.)

A.A.S. Degree: 63 Hours

The Apprenticeship Skilled Trades program will provide the opportunity for journey-level trades people to develop general education, managerial and technical skills needed to advance in their chosen career, typically management level. Many companies are requiring their management team to have a degree above the high school level and apprenticeship training. The AST degree would give a qualified trades person the opportunity to advance their education without repeating the trades classes that they would already be proficient in.

Carpenters Union Journeyman Apprenticeship

- Credit by Examination Credits: 45
- Federally approved apprenticeship program that contains a minimum of 640 clock hours of classroom instruction and 5600 clock hours of on-the-job training. Transcribed upon completion of 15 hours of OTC coursework and documentation of certificate and/or journeyman card for the approved craft

Apprenticeship Skilled Trades Program Requirements - 9 Credit Hours

- BUS-110 Principles of Business Credits: 3
- BUS-150 Principles of Management Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3

General Education Requirements - 9 Credit Hours

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Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Construction Craft Laborer Leadership Degree Option

- Articulated (Transferred) Credits: 36 credits
- Federally approved apprenticeship program such as provided by the Department of Labor (DOL) Bureau of Apprenticeship Training (BAT) consisting of a minimum 4,800 hrs on-the-job training (OJT) and a minimum of 480 classroom training hours.
- Transcribed upon completion of 17 hours of OTC coursework and documentation of certificate and/or journeyman card for the approved craft. Example: Journeyman Certificate from Heavy Construction Laborers' Union
- All certifications or licenses must be current and valid. Training must be documented with transcript

Construction Craft Apprenticeship Program Requirements - 19 Credit Hours

- BUS-140 Business Communications Credits: 3
- BUS-170 Human Resources Management Credits: 3
- BUS-200 Leadership Credits: 3
- BUS-212 Principles of Project Management Credits: 3
- TEC-108 Applied Technical Mathematics Credits: 3
- TES-140 Technical Physics Credits: 4

General Education Requirements - 9 Credit Hours

Written Communication - 3 Credit Hours

- ENG-100 Composition I With Support Credits: 5
or
- ENG-101 Composition I Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communication - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Auto Collision Repair Technology (A.A.S.)

A.A.S. Degree: 64 Hours

Sheet metal and unibody repair, automotive refinishing, and collision damage estimation are areas of concentration and employment for graduates of the Auto Collision Repair Technology program. Employers include independent body shops, new and used car dealerships, upholstery shops, glass shops, paint and equipment manufacturers and distributors, and insurance companies. The degree program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Rd, NE, Suite 401, Leesburg, VA 20176. The Web address is <http://www.asealliance.org/>.

Auto Collision Repair Technology Program Requirements - 48 Credit Hours

- ABR-100 Non-Structural Analysis I Credits: 4
- ABR-110 Paint & Refinish Preparation Credits: 4
- ABR-113 Damage Repair Metal Weld/Cut Credits: 4
- ABR-200 Non-Structural Analysis II Credits: 4
- ABR-245 Structural Analysis and Dimensioning Credits: 4
- ABR-248 Refinish Color Application Credits: 4
- ABR-250 Structural Repair Credits: 4
- ABR-255 Paint Detail and Defects Credits: 4
- ABR-265 Vehicle Controls I Credits: 4
- ABR-267 Vehicle Controls II Credits: 4
- ABR-270 Estimating and Shop Management Credits: 4
- ABR-294 Procedures and Operations Credits: 4

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3

- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM 160 General Chemistry I Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- and
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Automotive Technology (A.A.S.)

A.A.S. Degree: 64 Hours

Under the supervision of certified instructors experienced in the industry, students learn fundamentals of automotive systems design, operation, diagnosis and repair. Classroom concepts and theory are applied in the shop environment where troubleshooting, service procedures, estimating and customer relations are practiced. The automotive industry is changing and growing, with increasing emphasis on safety and electronics. Potential employers include automotive dealerships, independent repair shops, service stations, and product sales and service. The degree program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Rd, NE, Suite 401, Leesburg, VA 20176. The Web address is <http://www.asealliance.org/>.

Automotive Technology Program Requirements - 48 Credit Hours

- AUM-110 Engine Repair Credits: 4
- AUM-121 Engine Diagnosis and Repair Credits: 4

- AUM-135 Manual Drive Train & Axles Credits: 4
- AUM-171 Electrical I Credits: 4
- AUM-175 Electrical II Credits: 4
- AUM-185 Heating and Air Conditioning Credits: 4
- AUM-210 Brakes Credits: 4
- AUM-215 Steering and Suspension Credits: 4
- AUM-221 Engine Performance I Credits: 4
- AUM-222 Engine Performance II Credits: 4
- AUM-233 Automatic Transmission and Trans Axle Credits: 4
- AUM-294 Adv Topics in Auto Industry Credits: 4

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- CHM-101 Introductory Chemistry Credits: 4
- CHM 160 General Chemistry I Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Aviation Flight Technology (A.A.S)

A.A.S. Degree: 63 Hours

The Aviation Flight Technology degree prepares individuals to apply technical knowledge and skills of students who plan a career in the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed-wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. In order to complete the program, students must successfully pass the Federal Aviation Administration [FAA] Private, Commercial, and Instrument computer examinations. The program leads to FAA certification as a commercial pilot with an instrument rating. Persons wishing to be airline pilots will need to transfer to a 4-year program to complete an Airline Transport Certificate [ATP].

This program is selective admission and complies with all Federal Aviation Administration (FAA) Regulations. Prior to registration, students must provide a valid driver's license AND official birth certificate with raised seal OR a US Passport for Transportation Security Administration verification purposes; FAA Flight Physical. Non-US citizens will need to undergo Transportation Security Administration (TSA) processing.

Aviation Flight Technology Program Requirements - 42 Credit Hours

- AVI-101 World of Aviation Credits: 3
- AVI-102 Airline Operations Credits: 3
- AVI-105 Aviation Weather Credits: 3
- AVI-150 Private Pilot Ground Credits: 3
- AVI-151 Private Flight Lab I Credits: 2
- AVI-152 Private Pilot Lab II Credits: 1
- AVI-170 Instrument Ground Credits: 3
- AVI-171 Instrument Flight Lab I Credits: 1
- AVI-172 Instrument Flight Lab II Credits: 2
- AVI-203 Aircraft & Engine Components Credits: 3 **or** AVI 270 CFI Ground Credits: 3
- AVI-230 Air Transportation Credits: 3
- AVI-240 Air Traffic Control System Credits: 3
- AVI-250 Commercial Pilot Ground Credits: 3
- AVI-251 Commercial Pilot Flight Lab I Credits: 3
- AVI-252 Commercial Pilot Flight II Credits: 3
- AVI-260 Aviation Safety Credits: 3

General Education Requirements - 21 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-105 Public Speaking Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3

Institutional Electives - 6 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3
- Elective Credits: 3
(Any course numbered 100 and above)

Computer Information Science (A.A.S.)

A.A.S. Degree: 62 Hours

This Associate of Applied Science degree program prepares students with the essential knowledge and skills to develop computer applications within the business environment of local industries using current programming languages, database programming, and other development tools necessary in today's workplace. This program uses as a guide the competencies outlined by the National Business Education Association, as well as various industry certification standards, such as those developed by Microsoft Corporation.

Computer Information Science Program Requirements - 46 Credit Hours

- ACC-120 College Accounting, Part I Credits: 3 (or ACC 220)
- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-120 Introduction to Computer Programming Credits: 3
- CIS-130 Web Site Development I Credits: 3
- CIS-131 Web Site Development II Credits: 3
- CIS-230 Systems Analysis & Design Credits: 3
- CIS-250 Database and Query Credits: 3
- CIS-240 Mobile App Development Credits: 3
- CIS-260 Software Engineering Project Credits: 3
- CIS-290 Co-Operative Ed/Intern/Related Elective Credits: 3 or CSC 210
- Beginning Programming Language ¹ Credits: 3
- Beginning Programming Language ¹ Credits: 3
- Advanced Programming Language ¹ Credits: 3
- Related Elective Credits: 6
- TEC-285 Occupational Seminar Credits: 1

Related Electives Any course from CIS 120 or higher, CSC, NET, or MTH 130 or higher.

General Education Requirements - 16 Credit Hours

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Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-131 Trigonometry Credits: 3
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3

- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5

Oral/ Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- and
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3

- HST-130 U.S. History II: 1865-Present Credits: 3

Note:

¹ All students are required to take two beginning and one advanced course in programming language

Construction Technology (A.A.S.)

A.A.S. Degree: 62 Hours

Depth of training for entry into the construction occupation depends on the specific needs of employers. In this program, theory and many hours of practice are combined to lead to the Associate of Applied Science degree or certificate. A broad background allows the student to meet the needs of various graduate employment goals. This program is recognized by the Associated General Contractors of America, 632 W. 39th Street, Kansas City, MO 64111.

Construction Technology Program Requirements - 43 Credit Hours

- CST-115 Printreading for Construction Credits: 4
- CST-135 Construction Carpentry I Credits: 4
- CST-140 Cabinetmaking and Millwork I Credits: 4
- CST-150 Concrete and Forms Credits: 4
- CST-210 Interior Finishes Credits: 4
- CST-235 Construction Carpentry II Credits: 4
- CST-239 Construction Trim Carpentry Credits: 4
- CST-250 Exterior Finishes Credits: 4
- CST-280 Fundamentals of Crew Leadership Credits: 3 (or CST 281)
- CST-290 Co-Operative Ed/Intern/Related Elective Credits: 3
- CST Elective Credits: 4
- TEC-285 Occupational Seminar Credits: 1

Related Electives: Any course from the following programs: BUS, CIS, CST, DDT, HRA, IMT, or WLD

Program Electives: CST 170, CST 240, CST 245.

General Education Requirements - 19 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4

- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Culinary Arts (Options: Culinary Arts, Baking and Pastry) (A.A.S.)

A.A.S. Degree: 64 Hours

The food service industry is the focus of the Culinary Arts A.A.S. degree program. Course offerings in food preparation, baking, pastries, purchasing, food safety and sanitation, along with supervision, combine theory and concept with demonstrations by chefs and hands-on practice. This program is accredited by the American Culinary Federation Education Foundation Accrediting Commission (ACFEFAC), 180 Center Place Way, St. Augustine, FL 32095, (904) 824-4468.

Culinary Arts - Options: Culinary Arts, Baking and Pastry Program Requirements - 49 Credit Hours

- CUL-101 Food Preparation & Theory Credits: 3
- CUL-121 Introduction to Baking Credits: 3
- HSM-101 Introduction to Hospitality Credits: 3
- HSM-115 Safety and Sanitation Credits: 1
- HSM-125 Purchasing Credits: 3
- HSM-215 Dining Room Management Credits: 4
- HSM-251 Menu Design & Management Credits: 3
- HSM-270 Supervisory Management Credits: 3
- HSM-290 Culinary/Hospitality Intern Credits: 3
- TEC-285 Occupational Seminar Credits: 1
- Option Electives Credits: 22

Option Electives Culinary Arts

Option A: Culinary Arts - 22 Credit Hours

- CUL-102 Meat Fabrication Credits: 3
- CUL-103 Garde Manger Credits: 3
- CUL-105 Soups and Sauces Credits: 2
- CUL-201 Contemporary Cuisine Credits: 8
- CUL-203 World Cuisine Credits: 3
- HSM-248 Bar and Beverage Management Credits: 3

Option B: Baking and Pastry - 22 Credit Hours

- CUL-130 European Pastries Credits: 3
- CUL-150 Specialty Breads Credits: 3
- CUL-160 Cake Decorating Credits: 3
- CUL-170 Chocolate & Sugars Credits: 3
- CUL-180 Plated Dessert Presentation Credits: 2
- HSM-225 Hospitality Marketing Credits: 3
- Related Elective Credits: 5

Related Electives: May choose courses from the following program areas: CHM, CIS, CUL, HSM, AGR, BUS 160, ECO 270, ASL 101 or any foreign language course.

General Education Requirements - 15 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3

- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 3 Credit Hours

- BIO-135 Nutrition for Living Credits: 3

Social and Behavioral Sciences - 6 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Diesel Technology (A.A.S.)

A.A.S. Degree: 64 Hours

The Diesel Technology program is an ASE (Automotive Service Excellence) master certified program that focuses on medium and heavy duty trucks. The classes offered are in the eight ASE areas: diesel engines, drive trains, brakes, steering and suspension, electrical and electronics, preventive maintenance, gas engines, and heating and air conditioning. The curriculum follows the recommended tasks that will give the students the skills to be an entry level mechanic. The degree program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Rd, NE, Suite 401, Leesburg, VA 20176. The Web address is <http://www.asealliance.org/>.

Diesel Technology Program Requirements - 48 Credit Hours

- DSL-105 Diesel Engine Repair Credits: 4
- DSL-112 Diesel Brakes Credits: 4
- DSL-115 Diesel Preventive Maintenance Credits: 4
- DSL-171 Electrical I Credits: 4
- DSL-175 Electrical II Credits: 4

- DSL-185 Heating and Air Conditioning Credits: 4
- DSL-205 Advanced Diesel Engines Credits: 4
- DSL-215 Suspension and Steering Credits: 4
- DSL-232 Diesel Diagnostics & Repair Credits: 4
- DSL-235 Heavy Duty Drives Credits: 4
- DSL-290 Capstone/Co-op/Internship Credits: 3
- DSL Related Elective Credits: 4
- TEC-285 Occupational Seminar Credits: 1

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- and
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Drafting and Design Technology (A.A.S.)

A.A.S. Degree: 62 Hours

The outlook for competent drafters is expected to increase faster than the average occupation since all new products and buildings require drawings and specifications to manufacture, build and assemble.

This program provides the student with the necessary skills and knowledge to obtain employment as a designer/drafter in a manufacturing, civil, structural or architectural environment. The application of drafting and design standards and skills will be examined with the study of basic to advanced concepts in spatial relationships utilizing a computer aided drafting system to complete projects.

Drafting and Design Technology Program Requirements - 46 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3
- DDT-100 Fundamentals of Drafting Credits: 4
- DDT-110 Mechanical Design & Tolerancing Credits: 4
- DDT-115 Manufacturing Processes and Materials Credits: 4
- DDT-150 Descriptive Geometry & 2D CAD Credits: 4
- DDT-160 Resident Architect Drafting Credits: 4
- DDT-200 Production Design Drafting Credits: 4
- DDT-210 Structural Detail/Drafting Credits: 4
- DDT-250 Machine Design Drafting Credits: 4
- DDT-260 Commercial Architect Drafting Credits: 4
- DDT-270 Civil Engineering Drafting Credits: 4
- DDT-290 Co-Operative Ed/Intern/Related Elective Credits: Variable 1-3 Credits: 2-3
- TEC-285 Occupational Seminar Credits: 1

Related Electives: May choose courses from the following program area: CST, DDT, HRA, PMT, or WLD

General Education Requirements - 16 Credit Hours

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Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3

- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Early Childhood Development (A.A.S.)

A.A.S. Degree: 64 Hours

One of the fastest growing industries in the United States is the child care field. Children's participation rates in early childhood programs continue to increase but national shortages in quality early childhood care givers and programs are a growing concern. The quality of children's care significantly contributes to children's school readiness and an educated staff is the link between quality programs and positive outcomes for children and families. The increasing need for educated care providers can lead to a rewarding and challenging career in preschools, childcare centers, Head Start centers, religious programs, child development centers, public and private schools, and recreational centers.

The Associate of Applied Science degree in Early Childhood Development is a two-year program.

Important to Note When Considering This Program: Students must register with the Family Childcare Safety Registry (FCSR). Students will need to successfully pass the background screening prior to beginning any practicum experience. Additionally, verification of a TB test or TB Risk Assessment must be signed by medical personnel and submitted.

Early Childhood Development Program Requirements - 49 Credit Hours

- ECD-101 Foundations of Early Childhood Credits: 3
- ECD-110 Early Childhood Growth and Development Credits: 3
- ECD-120 Language and Literature in Early Childhood Credits: 3
- ECD-135 Practicum I Credits: 3
- ECD-165 Family and Community in ECD Credits: 3
- ECD-170 Health, Safety & Nutrition Credits: 3
- ECD-185 Practicum II Credits: 3
- ECD-230 Intro to Children Spec Needs Credits: 3
- ECD-240 Creativity and the Young Child Credits: 3
- ECD-260 Curriculum and Assessment in ECD Credits: 3
- ECD-270 Classroom and Behavioral Mgmt Credits: 3
- ECD-279 Specialized Teaching Methods Credits: 3
- ECD-215 S.T.E.A.M. in ECD Credits: 3
- ECD-255 Practicum III Credits: 3
- ECD-269 Sensory and Autism Spectrum Credits: 3
- ECD-299 Capstone Practicum IV Credits: 4

General Education Requirements - 15 Credit Hours

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Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-131 Trigonometry Credits: 3
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Humanities and Fine Arts - 3 Credit Hours

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3

- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Electrical Distribution Systems (A.A.S.)

A.A.S. Degree: 69 Hours

Electric utility line technicians install and repair poles, conductors, cables, and operate and maintain equipment used in electrical power and distribution systems. Students in this program will learn to climb wood pole structures, equipment operation, build and maintain electrical distribution systems, all while placing an emphasis on safe work practices and critical thinking skills. The degree program is intended to prepare individuals for employment at any utility offering an apprenticeship program. Program enrollment is limited and students are selected on a competitive basis.

Electrical Distribution Systems Program Requirements - 50 Credit Hours

- EDS-100 Intro to Elec. Distribution Credits: 3
- EDS-120 Safety & Prevention Methods Credits: 3
- EDS-150 Equipment Operation Credits: 4

- EDS-151 Commercial Driver License Credits: 3
- EDS-152 Commercial Driver License Lab Credits: 3
- EDS-160 Pole Climbing Skills Credits: 4
- EDS-170 Overhead Power Distribution Credits: 4
- EDS-200 Electrical Distribution II Credits: 4
- EDS-237 Transformer Theory Credits: 4
- EDS-246 Service Installation & Metering Credits: 3
- EDS-250 Gloving & Live Line Procedure Credits: 3
- EDS-260 Distribution Systems Maint. Credits: 4
- EDS-270 Underground Power Dist. Credits: 3
- EDS-272 Fusing, Substations & Voltage Credits: 3
- EDS-290 Co-Op Ed/Intern Credits: Variable 1-3

General Education Requirements - 19 Credit Hours

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Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3

- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- PHY-105 Introduction to Physics Credits: 4
- TES-140 Technical Physics Credits: 4

Social and Behavioral Sciences - 6 Credit Hours(Include at least one civics course, PLS 101 or HST 120, or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3

Electronic Media Production (A.A.S.)

A.A.S. Degree: 62 Hours

The Electronic Media Production program is designed to meet the changing needs of the audio-visual industry in a digital format. Students will learn a variety of contemporary production skills. Emphasis is on a hands-on laboratory environment in digital video production and editing, multi-track audio

production, 3-D animation and radio production. Students may complete an internship with industry prior to earning an A.A.S. degree.

Electronic Media Production Program Requirements - 44 Credit Hours

- EMP-102 Intro Electronic Media Prod Credits: 4
- EMP-110 Sound Design Credits: 4
- EMP-115 Studio Television Production Credits: 4
- EMP-117 Video Systems Credits: 4
- EMP-127 Audio Engineering Credits: 4
- EMP-208 Digital Video Production Credits: 4
- EMP-210 Photojournalism Credits: 4
- EMP-216 3-D Animation Credits: 4
- EMP-250 Digital Special Effects Credits: 4
- EMP-263 Production and Directing Television Credits: 4
- EMP-290 Co-Operative Ed/Intern/Related Elective Credits: Variable 1-3 Credits: 1-3
- TEC-285 Occupational Seminar Credits: 1
- Related Elective Credits: 2

Related Electives - EMP 100, EMP 101, EMP 103, EMP 104 or may choose courses from the following program areas:
BUS, CIS, DDT, GDT, NET

General Education Requirements - 18 Credit Hours

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Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3

- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 3 Credit Hours

- TES-140 Technical Physics Credits: 4
- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- COM-150 Intro Mass Communication Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Fire Science Technology (A.A.S.)

A.A.S. Degree: 63 Hours

Career departments, volunteer departments and departments with both career and volunteer firefighters combine to comprise approximately 100 fire departments throughout southwest Missouri. The Fire Science Technology program provides learning opportunities which introduce, develop and reinforce academic and occupational knowledge, skills and attitudes required for job acquisition, retention and advancement. Additionally, the program provides opportunities to retrain and upgrade present knowledge and skills. Career choices for Fire Science Technology students include the following: firefighter, fire inspector, fire instructor, fire investigator, fire protection systems installer, U.S. Forest Service, as well as various military branches. OTC graduates have employment opportunities locally, statewide, nationally and internationally. The program is accredited by the International Fire Service Accreditation Congress (IFSAC).

OTC has developed procedures for evaluating past training experiences and certification; inquiries should be directed to the lead instructor or department chair.

Students wishing to transfer to a four-year institution are strongly encouraged to seek the advice of the lead instructor or department chair of the FST program to determine courses appropriate for transfer.

This program is accredited by the International Fire Service Accreditation Congress (IFSAC), 1812 Tyler Avenue, Stillwater, OK, 74078-8705, (405) 744-8303.

Fire Science Technology Program Requirements - 44 Credit Hours

- EMS-101 Emergency Medical Technician - Basic Credits: 7
- FST-101 Principles Emergency Services Credits: 3

- FST-102 Building Construction Credits: 3
- FST-105 Introduction to Firefighter 1&2 Credits: 3
- FST-106 Firefighter I and II Credits: 6
- FST-107 Fire Prevention Credits: 3
- FST-109 Fire Hydraulics Credits: 3
- FST-110 Principle of Firefighter & Emergency Services Safety & Survival Credits: 3
- FST-117 Fire Protection Systems Credits: 3
- FST-120 Hazardous Materials Credits: 3
- FST-260 Technical Rescue Core Credits: 3
- FST-280 Capstone Assessment Credits: 3
- TEC-285 Occupational Seminar Credits: 1

General Education Requirements - 19 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 4 Credit Hours

- CHM-101 Introductory Chemistry Credits: 4

Social and Behavioral Sciences - 6 Credit Hours

- PSY-110 Introduction to Psychology Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- or
- HST-130 U.S. History II: 1865-Present Credits: 3
- or
- PLS-101 American Government and Politics Credits: 3

Graphic Design Technology (A.A.S.)

A.A.S. Degree: 66 Hours

Graphic design is a professional discipline that combines conceptual, critical thinking with a variety of software skills to visually communicate a market-driven message to a target audience. Graphic designers apply a balanced knowledge of time-honored design theories with proficiencies in industry-standard technology to produce a wide array of products, from traditional printed material to audio-visual motion graphics and interactive website designs. Graphic designers are problem solvers, delivering their solutions via brochures, magazines, logos, websites, and more in service to a varied job field that includes advertising businesses, corporations, publishers, and product manufacturers — among many others. The Graphic Design Technology program focuses on teaching students how to utilize their artistic instincts in the development of real-world, deadline-driven projects using up-to-date technology toward the completion of a professional, attention-getting portfolio and ultimately, a career as a graphic designer.

Commercial photography is a delicate balance between personal vision and the need to fulfill certain prescribed criteria from a client or customer — parameters that are sensitive to marketing considerations and deadlines. The Digital Photography Option prepares students for a career in

photography by combining traditional techniques and industry-standard technology and software through a variety of classes that emphasize the commercial application of photography skills. Product, portrait, wedding, location photography, and more are explored through practical, hands-on projects and scenarios — along with fundamental training in graphic design — to help students become viable, vibrant working photographers.

Graphic Design Technology Program Requirements - 50 Credit Hours

- GDT-105 Graphic Design I Credits: 4
- GDT-115 Typography Credits: 4
- GDT-160 Digital Photography Credits: 4
- GDT-122 Page Layout Design Credits: 4
- GDT-125 Digital Illustration Credits: 4
- GDT-165 Advertising Design Credits: 4
- GDT-218 Graphic Production Credits: 4
- GDT-225 Motion Graphic Design Credits: 4
- GDT-248 Publication Design Credits: 4
- GDT-250 Web Page Design Credits: 4
- GDT-258 Graphic Design II Credits: 4
- GDT-275 Portfolio Design and Professional Practices Credits: 2
- Related Elective Credits: 4

Related Elective: GDT 138, GDT 146, GDT 143, GDT 144, GDT 222, CIS 130.

General Education Requirements - 16 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

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Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4

- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Heating, Refrigeration and Air Conditioning (A.A.S.)

A.A.S. Degree: 63 Hours

The demand for highly skilled technicians in the heating, air conditioning and refrigeration fields will continue to grow in the coming years. Students are exposed to the most technically advanced equipment and knowledge to stay abreast of the rapid changes that are taking place in the HVAC industry. Courses cover every aspect of the trade to give the student a comprehensive understanding of HVAC systems. Skills learned will allow the student to find many different types of entry level HVAC-related careers. This program is accredited by HVAC Excellence, PO Box 491, Mount Prospect, IL 60056, (800) 394-5268.

Heating, Refrigeration, and Air Conditioning Program Requirements - 44 Credit Hours

- HRA-102 Basic Refrigeration Theory and Application Credits: 4
- HRA-103 Electricity for Heating, Refrigerant and A/C Credits: 4
- HRA-125 Refrigerants and Refrigerant Handling Credits: 4
- HRA-135 Refrigeration Motors and Controls Credits: 4
- HRA-180 Air Distribution Systems Credits: 2
- HRA-245 Commercial Refrigeration Systems Credits: 4
- HRA-250 Advanced Commercial Refrigeration Credits: 4
- HRA-265 Residential Heating and Air Conditioning Credits: 4
- HRA-270 Advanced Heating and Air Conditioning Credits: 4
- HRA-281 Heating, Refrigeration and A/C Capstone Assessment Credits: 2
- HRA-290 Co-Operative Ed/Intern/Related Elective Credits: 3
- Related Elective Credits: 4
- TEC-285 Occupational Seminar Credits: 1

Related Electives: ELC 220, HRA 140, HRA 225.

General Education Requirements - 19 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BCS-115 Survey of A & P Credits: 3

- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Hospitality Management (A.A.S.)

A.A.S. Degree: 66 Hours

This program is designed to give the student the tools and training necessary to be competitive in the Hospitality Industry. Courses focus on the fundamentals and importance of management with regard to supervision of employees, revenue management, marketing and customer relations.

Hospitality Management Program Requirements - 48 Credit Hours

- CUL-101 Food Preparation & Theory Credits: 3
- HSM-101 Introduction to Hospitality Credits: 3
- HSM-115 Safety and Sanitation Credits: 1
- HSM-125 Purchasing Credits: 3
- HSM-215 Dining Room Management Credits: 4
- HSM-225 Hospitality Marketing Credits: 3
- HSM-233 Front Office Procedures Credits: 3
- HSM-248 Bar and Beverage Management Credits: 3
- HSM-251 Menu Design & Management Credits: 3
- HSM-255 Hospitality Accounting Credits: 3
- HSM-270 Supervisory Management Credits: 3
- HSM-276 Catering and Event Management Credits: 3
- HSM-290 Culinary/Hospitality Intern Credits: 3
- TEC-285 Occupational Seminar Credits: 1
- Related Electives Credits: 9

Related Electives: May choose courses from the following program areas: CHM, CIS, CUL, HSM, AGR, BUS 160, ECO 270, ASL 101 or any foreign language course.

General Education Requirements - 18 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5

- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 3 Credit Hours

- BIO-135 Nutrition for Living Credits: 3

Social and Behavioral Sciences - 6 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Industrial Systems Technology (A.A.S.)

A.A.S. Degree: 64 Hours

This program prepares students for employment in the lucrative field of industrial systems technology. Graduates are employed in manufacturing facilities, hospitals, hotels/resorts, public utilities, school/college facilities and retail chains. People with this training are responsible for installation, operation and maintenance of robots and other automated systems related to manufacturing and industrial processes. They perform installation and repair of machinery that is crucial to many industries. Good pay, benefits and high placement rates are characteristic of this field. This program provides ongoing skills enhancement to people already employed in the field, and it provides new students with the entry-level skills they need to gain employment.

Industrial Systems Technology Program Requirements - 45 Credit Hours

- IST-120 Industrial Safety Credits: 3
- IST-125 Fluid Power Credits: 4
- IST-130 Industrial Electricity I Credits: 4
- IST-140 Industrial Electricity II Credits: 4
- IST-170 Industrial Motors and Controls Credits: 4
- IST-200 Mechanical Power Transmission Credits: 4
- IST-225 Programmable Control Credits: 4
- IST-246 Advanced Programmable Control Credits: 4
- IST-260 Industrial Systems Maintenance Credits: 4
- IST-290 Co-operative Education/Internship/Elective Credits: Variable 1-3 Credits: 1-3
- TEC-285 Occupational Seminar Credits: 1
- Related Electives Credits: 8

Related Electives: May choose courses from the following program areas: CIS, CST, DDT, ELC, HRA, IST, MFG, PMT, NET, or WLD.

General Education Requirements - 19 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3

- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BIO-100 Life Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- AGR-100 Introduction to Agriculture Credits: 3
- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3

- HST-130 U.S. History II: 1865-Present Credits: 3

Manufacturing Technology (A.A.S.) (Level II)

A.A.S. Degree: 64 Hours

Manufacturing Technology is a cross-disciplinary program which allows the student to chart a personalized path to a degree and certificates by taking several required courses along with courses chosen from any of our manufacturing-related degree programs. Classes from Industrial Systems Technology (IST), Drafting and Design Technology (DDT), Precision Machining Technology (PMT), Welding (WLD) and other related electives can be combined to lead to the MFG degree.

This program is intended to help employers create a professional training plan for their employees that leads to a degree and/or certificates, and exactly fits the needs of the employee for the particular position they are in. Further post-degree training can lead to the top level certificate and prepare employees for management and supervisory roles. Student enrollment must be preceded by an advising consultation with one or more of the department chairs of the above programs to create a degree/certification plan for individuals or groups of employees. Contact the department chair for more information.

Manufacturing Technology Program Requirements - 45 Credit Hours

- BUS-110 Principles of Business Credits: 3
- IST-120 Industrial Safety Credits: 3
- MFG-275 Manufacturing Capstone Credits: Variable 3-4
- MFG-290 Co-operative Education/Internship Credits: Variable 1-3
- Related Electives Credits: 34-36
- TEC-285 Occupational Seminar Credits: 1

Related Electives: Please choose from the following program areas: ABR, AGR (Excluding AGR 100), AUM, CIS, CST, DDT, DSL, ELC, ENG 150, FST, HRA, IST, MFG, PMT, NET, WLD.

General Education Requirements - 19 Credit Hours

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Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BIO-100 Life Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Networking Technology (A.A.S.)

A.A.S. Degree: 62 Hours

Employment in IT networking can range from assembling and repairing computers, installation of network cabling systems, configuring and managing servers and back-end network support systems, to trouble shooting network hardware and software issues . Network administrators typically oversee the functioning of all network-attached devices. Graduates of the Networking Technology program will qualify for entry level positions as network technicians, computer technicians and as network cable installers. Our courses also prepare students to attempt the following industry certifications; CompTIA NET+, A+, Security+, and Linux+ Cisco CCENT and CCNA.

Networking Technology Program Requirements - 46 Credit Hours

- NET-104 Network Communications and Cabling Credits: 3
- NET-107 Computer and Network Hardware Credits: 3
- NET-108 Operating Systems and Software Credits: 3
- NET-110 Windows Client-Server Credits: 4
- NET-112 The Linux Operating System Credits: 4
- NET-114 Introduction to Networking Credits: 4
- NET-116 Cisco Routing and Switching - Introduction to Networks Credits: 4
- NET-202 Information Technology Security Credits: 3
- NET-205 Network Virtualization and Storage Concepts Credits: 4
- NET-206 Cisco CCNA - Routing and Switching Essentials Credits: 4
- NET-216 Cisco CCNA - Scaling and Connecting Networks Credits: 4
- NET-260 Advanced Networking Systems Credits: 4
- NET-290 Co-Operative Education/Internship Credits: Variable 1-3 (or NET 291)
- TEC-285 Occupational Seminar Credits: 1

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-138 Pre-Calculus Mathematics Credits: 5
- or higher

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BCS-115 Survey of A & P Credits: 3

- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credit: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Precision Machining Technology (A.A.S.)

A.A.S. Degree: 62 Hours

Precision machining is a highly technical, advanced process that is essential to manufacture the products we use in our daily lives. The Precision Machining Technology program provides hands-on training with advanced machine tools and teaches the fundamental skills needed to precisely manufacture products and tooling. Students in the program learn technologies including Computer Numerical Control (CNC) setup and programming, Computer-Aided Design and Manufacturing (CAD/CAM), and advanced inspection equipment such as Coordinate Measuring Machines (CMM). The wide range of skills taught in this program provide many employment opportunities in manufacturing including CNC operator, general machinist, CNC setup technician, CNC programmer, quality control technician, and manufacturing engineering technician.

Precision Machining Technology Program Requirements - 46 Credit Hours

- DDT-110 Mechanical Drawn & Tolerancing Credits: 4
- PMT-125 Machining Fundamentals I Credits: 4
- PMT-135 CNC Programming - G & M Code Credits: 4
- PMT-145 CAD/CAM Essentials Credits: 4
- PMT-150 Adv. Blueprint Reading & QC Credits: 4
- PMT-225 Machining Fundamentals II Credits: 4

- PMT-235 CNC Setup and Operation Credits: 4
- PMT-245 Advanced CAD/CAM Credits: 4
- PMT-250 Adv. Machining Processes I Credits: 4
- PMT-255 Advanced Machining Processes Capstone Credits: 4
- PMT-290 Co-operative Education/Internship/Related Elective Credits: Variable 2-3
- TEC-285 Occupational Seminar Credits: 1
- Related Electives Credits: 3-4

Related Electives: May choose from the following program areas: CST, DDT, HRA, IST, MFG, PMT, WLD.

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- or
- ENG-100 Composition I With Support Credits: 5

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- ENG-150 Technical Writing Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- TES-140 Technical Physics Credits: 4
- BIO-100 Life Science Credits: 4
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- PHY-105 Introduction to Physics Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Remanufacturing Technology (A.A.S.)

AAS Degree: 64 Hours

The Remanufacturing Technology program provides individuals with the knowledge and skills necessary to obtain employment in the remanufacturing industry. Coursework is derived from a variety of disciplines including diesel engine diagnosis and repair, industrial system safety and process, and precision machining fundamentals and operation.

Remanufacturing Technology Program Requirements - 48 Credit Hours

- DSL-105 Diesel Engine Repair Credits: 4
- DSL-115 Diesel Preventive Maintenance Credits: 4
- DSL-150 Principles of Remanufacturing Credits: 4
- DSL-171 Electrical I Credits: 4
- DSL-205 Advanced Diesel Engines Credits: 4
- DSL-232 Diesel Diagnostics & Repair Credits: 4
- DSL-235 Heavy Duty Drives Credits: 4

- IST-120 Industrial Safety Credits: 3
- IST-125 Fluid Power Credits: 4
- PMT-125 Machining Fundamentals I Credits: 4
- PMT-150 Adv. Blueprint Reading & QC Credits: 4
- PMT-225 Machining Fundamentals II Credits: 4
- TEC-285 Occupational Seminar Credits: 1

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- TEC-108 Applied Technical Mathematics Credits: 3

Written Communication - 3 Credit Hours

- ENG-100 Composition I With Support Credits: 5
- or**

- ENG-101 Composition I Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communication - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM-160 General Chemistry I Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- TES-140 Technical Physics Credits: 4
- CHM-160 General Chemistry I Credits: 4
- and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

Welding Technology (A.A.S.)

A.A.S. Degree: 62 Hours

Depth of training required for entry into the welding occupation depends on the specific needs of employers. In this program, theory and many hours of practice are combined to lead to either the certificate or the Associate of Applied Science degree levels of competency. A broad background allows

the student to meet the needs of various graduate employment goals. The lab facility at the Springfield campus is certified by the American Welding Society (AWS), 8669 NW 36 Street #130, Miami, FL 33166-6672, (800) 443-9353.

Welding Technology Program Requirements - 47 Credit Hours

WLD 230 Industrial Welding Specialist (20-Week Welding) satisfies completion of WLD 111, WLD 112, WLD 113, WLD 114, WLD 130, WLD 222, WLD 223, WLD 224, WLD 235 toward the AAS in Welding Technology.

- WLD-111 Shielded Metal Arc Welding I Credits: 4
- WLD-112 Shielded Metal Arc Welding II Credits: 4
- WLD-113 Gas Metal and Flux Cored Arc Welding Credits: 4
- WLD-114 Gas Tungsten Arc Welding Credits: 4
- WLD-130 Print Reading for Welders Credits: 2
- WLD-221 Advanced Shielded Metal Arc Welding Credits: 4
- WLD-222 Advanced Gas Metal/Flux Cored Arc Welding Credits: 4
- WLD-223 Advanced Pipe and Tube Welding Credits: 4
- WLD-224 Advanced Gas Tungsten Arc Welding Credits: 4
- WLD-225 Welding Inspection Technology I Credits: 3
- WLD-226 Welding Inspection Technology II Credits: 3
- WLD-235 Fabrication and Finishing Credits: 4
- WLD-290 Co-Operative Ed/Intern/Related Elective Credits: Variable Credits: 2-3
- TEC-285 Occupational Seminar Credits: 1

Related Electives: May choose courses from the following program areas: CST, DDT, IST, PMT, WLD.

General Education Requirements - 15 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- TEC-108 Applied Technical Mathematics Credits: 3

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-131 Trigonometry Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3

- HST-130 U.S. History II: 1865-Present Credits: 3

Certificate of Achievement

Agriculture—Turf and Landscape Management Certificate

Certificate: 32 Hours

This option in the Agriculture program is designed to train people for careers in the land care industry. Job opportunities include a wide range of occupations from residential lawn care to country clubs and from home landscaping to city landscaping and beyond. Extensive lab work and comprehensive class work will prepare students for a lifetime of earning potential. This option is accredited by the Professional Landcare Network (PLANET), 950 Herndon Parkway, Suite 450, Herndon VA 20170, (703) 736-9666

Agriculture - Turf and Landscape Management Certificate Requirements

- AGR-112 Woody Ornamental Identification Credits: 4
- AGR-180 Plant and Soil Science Credits: 4
- AGR-185 Irrigation Dsn, Install, Main Credits: 3
- AGR-190 Turfgrass Management Credits: 4
- AGR-212 Greenhouse Horticulture Credits: 3
- AGR-214 Landscape Design Credits: 4
- AGR-215 Landscape Construction and Maintenance Credits: 4
- AGR-220 Agriculture Business Management Credits: 3
- AGR Related Elective Credits: 3-4

Note:

Related Electives: AGR 113 • AGR 145 • AGR 225 • AGR 235

Auto Collision Repair Technology Certificate

Certificate: 32 Hours

Sheet metal and unibody repair, automotive refinishing, and collision damage estimation are areas of concentration and employment for graduates of the Auto Collision Repair Technology program. Employers include independent body shops, new and used car dealerships, upholstery shops, glass shops, paint and equipment manufacturers and distributors, and insurance companies. The degree program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Rd, NE, Suite 401, Leesburg, VA 20176. The Web address is <http://www.asealliance.org/>.

Auto Collision Repair Technology Certificate Requirements

- ABR-100 Non-Structural Analysis I Credits: 4
- ABR-110 Paint & Refinish Preparation Credits: 4
- ABR-113 Damage Repair Metal Weld/Cut Credits: 4
- ABR-200 Non-Structural Analysis II Credits: 4
- ABR-245 Structural Analysis and Dimensioning Credits: 4
- ABR-248 Refinish Color Application Credits: 4
- ABR-250 Structural Repair Credits: 4
- ABR-255 Paint Detail and Defects Credits: 4

Automotive Technology Certificate

Certificate: 32 Hours

Under the supervision of certified instructors experienced in the industry, students learn fundamentals of automotive systems design, operation, diagnosis and repair. Classroom concepts and theory are applied in the shop environment where troubleshooting, service procedures, estimating and customer relations are practiced. The automotive industry is changing and growing, with increasing emphasis on safety and electronics. Potential employers include automotive dealerships, independent repair shops, service stations, and product sales and service. The degree program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Rd, NE, Suite 401, Leesburg, VA 20176. The Web address is <http://www.asealliance.org/>.

Automotive Technology Certificate Requirements

- AUM-110 Engine Repair Credits: 4
- AUM-121 Engine Diagnosis and Repair Credits: 4
- AUM-171 Electrical I Credits: 4
- AUM-175 Electrical II Credits: 4
- AUM-210 Brakes Credits: 4
- AUM-215 Steering and Suspension Credits: 4
- AUM-221 Engine Performance I Credits: 4
- AUM-222 Engine Performance II Credits: 4

Computer Information Science Certificate

Certificate: 30 Hours

This Certificate degree program prepares students with the foundational knowledge and skills to develop computer applications within the business environment of local industries using current programming and web development languages desired in today's workplace. This program uses as a guide the competencies outlined by the National Business Education Association, as well as various industry certification standards, such as those developed by Microsoft Corporation.

Computer Information Science Certificate Requirements

- ACC-120 College Accounting, Part I Credits: 3
- **or**
- ACC-220 Principles of Accounting I Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-120 Introduction to Computer Programming Credits: 3
- **Beginning Programming Language Credits: 3**
- CIS-130 Web Site Development I Credits: 3
- CIS-230 Systems Analysis & Design Credits: 3
- **Related Elective Credits: 3**

Related Electives Any course from CIS 120 or higher, CSC, NET, or MTH 130 or higher.

General Education Requirements - 9 Credit Hours

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Mathematical Sciences - 3 Credit Hours

- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5

Oral/Written Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Computer Science Certificate

Certificate of Achievement: 31 Hours

This Associate of Science degree program prepares students to transfer to a four-year college or university to major in a computer science-related degree program. Students will be introduced to a variety of topics such as algorithm design, data structures, computer programming, and structured mathematics. Since requirements vary at each four-year college or university, students should check with their faculty advisor or the school to which they intend to transfer to ensure they are taking the appropriate courses.

Computer Science Certificate Requirements - 15 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-120 Introduction to Computer Programming Credits: 3
- CIS-130 Web Site Development I Credits: 3
- CIS-150 C# Programming I Credits: 3 **or** CIS 170
- Related Elective Credits: 3

Related Elective: May choose a course from the following areas: CSC, CIS 125 or higher, or MTH 130 or higher.

General Education Requirements - 16 Credit Hours

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Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 5 Credit Hours

- MTH-140 Analytic Geometry and Calculus I Credits: 5

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
and
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 5 Credit Hours

- PHY-220 Physics Engrs & Scientists I Credits: 5

Notes:

*If CIS 150 is a program selection, CIS 170 or CIS 171 can be taken as an elective. If CIS 170 is a program selection, CIS 150 or CIS 151 may be taken as an elective.

Construction Technology Certificate

Certificate: 31 Hours

Depth of training for entry into the construction occupation depends on the specific needs of employers. In this program, theory and many hours of practice are combined to lead to the Associate of Applied Science degree or certificate. A broad background allows the student to meet the needs of various graduate employment goals. This program is recognized by the Associated General Contractors of America, 632 W. 39th Street, Kansas City, MO 64111.

Construction Technology Certificate Requirements

- CST-135 Construction Carpentry I Credits: 4
- CST-140 Cabinetmaking and Millwork I Credits: 4
- CST-150 Concrete and Forms Credits: 4
- CST-210 Interior Finishes Credits: 4
- CST-235 Construction Carpentry II Credits: 4
- CST-239 Construction Trim Carpentry Credits: 4
- CST-250 Exterior Finishes Credits: 4
- Related Elective Credits: 3-4

Note:

Related Electives: Any course from the following programs: BUS, CIS, CST, DDT, HRA, IMT, WLD.

Culinary Arts - Baking Arts Certificate

Baking Arts Certificate: 30 Hours

The baking arts certificate is designed to promote entry level placement into various work opportunities in the food service industry and is a great transition into upper level course work in the Culinary Arts A.A.S. program. Course offering in core classes develop the necessary skills needed to enter into the work force through lecture-lab classes that utilize chef demonstrations and hands-on-experience in the learning environment. This program is accredited by the American Culinary Federation Education foundation Accrediting Commission (ACFEFAC), 180 Center Place Way, St. Augustine, FL 32095, (904) 824-4468

Culinary Arts - Option: Baking and Pastry Certificate Requirements

- CUL-101 Food Preparation & Theory Credits: 3
- CUL-121 Introduction to Baking Credits: 3
- CUL-130 European Pastries Credits: 3
- CUL-150 Specialty Breads Credits: 3
- CUL-160 Cake Decorating Credits: 3
- CUL-170 Chocolate & Sugars Credits: 3
- CUL-180 Plated Dessert Presentation Credits: 2
- HSM-115 Safety and Sanitation Credits: 1
- HSM-125 Purchasing Credits: 3
- ENG-101 Composition I Credits: 3 **or** ENG 100
- MTH 105 Business Math Credits: 3 **or** higher

Diesel Technology Certificate

Certificate: 32 Hours

The Diesel Technology program is an ASE (Automotive Service Excellence) master certified program that focuses on medium and heavy duty trucks. The classes offered are in the eight ASE areas: diesel engines, drive trains, brakes, steering and suspension, electrical and electronics, preventive maintenance, gas engines, and heating and air conditioning. The curriculum follows the recommended tasks that will give the students the skills to be an entry level mechanic. The degree program is accredited by the ASE Education Foundation, 1503 Edwards Ferry Rd, NE, Suite 401, Leesburg, VA 20176. The Web address is <http://www.asealliance.org/>.

Diesel Technology Certificate Requirements

- DSL-105 Diesel Engine Repair Credits: 4
- DSL-112 Diesel Brakes Credits: 4
- DSL-115 Diesel Preventive Maintenance Credits: 4
- DSL-171 Electrical I Credits: 4
- DSL-175 Electrical II Credits: 4
- DSL-205 Advanced Diesel Engines Credits: 4
- DSL-215 Suspension and Steering Credits: 4
- DSL-235 Heavy Duty Drives Credits: 4

Drafting and Design Technology Certificate

Certificate: 32 Hours

The outlook for competent drafters is expected to increase faster than the average occupation since all new products and buildings require drawings and specifications to manufacture, build and assemble. This program provides the student with the necessary skills and knowledge to obtain employment as a designer/drafter in a manufacturing, civil, structural or architectural environment. The application of drafting and design standards and skills will be examined with the study of basic to advanced concepts in spatial relationships utilizing a computer aided drafting system to complete projects.

Drafting and Design Technology Certificate Requirements

- DDT-100 Fundamentals of Drafting Credits: 4
- DDT-110 Mechanical Drawn & Tolerancing Credits: 4
- DDT-150 Descriptive Geometry & 2D CAD Credits: 4
- DDT-160 Resident Architect Drafting Credits: 4
- DDT-200 Production Design Drafting Credits: 4
- DDT-210 Structural Detail/Drafting Credits: 4
- DDT-250 Machine Design Drafting Credits: 4
- DDT-260 Commercial Architect Drafting Credits: 4

Early Childhood Development Certificate

Certificate: 30 Hours

The Certificate of Achievement track is a short-term certificate designed to prepare individuals for support roles in the early childhood field. Individuals completing this track will gain entry-level competencies and an overall general understanding of child development. Credits earned can be applied towards the Associate of Applied Science degree in Early Childhood Development.

Important to Note When Considering This Program: Students are required to participate in practicum experience assignments involving visitations to and/or work in an early childhood setting. Students must register with the Family Care Safety Registry and successfully pass the background screening prior to beginning any practicum experience requirement and need verification of a TB test and/or TB Risk Assessment signed by medical personnel.

Early Childhood Development Certificate Requirements

- ECD-101 Foundations of Early Childhood Credits: 3
- ECD-110 Early Childhood Growth and Development Credits: 3
- ECD-120 Language and Literature in Early Childhood Credits: 3
- ECD-135 Practicum I Credits: 3
- ECD-165 Family and Community in ECD Credits: 3
- ECD-170 Health, Safety & Nutrition Credits: 3
- ECD-185 Practicum II Credits: 3
- ECD-230 Intro to Children Spec Needs Credits: 3
- ECD-240 Creativity and the Young Child Credits: 3
- ECD-260 Curriculum and Assessment in ECD Credits: 3

Electrical Certificate

Certificate: 34 Hours

The Electrical Certificate program will provide individuals the opportunity to develop technical skills needed to advance in a career as an electrician. This program can be utilized by apprentices or non-apprentices.

Upon completion of the Electrical Certificate, students can apply those credit hours to two different A.A.S. degree programs. If a student has completed the certificate program as an apprentice, has a sufficient amount of work related hours, and passes the National Electric Certification exam, he or she may wish to pursue an A.A.S. degree in the Apprenticeship Industrial Technology program. If a student does not have the work related hours required to sit for the National Electric Certification exam (non-apprentice), he or she may choose to pursue an A.A.S. degree in Manufacturing. Consultation with the department chair of this program is required to ensure that each individual chooses a path that will best suit his or her needs.

Electrical Certificate Requirements

- ELC-100 Intro Elect Theory & Safety Credits: 3
- ELC-110 Elect Formulas & Circuitry Credits: 4
- ELC-115 Print Reading for Electrical Trades Credits: 4
- ELC-120 Wiring Method & Pwr Dist App Credits: 4
- ELC-130 Basic Power Gen & Code Req Credits: 4
- ELC-200 Applic NEC To Elect Apparatus Credits: 4
- ELC-210 Applic NEC To Unique Sys/Loc Credits: 4
- ELC-220 VFD and PLC Operations and Maintenance Credits: 4
- ELC-230 Preparation for National Electric Certification Credits: 3 **or** ELC 135

Electronic Media Production Certificate

Certificate: 32 Hours

The Electronic Media Production program is designed to meet the changing needs of the audio-visual industry in a digital format. Students will learn a variety of contemporary production skills. Emphasis is on a hands-on laboratory environment in digital video production and editing, multi-track audio production, computer-based game design, 3-D animation and radio production. Students may complete an internship with industry prior to earning an A.A.S. degree.

Electronic Media Production Certificate Requirements

- EMP-102 Intro Electronic Media Prod Credits: 4
- EMP-110 Sound Design Credits: 4
- EMP-115 Studio Television Production Credits: 4
- EMP-117 Video Systems Credits: 4
- EMP-208 Digital Video Production Credits: 4
- EMP-210 Photojournalism Credits: 4
- EMP-216 3-D Animation Credits: 4
- EMP-250 Digital Special Effects Credits: 4

Fire Science - Fire Officer Certificate

Certificate: 33 Hours

When promoted to a company officer, firefighters assume new responsibilities and challenges, with both firefighter and civilian lives at stake. Fire Officers are responsible for ensuring the safety of the firefighters under your command and leading the charge to rescue lives and protect property. Duties may include training, supervising building inspections, fulfilling administrative responsibilities, and maintaining discipline. It is a position where the firefighter must be prepared for the new role. The Fire Officer Certificate program is designed to give firefighters the ability to obtain education in many of the areas necessary to prepare for supervisory duties with an emphasis on safety.

Fire Science - Fire Officer Certificate Requirements

- BUS-110 Principles of Business Credits: 3
- FST-210 Fire Department Officer Credits: 3
- FST-211 Fire Officer II Credits: 3
- FST-212 Administrative Fire Officer (III) Credits: 3
- FST-216 Fire Instructor II Credits: 3
- FST-231 Fire Investigation II Credits: 3
- FST-240 Occupational Safety & Health for Emergency Responders Credits: 3
- FST-250 Fire Service Reports & Comm Credits: 3
- FST-207 Community Risk Reduction Credits: 3
- FST-275 Legal/Contemp Issues-FST/EMS Credits: 3
- TEC-108 Applied Technical Mathematics Credits: 3

Fire Science - Fundamental Firefighting Certificate

Certificate: 38 Hours

Becoming a firefighter is a big commitment of time and service. On the most basic level, firefighters control and put out fires and respond to emergencies. Due to the wide range of duties involved in the job, firefighters must receive expert training to handle tasks such as connecting hoses and pumps, rescuing and treating the injured, writing reports on incidents and potential fire causes, educating the public about safety, conducting routine drills, and maintaining fire equipment. This certificate program addresses the foundational skills universal to all structural firefighters. Everyone must start with learning the Basics. Breaking that training into smaller "parts" can make it easier to fit the training into a busy schedule. While emergency services organization training requirements can vary from entity to entity, most public safety entities require all applicants to complete some post-secondary education and career training.

The Fundamental Firefighting Certificate program prepares students for employment, for entry into a formal undergraduate degree program, or qualifying the student for advancement in specific duties and organizational roles. The program concentrates on courses in the professional field without requiring students to complete a year or more of general education studies. The Fundamental Firefighting Certificate Program is a specially designed firefighting certificate for students wanting to pursue entry level opportunities as firefighters. OTC's Fire Science Technology Program has developed a one-year certificate program that combines practical and classroom instruction into a nationally recognized certificate program. The education received in this program is applicable to the OTC Fire Science Technology A.A.S. degree program in fire science.

This certificate program is accredited by the International Fire Service Accreditation Congress (IFSAC).

Fire Science - Fundamental Firefighting Certificate Requirements

- CHM-101 Introductory Chemistry Credits: 4
- FST-101 Principles Emergency Services Credits: 3
- FST-102 Building Construction Credits: 3
- FST-103 Emergency Medical Responder Credits: 4
- FST-105 Introduction to Firefighter 1&2 Credits: 3

- FST-106 Firefighter I and II Credits: 6
- FST-107 Fire Prevention Credits: 3
- FST-110 Principle of Firefighter & Emergency Services Safety & Survival Credits: 3
- FST-117 Fire Protection Systems Credits: 3
- FST-120 Hazardous Materials Credits: 3
- FST-260 Technical Rescue Core Credits: 3

Graphic Design- Digital Photography Certificate

Certificate: 32 Hours

At the heart of photography is a distinct point of view. It is a way of seeing, a perspective. Combined with graphic design a photographer will have a deeper awareness of composition and color that will help photographers get noticed. Careers in photography include Advertising Photographer, Fashion Photographer, Graphic Designer, and, but not limited to, Photojournalism. Using industry standard photo-editing software, photographers create, manipulate and enhance digital imagery to create desired effects and to ensure quality photos.

Graphic Design - Digital Photography Certificate Requirements

- GDT-105 Graphic Design I Credits: 4
- GDT-115 Typography Credits: 4
- GDT-160 Digital Photography Credits: 4
- GDT-161 Lighting Credits: 4
- GDT-162 Studio Photography Credits: 4
- GDT-163 Digital Image Editing Credits: 4
- GDT-264 Creative Concepts Credits: 4
- GDT-273 Photo Markets and Business Credits: 4

Heating, Refrigeration and Air Conditioning Certificate

Certificate: 30 Hours

The demand for highly skilled technicians in the heating, air conditioning and refrigeration fields will continue to grow in the coming years. Students are exposed to the most technically advanced equipment and knowledge to stay abreast of the rapid changes that are taking place in the HVAC industry. Courses cover every aspect of the trade to give the student a comprehensive understanding of HVAC systems. Skills learned will allow the student to find many different types of entry level HVAC-related careers. This program is accredited by HVAC Excellence, PO Box 491, Mount Prospect, IL 60056, (800) 394-5268.

Heating, Refrigeration, and Air Conditioning Certificate Requirements

- HRA-102 Basic Refrigeration Theory and Application Credits: 4
- HRA-103 Electricity for Heating, Refrigerant and A/C Credits: 4
- HRA-125 Refrigerants and Refrigerant Handling Credits: 4

- HRA-135 Refrigeration Motors and Controls Credits: 4
- HRA-180 Air Distribution Systems Credits: 2
- HRA-245 Commercial Refrigeration Systems Credits: 4
- HRA-265 Residential Heating and Air Conditioning Credits: 4
- HRA-270 Advanced Heating and Air Conditioning Credits: 4

Note: May substitute HRA 270 with HRA 250.

Industrial Systems Technology Certificate

Certificate: 31 Hours

This program prepares students for employment in the lucrative field of industrial systems technology. Graduates are employed in manufacturing facilities, hospitals, hotels/resorts, public utilities, school/college facilities and retail chains. People with this training are responsible for installation, operation and maintenance of robots and other automated systems related to manufacturing and industrial processes. They perform installation and repair of machinery that is crucial to many industries. Good pay, benefits and high placement rates are characteristic of this field. This program provides ongoing skills enhancement to people already employed in the field, and it provides new students with the entry-level skills they need to gain employment.

Industrial Systems Technology Certificate Requirements

- IST-120 Industrial Safety Credits: 3
- IST-125 Fluid Power Credits: 4
- IST-130 Industrial Electricity I Credits: 4
- IST-140 Industrial Electricity II Credits: 4
- IST-170 Industrial Motors and Controls Credits: 4
- IST-200 Mechanical Power Transmission Credits: 4
- IST-225 Programmable Control Credits: 4
- Program/Related Elective Credits:4

Note:Related Electives: May choose courses from the following program areas: CIS,CST, DDT, ELC, HRA, IST, MFG, PMT, NET, WLD or ENG 150

Manufacturing Technology Certificate (Level I)

Certificate: Level I—31 Hours

Manufacturing Technology is a cross-disciplinary program which allows the student to chart a personalized path to a degree and certificates by taking several required courses along with courses chosen from any of our manufacturing-related degree programs. Classes from Industrial Systems Technology (IST), Drafting and Design Technology (DDT), Precision Machining Technology (PMT), Welding (WLD) and other related electives can be combined to lead to the MFG degree.

This program is intended to help employers create a professional training plan for their employees that leads to a degree and/or certificates, and exactly fits the needs of the employee for the particular position they are in. Further post-degree training can lead to the top level certificate and prepare employees for management and supervisory roles. Student enrollment must be preceded by an advising consultation with one or more of the department chairs of the above programs to create a degree/certification plan for individuals or groups of employees. Contact the department chair for more information.

Manufacturing Technology Certificate Requirements

- IST-120 Industrial Safety Credits: 3
- Related Elective Credits: 4
- Related Elective Credits: 4
- Related Elective Credits: 4
- Related Elective Credits: 4
- Related Elective Credits: 4
- Related Elective Credits: 4
- Related Elective Credits: 4

Note:Related Electives: ABR, AGR (Excluding AGR 100), AUM, CIS, CST, DDT, DSL, ELC, EMP, FST, GDT, HRA, IST, MFG, PMT, NET, WLD

Networking Technology Certificate

Certificate: 32 Hours

Employment in IT networking can range from assembling and repairing computers, installation of network cabling systems, configuring and managing servers and back-end network support systems, to trouble shooting network hardware and software issues . Network administrators typically oversee the functioning of all network-attached devices. Graduates of the Networking Technology program will qualify for entry level positions as network technicians, computer technicians and as network cable installers. Our courses also prepare students to attempt the following industry certifications;

CompTIA NET+, A+, Security+, and Linux+ Cisco CCENT and CCNA.

Networking Technology Certificate Requirements

- NET-104 Network Communications and Cabling Credits: 3
- NET-107 Computer and Network Hardware Credits: 3
- NET-108 Operating Systems and Software Credits: 3
- NET-110 Windows Client-Server Credits: 4
- NET-112 The Linux Operating System Credits: 4
- NET-114 Introduction to Networking Credits: 4
- NET-116 Cisco Routing and Switching - Introduction to Networks Credits: 4

- TES-140 Technical Physics Credits: 4 **or**
- Science Elective Credits: 4
- TEC-108 Applied Technical Mathematics Credits: 3 (or MTH 110 or higher)

Outdoor Power/Powersports Certificate

Outdoor Power/Powersports Requirements

Certificate: 32 Hours

This certificate is designed to give the student the skills necessary to be successful in an entry level technician position in the Outdoor Power/Powersports industry.

- AGR-102 Four Stroke Small Engines Credits: 3
- AGR-103 Two Stroke Small Engines Credits: 3
- AGR-136 Basic Electrical for OPE Credits: 3
- AGR-145 Landcare Equipment Operation and Maintenance Credits: 4
- AGR-205 Outdoor Power Fuel Systems Credits: 3
- AGR-245 Hydraulics for Outdoor Power Credits: 3
- AGR-260 Drivelines and Chassis OPE Credits: 3
- AGR-275 Outdoor Power Shop Management Credits: 3
- AGR-290 Co-operative Education/Internship Credits: 3
- DSL-105 Diesel Engine Repair Credits: 4

Precision Machining Technology Certificate

Certificate: 32 Hours

Precision machining is a highly technical, advanced process that is essential to manufacture the products we use in our daily lives. The Precision Machining Technology program provides hands-on training with advanced machine tools and teaches the fundamental skills needed to precisely manufacture products and tooling. Students in the program learn technologies including Computer Numerical Control (CNC) setup and programming, Computer-Aided Design and Manufacturing (CAD/CAM), and advanced inspection equipment such as Coordinate Measuring Machines (CMM). The wide range of skills taught in this program provide many employment opportunities in manufacturing including CNC operator, general machinist, CNC setup technician, CNC programmer, quality control technician, and manufacturing engineering technician.

Precision Machining Technology Certificate Requirements

- PMT-125 Machining Fundamentals I Credits: 4
- PMT-135 CNC Programming - G & M Code Credits: 4
- PMT-145 CAD/CAM Essentials Credits: 4
- PMT-150 Adv. Blueprint Reading & QC Credits: 4
- PMT-225 Machining Fundamentals II Credits: 4
- PMT-235 CNC Setup and Operation Credits: 4

- PMT-245 Advanced CAD/CAM Credits: 4
- PMT-250 Adv. Machining Processes I Credits: 4

Remanufacturing Technology - Certificate

Certificate of Achievement: 31 Hours

The Remanufacturing Technology program provides individuals with the knowledge and skills necessary to obtain employment in the remanufacturing industry. Coursework is derived from a variety of disciplines including diesel engine diagnosis and repair, industrial system safety and process, and precision machining fundamentals and operation.

Remanufacturing Technology Certificate Requirements

- DSL-105 Diesel Engine Repair Credits: 4
- DSL-115 Diesel Preventive Maintenance Credits: 4
- DSL-150 Principles of Remanufacturing Credits: 4
- DSL-205 Advanced Diesel Engines Credits: 4
- IST-120 Industrial Safety Credits: 3
- IST-125 Fluid Power Credits: 4
- PMT-125 Machining Fundamentals I Credits: 4
- PMT-150 Adv. Blueprint Reading & QC Credits: 4

Welding Technology Certificate

Certificate: 32 Hours

Depth of training required for entry into the welding occupation depends on the specific needs of employers. In this program, theory and many hours of practice are combined to lead to either the certificate or the Associate of Applied Science degree levels of competency. A broad background allows the student to meet the needs of various graduate employment goals. The lab facility at the Springfield campus is certified by the American Welding Society (AWS), 8669 NW 36 Street #130, Miami, FL 33166-6672, (800) 443-9353.

Welding Technology Certificate of Industrial Welding Specialist Requirements

- WLD-230 Industrial Welding Specialist Credits: 34

Welding Technology Certificate of Achievement Requirements

- WLD-111 Shielded Metal Arc Welding I Credits: 4
- WLD-112 Shielded Metal Arc Welding II Credits: 4
- WLD-113 Gas Metal and Flux Cored Arc Welding Credits: 4
- WLD-114 Gas Tungsten Arc Welding Credits: 4
- WLD-221 Advanced Shielded Metal Arc Welding Credits: 4

- WLD-222 Advanced Gas Metal/Flux Cored Arc Welding Credits: 4
- WLD-223 Advanced Pipe and Tube Welding Credits: 4
- WLD-224 Advanced Gas Tungsten Arc Welding Credits: 4

Certificate of Specialization

Computer Information Science Computer Programming Certificate of Specialization

Certificate of Specialization: 15 Hours

This Certificate of Specialization degree program prepares students with the foundational knowledge in computer programming using current programming languages desired by today's workplace. This degree program is recommended for students who have already completed a four-year college or university program and desire to gain additional skills in computer programming.

Computer Information Science Computer Programming Certificate of Specialization Requirements

- CIS-120 Introduction to Computer Programming Credits: 3
- Beginning Programming Language Credits: 3 ¹
- CIS-230 Systems Analysis & Design Credits: 3
- CIS-250 Database and Query Credits: 3
- Advanced Programming Language Credits: 3 ¹

Note:

¹ All students are required to take one beginning and one advanced course in programming language

Beginning Programming Language Courses: CIS 150, CIS 170 and Advanced Programming Language Courses: CIS 151 and CIS 171

Computer Information Science Video Game Development Certificate of Specialization

Certificate of Specialization: 16 Hours

This Certificate of Specialization degree program prepares students with the foundational knowledge in video game development using current programming languages desired by today's workplace. This degree program is recommended for students who will be transferring a four-year college or university program in a video game development or design program. Since requirements vary at each four-year college or university, students should check with their faculty advisor or the school to which they intend to transfer to ensure they are taking the appropriate courses.

Computer Information Science Video Game Development Certificate of Specialization Requirements

- CIS-120 Introduction to Computer Programming Credits: 3
- CIS-125 Intro to Computer Game Develop Credits: 3
- Beginning Programming Language Credits: 3 ¹
- EMP-216 3-D Animation Credits: 4
- CIS-220 Game Development Credits: 3

Note: ¹ All students are required to take one beginning programming language

Beginning Programming Language Courses: CSC 140, CIS 150, CIS 170

Computer Information Science Web Development Certificate of Specialization

Certificate of Specialization: 15 Hours

This Certificate of Specialization degree program prepares students with the foundational knowledge in web development technologies using current scripting and programming languages desired by today's workplace. This degree program is recommended for students who have already completed a four-year college or university program and desire to gain additional skill in web development.

Computer Information Science Web Development Certificate of Specialization Requirements

- CIS-120 Introduction to Computer Programming Credits: 3
- CIS-130 Web Site Development I Credits: 3
- CIS-131 Web Site Development II Credits: 3
- CIS-235 Intro to Cloud Computing Credits: 3
- CIS-239 PHP Programming Credits: 3

Culinary Arts Certificate of Specialization

Certificate of Specialization: 15 Hours

The culinary arts certificate of specialization is designed to promote entry level placement into various work opportunities in the food service industry and is a great transition into upper level course work in the Culinary Arts A.A.S. program. Course offering in core classes develop the necessary skills needed to enter into the work force through lecture-lab classes that utilize chef demonstrations and hands-on-experience in the learning environment.

Culinary Arts Certificate of Specialization Requirements

- CUL-101 Food Preparation & Theory Credits: 3
- CUL-102 Meat Fabrication Credits: 3
- CUL-103 Garde Manger Credits: 3
- CUL-105 Soups and Sauces Credits: 2
- CUL-121 Introduction to Baking Credits: 3
- HSM-115 Safety and Sanitation Credits: 1

Allied Health

Associate of Applied Science

Behavioral Health Support (A.A.S.)

A.A.S. Degree: 64 Hours

The Associate of Applied Science in Behavioral Health Support provides the training for employment as a Community Support Specialist/Care Coordinator. The Community Support Specialist/ Care Coordinator serves an essential role in achieving better client outcomes, better client experiences and reduced costs; the triple aim of today's health care system. They assist clients with their behavioral health and physical health symptoms and interface with a variety of community agencies; i.e. schools, health providers, corrections, housing, employment and social services. Employment options upon completion of this degree include but are not limited to: Entry level positions in state, county, and local human service agencies, substance counseling, positions in private or public treatment and rehabilitation centers, halfway houses, correction facilities, parole and probation, drug court, retirement facilities, schools and other human service agencies. This is a selective admission program.

Behavioral Health Support Program Requirements - 34 Credit Hours

- BHS-200 Introduction to Behavioral Health Support Credits: 2
- BHS-210 Legal and Ethical Issues Credits: 3
- BHS-220 Systems of Care Credits: 3
- BHS-230 Substance Use Disorders Credits: 3
- BHS-240 Client Interactions I Credits: 3
- BHS-250 Chronic Health Care Issues Credits: 3
- BHS-260 Family and Youth Issues Credits: 2
- BHS-270 Client Interactions II Credits: 3
- BHS-280 Evidence Based Treatment Credits: 4
- BHS-291 Field Practicum I Credits: 2
- BHS-292 Field Practicum II Credits: 3

- BHS-293 Field Practicum III Credits: 3

General Education Requirements - 21 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
and
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3

Social and Behavioral Sciences - 9 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3

Program Specific Courses - 9 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3
- COM-200 Interpersonal Communication Credits: 3
- PSY-285 Abnormal Psychology Credits: 3

Dental Assisting (A.A.S.)

A.A.S. Degree: 62 Hours

The Dental Assisting Program has been granted Accreditation by the Commission of Dental Accreditation (CODA) of the American Dental Association (ADA). CODA is located at 211 E. Chicago Ave., Chicago, IL 60611. CODA telephone number is (312) 621-8099. Graduates of the program are eligible to apply to sit for the Dental Assisting National Board (DANB). After successful completion of this exam, the individual will be a Certified Dental Assistant (CDA).

Students are offered two different tracks (traditional or hybrid) in the Dental Assisting Program. The Hybrid Track provides a significant portion of the learning activities online. Time traditionally spent in the classroom is reduced, but not eliminated. Students are required to attend laboratory classes on campus and outside clinical sites. These new track options allow increased accessibility to the program for all interested individuals and help satisfy increased demand for this valuable program.

The Dental Assisting Program offers courses of study leading to a Certificate and/or an Associate of Applied Science in Dental Assisting. Students may take the Certificate of Achievement courses only after they have been admitted into the program. A separate application process is required for acceptance into this program.

A new class begins each fall and spring semester. The application deadline for the program is June 15 for the Traditional Track and October 31 for the Hybrid Track. Contact the Allied Health Office, or visit otc.edu/alliedhealth for an application packet.

Commission on Dental Accreditation (CODA) of the American Dental Association, 211 E. Chicago Ave, Chicago, IL 60611, (312) 621-8099.

Dental Assisting - Traditional Track Program Requirements - 40 Credit Hours

- COM-100 Introduction to Communication Credits: 3 (or higher)

- DAS-101 Chairside Assisting I Credits: 4
- DAS-102 Infection Control Credits: 2
- DAS-103 Chairside Assisting II Credits: 3
- DAS-105 The Dental Professional Credits: 2
- DAS-114 Operative Dentistry Credits: 3
- DAS-115 Dental Science and Health Credits: 2
- DAS-120 Dental Materials I Credits: 3
- DAS-123 Dental Materials II Credits: 3
- DAS-130 Dental Radiology I Credits: 3
- DAS-132 Dental Radiology II Credits: 2
- DAS-134 Dental Assisting Clinic Credits: 2
- DAS-150 Dental Office Procedures Credits: 2
- DAS-191 Dental Clinic Practicum I Credits: 3
- DAS-192 Dental Clinic Practicum II Credits: 3

General Education Requirements - 16 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3 *
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5

Natural Sciences - 4 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4 *
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- **CHM 160 General Chemistry I Credits: 4**
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Social and Behavioral Sciences - 6 Credit Hours (must include PLS 101)

- PLS-101 American Government and Politics Credits: 3
- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PLS-201 International Relations Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

Institutional Electives - 6 Credit Hours

The 6 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll.

Dental Hygiene (A.A.S.)

A.A.S. Degree: 90 Hours

The Dental Hygiene profession offers a variety of career opportunities: clinical practice in general and specialty dental offices; federal, state, and county health clinics; hospital-based treatment; long-term care facilities; industrial clinics; armed services; pharmaceutical sales; research institutions; and educational settings.

Contemporary dental hygiene practice requires that dental hygienists possess a breadth of knowledge and skills in a variety of areas. Dental hygiene practice includes: oral prophylaxis (cleaning); patient education; exposing, processing, and mounting radiographs; collecting and evaluating patient medical history information; performing head and neck examinations; periodontal assessment and non-surgical therapy; applying preventive agents; application of desensitizing and antimicrobial agents; and administering local anesthesia and nitrous oxide analgesia.

The dental hygiene program is a selective admission program. A separate application process is required for acceptance into the program; the application deadline is May 31st. Upon acceptance, the student may take the "program specific courses". The dental hygiene program is a five-semester program which prepares the student for their national, regional, and state licensure examinations. Contact the Allied Health office or visit <http://academics.otc.edu/alliedhealth/> for an application packet.

The dental hygiene program is accredited by the Commission on Dental Accreditation (CODA) of the American Dental Association (ADA), 211 E. Chicago Ave., Chicago, IL 60611, (312) 621-8099.

Pre-Admission Requirements - 19 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-200 Microbiology Credits: 4
- BCS-205 Human Physiology Credits: 4 *
- CHM-101 Introductory Chemistry Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3 (or higher) *

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

Dental Hygiene Program Requirements - 53 Credit Hours

- DHY-100 Foundations of Dental Hygiene Credits: 2
- DHY-101 Introduction to Dental Hygiene-Lab Credits: 3
- DHY-105 Orofacial Anatomy Credits: 2
- DHY-110 Oral Histology and Embryology Credits: 2
- DHY-150 Dental Hygiene I Credits: 2
- DHY-152 Dental Hygiene I Pre-Clinic Lab Credits: 2
- DHY-153 Dental Hygiene I Clinic Credits: 2
- DHY-155 Pharmacology Dental Hygiene Credits: 2
- DHY-160 Introduction to Periodontology Credits: 2
- DHY-200 Dental Hygiene II - Pain Mgt Credits: 2
- DHY-201 Dental Hygiene II - Clinic Credits: 2
- DHY-205 Dental Hygiene III Credits: 2
- DHY-206 Dental Hygiene III - Clinic Credits: 5
- DHY-210 Oral Pathology Credits: 2
- DHY-215 Community Dental Health Credits: 2
- DHY-250 Dental Hygiene IV Credits: 2
- DHY-251 Dental Hygiene IV - Clinic Credits: 5
- DAS-102 Infection Control Credits: 2 *
- DAS-120 Dental Materials I Credits: 3 *
- DAS-130 Dental Radiology I Credits: 3 *
- DAS-132 Dental Radiology II Credits: 2 *
- DAS-134 Dental Assisting Clinic Credits: 2

General Education Requirements - 18 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3

Natural Sciences - 3 Credit Hours

- BCS-132 Allied Health Nutrition Credits: 3

Social and Behavioral Sciences - 9 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
or
- PSY-130 Life Span Development Psychology Credits: 3

Emergency Medical Services - Paramedic (A.A.S.)

A.A.S Degree: 64 Hours

Paramedic

The Paramedic is an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients who access the emergency medical system. This individual possesses the complex knowledge and skills necessary to provide patient care and transportation. Paramedics function as part of a comprehensive EMS response, under medical oversight. Paramedics perform interventions with the basic and advanced equipment typically found on an ambulance. The Paramedic is a link from the scene into the health care system.

This is a selective admission program that requires a valid EMT license.

An application packet is available online or by contacting the EMS department at paramedic@otc.edu. Please see faculty members for further advisement.

Missouri Department of Health Bureau of Emergency Medical Services, PO Box 570, Jefferson City, MO 65102, (573) 761-9911.

This program is accredited by the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP), 8301 Lakeview Parkway, Suite 111-312, Rowlett, TX 75088, (214) 703-8445.

Pre-Admission Requirements - 11 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-205 Human Physiology Credits: 4 *
- EMS-150 EMS Essentials Credits: 3

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

EMS Program Requirements - 41 Credit Hours

- EMS-201 Paramedic I Credits: 12
- EMS-202 Paramedic II Credits: 5
- EMS-203 Paramedic III Credits: 9
- EMS-211 Clinical I Credits: 3
- EMS-212 Clinical II Credits: 2
- EMS-213 Clinical III Credits: 2
- EMS-214 Paramedic Internship Credits: 8

General Education Requirements - 12 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3 *
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4

- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-131 Trigonometry Credits: 3
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3

Health Information Technology (A.A.S.)*

A.A.S. Degree: 66 Hours

Health Information Technology is an Associate of Applied Science degree program designed to lead to employment throughout the healthcare industry in areas of data quality management, health information privacy and security, implementation of electronic health records, compliance with payment laws and regulations, and management of health information and medical records. Graduates are eligible to apply to take the AHIMA certification examination for the Registered Health Information Technician (RHIT). AHIMA reserves the right to accept and approve each application and transcript.

The Health Information Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 233 N. Michigan Ave, Suite 2150, Chicago, IL 60601-5800, (312) 233-1100.

Health Information Technology Program Requirements - 45 Credit Hours

- HIT-110 Introduction to Health Information Technology Credits: 3

- HIT-120 Medical Coding I Credits: 4
- HIT-130 Health Information Technology Applications I Credits: 3
- HIT-191 Medical Terminology for HIT Credits: 3
- HIT-200 Comparative Health Records & Reimbursement Systems Credits: 3
- HIT-201 Healthcare Quality Management Credits: 3
- HIT-215 Health Information Systems Credits: 3
- HIT-220 Medical Coding II Credits: 4
- HIT-230 Medical Coding III Credits: 4
- HIT-260 Legal Aspects of Healthcare Credits: 3
- HIT-265 Health Information Technology Applications II Credits: 3
- HIT-270 Healthcare Statistics Credits: 3
- HIT-280 Organization and Supervision in Healthcare Credits: 3
- HIT-290 Prof Practice Experience Credits: 3

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

General Education Requirements - 18 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3 *
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5

- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 6 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
- ENG-150 Technical Writing Credits: 3

Natural Sciences - 3 Credit Hours

- BCS-115 Survey of A & P Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- PLS-101 American Government and Politics Credits: 3

Program Specific Courses - 6 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-201 Computer Apps for Business Credits: 3

Hearing Instrument Science (A.A.S.)

A.A.S. Degree: 64 Hours

The Hearing Instrument Science (HIS) program is designed to prepare graduates to practice as hearing healthcare providers in a variety of settings. Those settings include private practice, corporate store fronts, franchise models, and others. Graduates may choose to license as a Hearing Instrument Specialist (Dispenser), work as an Audiology Aid (Assistant), or go on to pursue a higher degree in the hearing field. This program also prepares graduates to function as a member of the hearing healthcare team. The team includes: Hearing Instrument Specialists, Otologists, Audiologists, and Otolaryngologists (ENTs). State licensing or registration is required after graduation, depending on the student's location. The majority of graduates go straight into the workforce as Hearing Instrument Specialists. The May 2017 Occupational Employment statistics from the Bureau of Labor state that the estimated mean national wage for Hearing Instrument Specialists is \$57,030.

This flexible distance learning program offers part time and full time enrollment options. While the majority of the coursework is done online, there are hands-on portions taught during lab sessions and clinical placement. Some of the courses offer live lecture times via video conferencing with the

recordings posted for review within the course. Students may choose to pursue an Associate of Applied Science degree in Hearing Instrument Science or a Certificate of Achievement in Hearing Instrument Science. The Certificate of Achievement is designed for students who are already licensed or students planning to work in a state that doesn't require an Associate's degree for state licensing.

The HIS program is a selective admission program. Students should apply to the program prior to enrolling in any HIS course labeled 170 or higher. The application deadline is April 15th of each year. Most of the courses in the HIS program build upon each other, therefore some will have prerequisite requirements. These requirements can be found in the course catalog and preferred course sequence document. The HIS program is approved by the Missouri Board of Examiners for Hearing Instrument Specialists. All OTC courses are accredited by the Higher Learning Commission.

Pre-Admission Requirements - 16 Credit Hours

- HIS-100 Intro to Hearing Science Credits: 1
- COM-100 Introduction to Communication Credits: 3
or
- COM-105 Public Speaking Credits: 3
or
- COM-200 Interpersonal Communication Credits: 3
- ENG-100 Composition I With Support Credits: 5
or
- ENG-101 Composition I Credits: 3
- MTH-105 Business Math Credits: 3 or higher
- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Hearing Instrument Science Program Requirements - 40 Credit Hours

- HIS-110 Bioacoustics Credits: 3
- HIS-120 Anatomy and Physiology of the Auditory System Credits: 3
- HIS-125 Hearing and Auditory Disorders Credits: 3
- HIS-130 Introduction to Audiometry Credits: 3
- HIS-140 Introduction to Hearing Instrument Components Credits: 3
- HIS-150 Hearing Inst Fitting Methods Credits: 3
- HIS-160 Professional Ethics Credits: 3
- HIS-170 Clinical Practicum I Credits: 1
- HIS-230 Advanced Audiometry Credits: 3
- HIS-240 Compression & Digital Feature Credits: 3
- HIS-250 Real Ear Measurements Credits: 3
- HIS-260 Aural Rehabilitation Credits: 3
- HIS-270 Clinical Practicum II Credits: 3
- HIS-280 Clinical Practicum III Credits: 3

Note:

* Please contact the Allied Health Admissions Office if you have taken MTH 110 prior to the fall 2018 semester.

Humanities and Fine Arts - 3 Credit Hours

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3
- FRN-101 Beginning French I Credits: 3
- GRM-101 Beginning German I Credits: 3
- MUS-101 Music of the World Credits: 3
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- THR-101 Introduction to Theater Credits: 3

Program Specific Course - 6 Credit Hours

- BUS-110 Principles of Business Credits: 3
- PSY-270 Psychology of Aging Credits: 3

Medical Laboratory Technician (A.A.S.)

A.A.S. Degree: 73 Hours

Medical Laboratory Technician (MLT) is a two-year Associate of Applied Science degree designed to prepare individuals for clinical laboratory employment. A medical laboratory technician performs a wide variety of medical laboratory tests on blood, urine and other bodily fluids that assist physicians in making diagnostic and therapeutic decisions. In addition to employment in hospital and clinical laboratories, graduates can pursue positions in research, blood centers, medical equipment sales and technical support. The program will include clinical experience in area medical facilities along with the classroom and laboratory education provided on campus.

The job opportunities for MLTs are excellent, both nationally and locally, as the number of job openings currently exceeds the number of qualified job seekers. The program will begin in June with an application deadline of February 15. Contact the Allied Health office or visit the website otc.edu/alliedhealth for an application packet. National Accrediting Agency for Clinical Laboratory Sciences, 5600 N. River Road Suite 720, Rosemont, IL 60018, (773) 714-8880.

Pre-Admission Requirements - 34 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-200 Microbiology Credits: 4
- BCS-205 Human Physiology Credits: 4 *
- CHM-101 Introductory Chemistry Credits: 4 (or higher)
- COM-100 Introduction to Communication Credits: 3 (or higher)
- ENG-101 Composition I Credits: 3 **or**
- ENG-100 Composition I With Support Credits: 5 **or**
- ENG-102 Composition II Credits: 3
- MLT-100 Introduction to the Medical Laboratory Credits: 1 (Spring semester only) ¹
- MTH-128 Contemporary Mathematics Credits: 3 (or higher) *
- PLB-100 Introduction to Phlebotomy Credits: 2 (Spring semester only)¹
- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3 (or Social Science Elective)

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

Medical Laboratory Program Requirements - 39 Credit Hours

- MLT-200 Hematology Credits: 4
- MLT-205 MLT Credits: 2
- MLT-210 Clinical Chemistry Credits: 4
- MLT-215 Urinalysis and Body Fluids Credits: 2
- MLT-220 Immunohematology Credits: 4
- MLT-230 Clinical Microbiology Credits: 4
- MLT-240 Clinical Seminar and Review Credits: 2
- MLT-260 Clinical Practicum II Credits: 8
- MLT-270 Clinical Practicum III Credits: 8
- PLB-101 Phlebotomy Clinical Credits: 1

Note:

¹MLT 100 and PLB 100 offered in the Spring only and requires MLT faculty permission.

Occupational Therapy Assistant (A.A.S.)

A.A.S. Degree: 82 Hours

The Occupational Therapy Assistant program is designed to prepare students for generalized practice under the supervision of an occupational therapist. Through didactic, laboratory and clinical education components, students will have the opportunity to gain understanding of practice with clients ranging in age from the very young to the very old. Practice within a variety of settings including school, medical, work, community and mental health will be explored.

Students may take the "Program Specific Courses" only if they have been admitted into the program. A separate application process is required for acceptance into this program. A new class begins each fall semester. The application deadline for the program is April 15. Contact the Allied Health office for an application packet.

Students admitted into the OTA program are required to adhere to strict program attendance and professional behavior standards in order to participate, progress and graduate from the OTA program.

The Occupational Therapy Assistant Program has been granted accreditation by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA). AOTA is located at 4720 Montgomery Lane, Ste 200, P.O. Box 31220, Bethesda, MD 20814-3449. ACOTE's telephone number c/o AOTA is (301) 652-6611.

Graduates of the program are eligible to apply to sit for the National Certification Examination for the Occupational Therapy Assistant. This test is administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA).

In addition, most states, including Missouri, require licensure in order to practice. State licenses are based on information obtained through an application and results of the NBCOT examination. Felony convictions may affect a graduate's ability to sit for the NBCOT exam or attain state licensure. For information regarding Missouri licensure, contact the Missouri Board of Occupational Therapy, Division of Professional Registration, P.O. Box 1335, Jefferson City, Missouri, 65102, or phone (573) 751-0877. NBCOT can be found on the web at NBCOT.org.

Pre-Admission Requirements - 23 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-205 Human Physiology Credits: 4 *

- COM-100 Introduction to Communication Credits: 3 **or**
- COM-105 Public Speaking Credits: 3 **or**
- COM-200 Interpersonal Communication Credits: 3

- ENG-101 Composition I Credits: 3 **or**
- ENG-100 Composition I With Support Credits: 5 **or**
- ENG-102 Composition II Credits: 3

- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- SOC-101 Introduction to Sociology Credits: 3

Note:

* Please contact the Allied Health Admissions Office if you have previously taken BCS 145 and BCS 146.

Occupational Therapy Assistant Program Requirements - 59 Credit Hours

- OTA-100 Occupational Therapy Foundations Credits: 2
- OTA-105 Document & Reimbursement OTA Credits: 2
- OTA-110 Musculoskeletal Structure and Function Credits: 3
- OTA-115 Neuromuscular Mvmt Analysis Credits: 2
- OTA-130 Neurological Structure and Function Credits: 3
- OTA-150 Human Development in Occupational Therapy Credits: 2
- OTA-205 Task Analysis I Credits: 1
- OTA-211 Practicum I Credits: 2
- OTA-215 Therapeutic Intervent&Adapt I Credits: 5
- OTA-220 Group Dynamics Credits: 2
- OTA-225 Conditions in Occupational Therapy I Credits: 2
- OTA-222 Evidence-Based Practice for the OTA I Credits: 1
- OTA-235 Screen And Assessment OTA I Credits: 2
- OTA-241 Practicum II Credits: 3
- OTA-245 Task Analysis II Credits: 1
- OTA-255 Therapeutic Interventions and Adaptations II Credits: 5
- OTA-265 Screening and Assessment for the OTA II Credits: 2
- OTA-270 Prof Development Seminar Credits: 1
- OTA-275 Conditions in Occupational Therapy II Credits: 2
- OTA-276 Emerging Practice and Special Issues in OT Credits: 2
- OTA-280 Evidence-Based Practice for the OTA II Credits: 2
- OTA-285 Practicum III Credits: 6 *
- OTA-286 Practicum IV Credits: 6 *

Note:

(All coursework and fieldwork must be completed prior to submitting application to sit for the NBCOT exam)

* Must be completed within 18 months of completion of all other OTA coursework

Physical Therapist Assistant (A.A.S.)

A.A.S. Degree: 69 Hours

The Physical Therapist Assistant program is designed to prepare graduates to serve as an essential member of a PT/PTA team in a variety of health care settings. A new class of 24 students begins each spring semester and graduates in May (17 months later). A separate application process is required for acceptance into this program. The application deadline for the program is September 1. Contact the

Allied Health office (417)447-8954 or visit <http://academics.otc.edu/alliedhealth/> for an application packet.

The limited and selective admission phase of the program begins in Semester III after successful completion of the required general education courses. Through didactic, laboratory, and clinical education components, students will have the opportunity to develop the knowledge and skills necessary to function in the health care delivery system under the direction and supervision of a physical therapist. Students may enroll in the "Program Specific Courses" (those labeled as PTA) only if they have been admitted into the program. Students admitted into the PTA program are required to adhere to strict program attendance and professional behavior standards in order to participate, progress, and graduate from the PTA program.

Graduates of this accredited PTA program are eligible to apply to sit for the national licensing examination. After successful completion of this examination, the individual will be a licensed physical therapist assistant (PTA).

The Physical Therapist Assistant Education Program at Ozarks Technical Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; email: accreditation@apta.org; website: <http://www.capteonline.org>.

Pre-Admission Requirements - 23 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-205 Human Physiology Credits: 4 *

- COM-100 Introduction to Communication Credits: 3 **or**
- COM-105 Public Speaking Credits: 3

- ENG-101 Composition I Credits: 3 **or**
- ENG-100 Composition I With Support Credits: 5

- MTH-128 Contemporary Mathematics Credits: 3 *
(or higher)
- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

Physical Therapist Assistant Program Requirements - 46 Credit Hours

- BCS-210 Pathophysiology Credits: 3
- PTA-100 Introduction to Physical Therapist Assistant Credits: 3
- PTA-155 Anatomy for the PTA Credits: 3
- PTA-225 Clinical Kinesiology Credits: 5
- PTA-200 Therapeutic Procedures Credits: 6
- PTA-220 Physical Agents and Therapeutic Massage Credits: 4
- PTA-230 Therapeutic Exercise I / Orthopedic and Cardiopulmonary Conditions Credits: 4
- PTA-240 Therapeutic Exercise II / Neurologic Conditions Credits: 3
- PTA-250 Clinical Education I Credits: 3
- PTA-270 Selected Topics Credits: 2
- PTA-280 Clinical Education II Credits: 10

Respiratory Therapy (A.A.S.)

A.A.S. Degree: 76 Hours

The Respiratory Therapy program is accredited by the Committee on Accreditation for Respiratory Care (CoARC). The two-year program graduates are eligible for the national registry exam leading to a Registered Respiratory Therapist (RRT) and eligible for state licensure as a Respiratory Care Practitioner. Registered Respiratory Therapists may work in hospital settings with critical and noncritical patients or for home health companies who specialize in respiratory care and equipment.

This is a limited and selective enrollment program which admits a new class each summer. Interested persons should contact the Allied Health office for applications and procedures. The application deadline for the program is February 15.

Committee on Accreditation for Respiratory Therapy (CoARC), 1248 Harwood Road, Bedford, TX 76021-4244, (817) 283-2835.

Pre-Admission Requirements - 30 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-200 Microbiology Credits: 4
- BCS-205 Human Physiology Credits: 4 *
- RST-105 Cardiopulmonary Anatomy and Physiology Credits: 3
- COM-100 Introduction to Communication Credits: 3 (or higher)
- ENG-101 Composition I Credits: 3 **or**
- ENG-100 Composition I With Support Credits: 5 **or**
- ENG-102 Composition II Credits: 3
- MTH-128 Contemporary Mathematics Credits: 3 (or higher) *
- PLS-101 American Government and Politics Credits: 3

- Social Science Elective: Credits 3

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

Respiratory Therapy Program Requirements - 46 Credit Hours

- RST-210 Respiratory Equipment and Therapeutics Credits: 3
- RST-215 Respiratory Pharmacology Credits: 2
- RST-223 Mechanical Ventilation Credits: 4
- RST-226 Cardiopulmonary Diagnostics Credits: 2
- RST-227 Cardiopulmonary Diagnostics II Credits: 2
- RST-228 Pulmonary Diseases Credits: 3
- RST-240 Pediatric Respiratory Therapy Credits: 3
- RST-242 Applied Cardiopulmonary Pathology Credits: 3
- RST-251 Special Procedures in Respiratory Care Credits: 2
- RST-253 Advanced Respiratory Therapy Theory Credits: 2
- RST-281 Clinical Practicum I Credits: 4
- RST-282 Clinical Practicum II Credits: 8
- RST-283 Clinical Practicum III Credits: 8

Surgical Technology (A.A.S.)

A.A.S. Degree: 66 Hours

Graduates receive a certificate or an Associate in Applied Science degree designed to prepare them for the national certification exam administered by The National Board of Surgical Technology and Surgical Assisting. Graduates may work in hospital surgery or labor and delivery areas, out-patient surgery centers or as private scrubs for individual surgeons. The Surgical Technology program is reviewed by the Accreditation Review Committee in Surgical Technology and accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Students may take the "Program Specific Courses" only if they have been admitted into the program. A separate application process is required for acceptance into this program. A new class begins each fall semester. The application deadline for the program is March 1. Contact the Allied Health office or visit otc.edu/alliedhealth/1899.php for an application packet.

Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA), 6 W. Dry Creek Circle, Suite 110, Littleton, CO 80120, (303) 694-9262.

Surgical Technology Program Requirements - 48 Credit Hours

- BCS-165 Human Anatomy Credits: 4 *
- BCS-200 Microbiology Credits: 4
- BCS-205 Human Physiology Credits: 4 *
- BCS-210 Pathophysiology Credits: 3
- HSC-120 Medical Terminology Credits: 3
- SUR-105 Operating Room Technique I Credits: 6
- SUR-106 Operating Room Technique II Credits: 6
- SUR-110 Pharmacology for Surgical Technologists Credits: 2
- SUR-120 Surgical Procedures I Credits: 8
- SUR-121 Surgical Procedures II Credits: 8

Note:

* Please contact the Allied Health Admissions Office if:

1. you have taken MTH 110 prior to the fall 2018 semester
2. you have previously taken BCS 145 and BCS 146

General Education Requirements - 15 Credit Hours

The Missouri Department of Higher Education has identified a common set of general education courses that have been adopted statewide. These courses are called the "CORE 42." CORE 42 courses are **guaranteed** to transfer to any Missouri public college or university to satisfy general education requirements.

Courses in knowledge areas below, designated with the CORE 42 logo indicates courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Courses that do not have this designation may still transfer to public and private colleges and universities in Missouri and elsewhere, but students are encouraged to check the transfer equivalency website of the institution to which they plan to transfer to confirm.

Please refer to the MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

Mathematical Sciences - 3 Credit Hours

- MTH-128 Contemporary Mathematics Credits: 3 *
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3

- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
or
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Social and Behavioral Sciences - 6 Credit Hours

- PLS-101 American Government and Politics Credits: 3
- PSY-110 Introduction to Psychology Credits: 3

Program Specific Course - 3 Credit Hours

- CIS-101 Technology & Digital Literacy Credits: 3

Associate of Science in Nursing

Nursing—Registered Nursing (A.S.N.)

A.S.N. Degree: 65 Hours

The Associate of Science in Nursing program is approved by the Missouri State Board of Nursing. The program has received approval by the Missouri Coordinating Board of Higher Education. This program is fully accredited by the Accrediting Commission for Education in Nursing. The program is designed as an LPN to RN program that permits the qualifying LPN to complete the RN nursing courses in 36 weeks. Graduates are eligible to apply to write the NCLEX-RN exam to become licensed as a Registered Nurse. Graduates may go to work in hospitals, inpatient and outpatient departments, physician offices, nursing care facilities, home health care services, government agencies, and outpatient care centers. MO State Board of Nursing, PO Box 656, Jefferson City, MO 65102, (573) 751-0681.

Accreditation Commission for Education in Nursing, 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, (404) 975-5000.

Pre-Admission Requirements - 38 Credit Hours

- BCS-132 Allied Health Nutrition Credits: 3 ²
- BCS-165 Human Anatomy Credits: 4 ¹ *
- BCS-200 Microbiology Credits: 4 ¹
- BCS-205 Human Physiology Credits: 4 ¹ *
- CHM-101 Introductory Chemistry Credits: 4 ¹
- ENG-101 Composition I Credits: 3 ² **or**
- ENG-100 Composition I With Support Credits: 5 **or**
- ENG-102 Composition II Credits: 3
- MTH-128 Contemporary Mathematics Credits: 3 ¹ *
(or higher)
- PLS-101 American Government and Politics Credits: 3 ²
- PSY-110 Introduction to Psychology Credits: 3 ²
- Practical Nursing Program Electives Credits: 7

Nursing Program Requirements - 26 Credit Hours

- ASN-200 Transition to Prof Nursing Credits: 2
- ASN-210 Adv Nursing - Lifespan I Credits: 4
- ASN-215 Adv Nursing-Psy/Mental Hlth Credits: 2
- ASN-220 Adv Nursing - Lifespan II Credits: 4
- ASN-225 Advanced Concepts of Maternal Newborn Nursing Credits: 2
- ASN-230 Adv Nursing - Lifespan III Credits: 5
- ASN-235 Adv Nursing Pediatric Concepts Credits: 2
- ASN-240 Community Health & Management Credits: 3
- ASN-250 Prof Nursing Integration Credits: 3

Note:

1. Must be completed prior to or be enrolled in before "completed application file" deadline.
2. Recommended to be completed prior to admission to the ASN program.

* Please contact the Allied Health Admissions Office if:

- you have taken MTH 110 prior to the fall 2018 semester
- you have previously taken BCS 145 and BCS 146

Certificate of Achievement

Dental Assisting Certificate

Certificate: 40 Hours

The Dental Assisting Program has been granted Accreditation by the Commission of Dental Accreditation (CODA) of the American Dental Association (ADA). CODA is located at 211 E. Chicago Ave., Chicago, IL

60611. CODA telephone number is (312) 621-8099. Graduates of the program are eligible to apply to sit for the Dental Assisting National Board (DANB). After successful completion of this exam, the individual will be a Certified Dental Assistant (CDA).

Students are offered two different tracks (traditional or hybrid) in the Dental Assisting Program. The Hybrid Track provides a significant portion of the learning activities online. Time traditionally spent in the classroom is reduced, but not eliminated. Students are required to attend laboratory classes on campus and outside clinical sites. These new track options allow increased accessibility to the program for all interested individuals and help satisfy increased demand for this valuable program.

The Dental Assisting Program offers courses of study leading to a Certificate and/or an Associate of Applied Science in Dental Assisting. Students may take the Certificate of Achievement courses only after they have been admitted into the program. A separate application process is required for acceptance into this program.

A new class begins each fall and spring semester. The application deadline for the program is June 15 for the Traditional Track and October 15 for the Hybrid Track. Contact the Allied Health Office, or visit otc.edu/alliedhealth for an application packet.

Commission on Dental Accreditation (CODA) of the American Dental Association, 211 E. Chicago Ave, Chicago, IL 60611, (312) 621-8099.

Dental Assisting Certificate Requirements

- DAS-101 Chairside Assisting I Credits: 4
- DAS-102 Infection Control Credits: 2
- DAS-103 Chairside Assisting II Credits: 3
- DAS-105 The Dental Professional Credits: 2
- DAS-114 Operative Dentistry Credits: 3
- DAS-115 Dental Science and Health Credits: 2
- DAS-120 Dental Materials I Credits: 3
- DAS-123 Dental Materials II Credits: 3
- DAS-130 Dental Radiology I Credits: 3
- DAS-132 Dental Radiology II Credits: 2
- DAS-134 Dental Assisting Clinic Credits: 2
- DAS-150 Dental Office Procedures Credits: 2
- DAS-191 Dental Clinic Practicum I Credits: 3
- DAS-192 Dental Clinic Practicum II Credits: 3
- COM-100 Introduction to Communication Credits: 3
(or higher)

Emergency Medical Services—Paramedic Certificate

Certificate: 52 Hours

The Paramedic is an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients who access the emergency medical system. This

individual possesses the complex knowledge and skills necessary to provide patient care and transportation. Paramedics function as part of a comprehensive EMS response, under medical oversight. Paramedics perform interventions with the basic and advanced equipment typically found on an ambulance. The Paramedic is a link from the scene into the health care system.

This is a selective admission program that requires a valid EMT license.

An application packet is available online or by contacting the EMS department at paramedic@otc.edu. Please see faculty members for further advisement.

Missouri Department of Health Bureau of Emergency Medical Services, PO Box 570, Jefferson City, MO 65102, (573) 761-9911.

This program is accredited by the Committee on Accreditation of Education Programs for the EMS Professions (CoAEMSP), 8301 Lakeview Parkway, Suite 111-312, Rowlett, TX 75088, (214) 703-8445.

Emergency Medical Services - Paramedic Certificate Requirements

(All courses must be completed with a grade of "C" or better)

- BCS-165 Human Anatomy Credits: 4
- BCS-205 Human Physiology Credits: 4
- EMS-150 EMS Essentials Credits: 3
- EMS-201 Paramedic I Credits: 12
- EMS-202 Paramedic II Credits: 5
- EMS-203 Paramedic III Credits: 9
- EMS-211 Clinical I Credits: 3
- EMS-212 Clinical II Credits: 2
- EMS-213 Clinical III Credits: 2
- EMS-214 Paramedic Internship Credits: 8

Health Information Technology Certificate - Coding

Certificate: 36 Hours

The Health Information Technology Certificate represents coding training that includes; anatomy and physiology, pathophysiology, pharmacology, medical terminology, reimbursement methodology, intermediate/advanced ICD diagnostic/procedural and CPT coding as required by the American Health Information Management Association (AHIMA) for national certification.

Students who complete this certificate are eligible to sit for the national coding credential exam CCS (Certified Coding Specialist) or CCS-P (Certified Coding Specialist-Physician-based) administered by the American Health Information Management Association (AHIMA).

National certification can lead to employment in the healthcare industry by obtaining the knowledge and skills to become a qualified coder. Areas of employment for coders are generally hospitals (outpatient and inpatient), physician offices, group practices, multi-specialty clinics, and specialty centers

The Health Information Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), 233 N. Michigan Ave, Suite 2150, Chicago, IL 60601-5800, (312) 233-1100.

Health Information Technology Certificate - Coding Requirements

- HIT-110 Introduction to Health Information Technology Credits: 3
- HIT-120 Medical Coding I Credits: 4
- HIT-130 Health Information Technology Applications I Credits: 3
- HIT-191 Medical Terminology for HIT Credits: 3
- HIT-220 Medical Coding II Credits: 4
- HIT-230 Medical Coding III Credits: 4
- BCS-115 Survey of A & P Credits: 3
- CIS-101 Technology & Digital Literacy Credits: 3
- CIS-201 Computer Apps for Business Credits: 3
- ENG-100 Composition I With Support Credits: 5
- **or**
- ENG-101 Composition I Credits: 3
- **or**
- ENG-102 Composition II Credits: 3
- Mathematics Elective (MTH 105 or higher) Credits: 3

Hearing Instrument Science Certificate

Certificate: 33 Hours

The Hearing Instrument Science (HIS) program is designed to prepare graduates to practice as hearing healthcare providers in a variety of settings. Those settings include private practice, corporate store fronts, franchise models, and others. Graduates may choose to license as a Hearing Instrument Specialist (Dispenser), work as an Audiology Aid (Assistant), or go on to pursue a higher degree in the hearing field. This program also prepares graduates to function as a member of the hearing healthcare team. The team includes: Hearing Instrument Specialists, Otologists, Audiologists, and Otolaryngologists (ENTs). State licensing or registration is required after graduation, depending on the student's location. The majority of graduates go straight into the workforce as Hearing Instrument Specialists. The May 2017 Occupational Employment statistics from the Bureau of Labor state that the estimated mean national wage for Hearing Instrument Specialists is \$57,030.

This flexible distance learning program offers part time and full time enrollment options. While the majority of the coursework is done online, there are hands-on portions taught during lab sessions and clinical placement. Some of the courses offer live lecture times via video conferencing with the recordings posted for review within the course. Students may choose to pursue an Associate of Applied Science degree in Hearing Instrument Science or a Certificate of Achievement in Hearing Instrument Science. The Certificate of Achievement is designed for students who are already licensed or students planning to work in a state that doesn't require an Associate's degree for state licensing.

The HIS program is a selective admission program. Students should apply to the program prior to enrolling in any HIS course labeled 170 or higher. The application deadline is April 15th of each year. Most of the courses in the HIS program build upon each other, therefore some will have prerequisite requirements. These requirements can be found in the course catalog and preferred course sequence document. The HIS program is approved by the Missouri Board of Examiners for Hearing Instrument Specialists. All OTC courses are accredited by the Higher Learning Commission.

Hearing Instrument Certificate Requirements

- HIS-110 Bioacoustics Credits: 3
- HIS-120 Anatomy and Physiology of the Auditory System Credits: 3
- HIS-125 Hearing and Auditory Disorders Credits: 3
- HIS-130 Introduction to Audiometry Credits: 3
- HIS-140 Introduction to Hearing Instrument Components Credits: 3
- HIS-150 Hearing Inst Fitting Methods Credits: 3
- HIS-160 Professional Ethics Credits: 3
- HIS-230 Advanced Audiometry Credits: 3
- HIS-240 Compression & Digital Feature Credits: 3
- HIS-250 Real Ear Measurements Credits: 3
- HIS-260 Aural Rehabilitation Credits: 3

Nursing—Practical Nursing Certificate

Certificate: 49 Hours

The Practical Nursing program is fully approved by the Missouri State Board of Nursing. Graduates receive a certificate and are eligible to apply to write the NCLEX-PN exam to become licensed as a Practical Nurse. Graduates may go to work in long-term skilled care, home health care, doctors' offices, hospice, hospitals and/or industrial nursing. This may also be used as a stepping stone to further one's nursing education.

Students may take the "Program Specific Courses" only after they have been admitted into the program. A separate application process is required for acceptance into this program. Refer to the website, otc.edu/academicaffairs/465.php, or the application packet for admissions requirements. Complete application information can be obtained on the OTC web site or from the Allied Health office. A new class begins each fall and spring semester at the Springfield campus, each fall semester at the Table Rock campus, and each spring at the Lebanon center.

MO State Board of Nursing, PO Box 656, Jefferson City, MO 65102, (573) 751-0681.

Pre-Admission Requirements - 17 Credit Hours

- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4 *
- BCS-205 Human Physiology Credits: 4 *

- ENG-101 Composition I Credits: 3 **or**
- ENG-100 Composition I With Support Credits: 5
- PSY-110 Introduction to Psychology Credits: 3

Note:

* Please contact the Allied Health Admissions Office if you have previously taken BCS 145 and BCS 146.

Nursing - Practical Nursing Program Requirements - 32 Credit Hours

- NUR-101 Personal Vocational Concepts Credits: 2
- NUR-110 Fundamentals of Nursing I Credits: 3
- NUR-120 Fundamentals of Nursing II Credits: 3
- NUR-205 Adult Medical-Surgical I Credits: 7
- NUR-215 Adult Med Sur II-I.V. Therapy Credits: 7
- NUR-225 Maternal and Pediatric Nursing Credits: 7
- NUR-230 Community/Mental Health Nur Credits: 2
- NUR-240 Management Credits: 1

Certificate of Specialization

Emergency Medical Services - Community Paramedic Certificate of Specialization

Emergency Medical Services Community Paramedic Program Requirements - 17 Credit Hours

Certificate of Specialization: 17 Hours

This program is designed to educate the student in aspects of community based care required to qualify the student to write the CP-C certification examination offered by the International Board of Specialty Certification. The certificate of specialization consists of two components: classroom and clinical experiences. Incorporated in these areas are the pre-hospital environment, community and personal needs assessment, chronic disease monitoring and interventions, utilization and coordination of community health and social services.

Applicants to this program must be a currently licensed paramedic.

- EMS-203 Paramedic III Credits: 9
- EMS-299 Community Paramedic Credits: 8

Office of the Provost

Associate of Interdepartmental Studies (A.I.S.)*

A.I.S. Degree: 62 Hours

The Associate of Interdepartmental Studies degree is designed to provide a foundation of knowledge for students and to allow students to create a course of study that complements their career goals.

Although designed as a non-transferrable degree, individual courses required for this degree may transfer, but may not necessarily fulfill the general education requirements at a four-year institution.

Associate of Interdepartmental Studies Requirements

General Education Requirements - 19 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3
- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3
- TEC-108 Applied Technical Mathematics Credits: 3

Written Communications - 3 Credit Hours

- ENG-101 Composition I Credits: 3
- **or**
- ENG-100 Composition I With Support Credits: 5
- ENG-102 Composition II Credits: 3
- ENG-150 Technical Writing Credits: 3

Oral Communications - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Natural Sciences - 4 Credit Hours

- BCS-115 Survey of A & P Credits: 3
- BCS-132 Allied Health Nutrition Credits: 3
- BCS-165 Human Anatomy Credits: 4
- BCS-210 Pathophysiology Credits: 3
- BIO-100 Life Science Credits: 4
- BIO-105 Environmental Science Credits: 4
- BIO-135 Nutrition for Living Credits: 3
- BIO-142 Essential Biology Credits: 3
- BIO-160 General Biology I Credits: 4
- CHM-101 Introductory Chemistry Credits: 4
- CHM 160 General Chemistry I Credits: 4
- PHY-110 Introduction to Geology Credits: 4
- PHY-115 Introduction to Astronomy Credits: 4
- PHY-120 General Physics I Credits: 4
- PHY-220 Physics Engrs & Scientists I Credits: 5
- CHM-160 General Chemistry I Credits: 4
- **and**
- CHM-161 General Chemistry I Lab Credits: 1

Humanities and Fine Arts - 9 Credit Hours (from at least 2 disciplines)

- ART-100 Art and Experience Credits: 3
- ART-101 Art History I Credits: 3
- ART-105 Art History II Credits: 3
- ART-120 Drawing I Credits: 3
- ASL-101 American Sign Language I Credits: 3
- ASL-102 American Sign Language II Credits: 3
- CHN-101 Beginning Chinese Credits: 3
- ENG-180 Introduction to Literature Credits: 3

- ENG-260 Survey of World Literature I Credits: 3
- ENG-265 Survey of World Literature II Credits: 3
- ENG-340 Survey English Literature I Credits: 3
- ENG-341 Survey English Literature II Credits: 3
- ENG-350 Survey American Literature I Credits: 3
- ENG-351 Survey American Literature II Credits: 3
- FRN-101 Beginning French I Credits: 3
- FRN-102 Beginning French II Credits: 3
- GRM-101 Beginning German I Credits: 3
- GRM-102 Beginning German II Credits: 3
- MUS-101 Music of the World Credits: 3
- MUS-105 Western Music Appreciation Credits: 3
- MUS-106 Jazz Appreciation Credits: 3
- MUS-110 Music Fundamentals Credits: 3
- MUS-235 OTC Concert Choir Credits: 1
- PHL-101 Introduction to Philosophy Credits: 3
- PHL-105 Introduction to Ethics Credits: 3
- REL-100 Intro Religions Of The World Credits: 3
- SPN-101 Beginning Spanish I Credits: 3
- SPN-102 Beginning Spanish II Credits: 3
- THR-101 Introduction to Theater Credits: 3

Social and Behavioral Sciences - 6 Credit Hours (include at least one Civics course, PLS 101 or HST 120 or HST 130)

- ANT-101 Introduction to Anthropology Credits: 3
- ANT-220 Cultural Anthropology Credits: 3
- ECO-270 Principles of Macroeconomics Credits: 3
- ECO-275 Principles of Microeconomics Credits: 3
- GRY-101 World Geography Credits: 3
- HST-105 World History I Credits: 3
- HST-106 World History II Credits: 3
- PSY-110 Introduction to Psychology Credits: 3
- PSY-130 Life Span Development Psychology Credits: 3
- PLS-201 International Relations Credits: 3
- SOC-101 Introduction to Sociology Credits: 3
- PLS-101 American Government and Politics Credits: 3
- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3

Institutional Electives - 43 Credit Hours

The A.I.S. degree at OTC requires the completion of 62 credit hours. The 43 elective hours for this category can consist of any course numbered 100 or higher from any area of study that a student is eligible to enroll.

Associate of Individualized Technical Studies

A.I.T.S Degree: 62 Hours

The Associate of Individualized Technical Study (AITS) degree is open to any student whose educational goals cannot be accomplished through enrollment in one of OTC's existing degree programs. The student may design a degree which combines two or more discipline areas into a unique education plan. Faculty members within the disciplines will assist the student in planning the most appropriate course of study for the individual.

Note: This program requires an approved AITS application. Please contact the Office of the Provost at academics@otc.edu to complete the process. When applying for admission, select the Associate of Arts (AA) degree. Upon your AITS application being approved, you will be moved into this program of study.

Associate of Individualized Technical Studies General Education Requirement - 12 Credit Hours

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.

All knowledge areas below, designated with the CORE 42 logo indicate all courses in that area have been evaluated and provided a MOTR number for transfer to all Missouri public institutions of higher education.

Mathematical Sciences - 3 Credit Hours

All MTH courses with the exception of TEC 108, MTH 105 and MTH 110 meets the CORE 42 requirement.

- TEC-108 Applied Technical Mathematics Credits: 3
- MTH-105 Business Math Credits: 3
- MTH-110 Intermediate Algebra Credits: 4
- MTH-128 Contemporary Mathematics Credits: 3
- MTH-128S Cont Mathematics with Support Credits: 4
- MTH-130 College Algebra Credits: 3
- MTH-130S College Algebra With Support Credits: 4
- MTH-131 Trigonometry Credits: 3
- MTH-138 Pre-Calculus Mathematics Credits: 5
- MTH-140 Analytic Geometry and Calculus I Credits: 5
- MTH-141 Analytic Geometry and Calculus II Credits: 5
- MTH-210 Statistical Methods Credits: 3
- MTH-215 Algebraic Structures Credits: 3

- MTH-230 Linear Algebra Credits: 3
- MTH-240 Analytic Geometry and Calculus III Credits: 3
- MTH-241 Differential Equations Credits: 3

Written Communication - 3 Credit Hours

- ENG-100 Composition I With Support Credits: 5
or
- ENG-101 Composition I Credits: 3

Oral Communication - 3 Credit Hours

- COM-100 Introduction to Communication Credits: 3
- COM-105 Public Speaking Credits: 3
- COM-200 Interpersonal Communication Credits: 3

Social and Behavioral Sciences - 3 Credit Hours

- HST-120 U.S. History I: to 1865 Credits: 3
- HST-130 U.S. History II: 1865-Present Credits: 3
- PLS-101 American Government and Politics Credits: 3

AITS Concentration Courses - 36 Credit Hours

Choose courses, numbered 100 or higher, from two or more discipline areas to design your unique degree plan.

AITS Electives - 14 Credit Hours

The 14 elective hours for this category can consist of any course numbered 100 or higher and used for requisites of concentration program courses.

Course Descriptions

If you're seeking individual course requirements pertaining to electives, the Course Filter below will assist in narrowing your search.

Variable Courses

FLI- Foreign Language Institute Courses

VAR- Variable Credit Courses

MOTR- Core 42 Transfer Curriculum

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to [MDHE Core Transfer Curriculum](#) for detailed information on CORE 42 courses.

Auto Collision Repair Technology

ABR-100 Non-Structural Analysis I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides the basics in auto collision repair, personal safety, shop safety, use of tools and equipment, use and handling of repair materials, diagnosis and classification of damage, physical characteristics of metal and repair of damaged sheet metal. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

ABR-110 Paint & Refinish Preparation

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This is a beginning course for students interested in auto refinishing. Topics include: safety, surface preparation, spray gun and related equipment, and operations. All classroom, demonstration, and laboratory instruction are related to the Automotive Service Excellence, (ASE) area of paint and refinishing preparation. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

ABR-113 Damage Repair Metal Weld/Cut

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides the basics in MIG welding, plasma cutting, resistance welding, equipment, materials, and techniques currently used in the auto collision repair industry. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

ABR-200 Non-Structural Analysis II

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides the basics in auto collision repair with topics such as safety, body panel repairs, body panel adjustments, body panel replacement and moveable glass and hardware.

ABR-245 Structural Analysis and Dimensioning

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course is designed to provide the basics in auto collision repair with regard to safety, damage analysis, frame inspection, measurement and structural alignment.

Prerequisite(s): ABR 200 or concurrent enrollment.

ABR-248 Refinish Color Application

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course is designed for students who are interested in the auto refinishing area. Topics include: paint mixing, matching, applying and solving paint application problems. *Prerequisite(s):* ABR 110 or concurrent enrollment.

ABR-250 Structural Repair

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course covers the basics in auto collision repair with the following topics: safety, damage analysis, straightening structural parts and full or partial panel replacement. *Prerequisite(s):* ABR 245 or concurrent enrollment.

ABR-255 Paint Detail and Defects

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course is designed for students who are interested in the auto refinishing area. Topics include: paint defects, causes and cures and final detailing. *Prerequisite(s):* ABR 110

ABR-265 Vehicle Controls I

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides basic engine, driveline and differential damage assessment, estimating and parts replacement knowledge in addition to skills applied in classroom and laboratory assignments.

ABR-267 Vehicle Controls II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course provides basic knowledge of supplemental restraint systems, body electrical systems, hybrid vehicle systems along with safe repair practices. These skills will be applied in the classroom and laboratory assignments. *Prerequisite(s):* ABR 265.

ABR-270 Estimating and Shop Management

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides the basics in estimating and shop management as they apply to auto collision repair and is designed for students who are interested in becoming estimators or managers. *Prerequisite(s):* ABR 200

ABR-290 Capstone/Co-op/Internship

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier II

This course provides students the opportunity for supervised work experience in their major field with practical application of the knowledge and skills attained. Students will also apply critical thinking, analytical reading, decision making and valuing skills to issues across the auto collision curriculum. An assessment will give students the opportunity to demonstrate their level of application and learning in the auto collision program. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. Please see the department chair of specific program area

for application. *Prerequisite(s)*: Completion of at least 30 credit hours in auto collision repair courses and a minimum GPA of 2.0, or advisor's approval.

ABR-294 Procedures and Operations

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This program provides students the opportunity for supervised experience in their major field with practical application of the knowledge and skills attained. Students will also apply critical thinking, analytical reading, decision making and valuing skills to issues across the auto collision curriculum. Students will complete NATEF associated lab projects to demonstrate their level of application and learning in the auto collision program. An individual instruction management plan will determine the goals to be accomplished. *Prerequisite(s)*: Completion of at least 30 credit hours in auto collision repair courses and a minimum GPA of 2.0, or advisor's approval

Accounting

ACC-120 College Accounting, Part I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course uses a manual bookkeeping approach for a sole proprietorship to teach the give the student a basic understanding of an accounting cycle. Areas of emphasis include the general journal and ledger, adjusting and closing entries, financial statements preparations, cash management and merchandise inventory.

ACC-125 College Accounting, Part II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a continuation of ACC 120 and includes the following topics: corporate and partnership accounting, long-term assets and liabilities, financial statement analysis and manufacturing accounting.

Prerequisite(s): Grade of "C" or better in ACC 120.

ACC-130 Accounting Software Applications

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course uses QuickBooks Accounting Software. To take this course online a student must purchase the same year of QuickBooks software that is being used on campus. Upon successful completion of this

course, a student will be able to use the computer software to create a chart of accounts, accounts receivable and payable subsidiary ledgers, transaction journals, general ledgers, financial statements, reports and forecasts. *Prerequisite(s)*: Grade of "C" or better in ACC 120 or higher.

ACC-135 Payroll Accounting

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is designed to prepare students to perform payroll accounting duties for small businesses. This includes preparing payroll registers, employee earnings records and required government reporting documents. *Prerequisite(s)*: Grade of "C" or better in ACC 120 or ACC 220.

ACC-220 Principles of Accounting I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course covers basic accounting principles and practices used by corporations in the service and merchandising industries. Students learn accrual accounting terminology and how transactions are recorded during the accounting cycle. These transactions are then used to create four basic financial statements; Income Statement, Statement of Changes in Stockholder's Equity, Balance Sheet and Statement of Cash Flows. Throughout the course students will practice recording the transactions, prepare financial statements, and communicate the information formulated in those statements.

ACC-225 Managerial Accounting

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students are taught the uses of accounting information for managerial decision-making. This course provides an introduction to cost accounting and includes the following topics: costing systems, standard costing and variance analysis, budgetary control, ABC costing, variable costing, production and capital decision analysis. *Prerequisite(s)*: Grade of "C" or better in ACC 120 or higher.

ACC-248 Accounting Terminology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will introduce students to different accounting terminology and regulations used in governmental/not-for-profit, tax, cost/managerial, fraud, medical, construction, criminology, and other various industries. Students will learn the fundamental differences in accounting for a governmental and not-for-profit entity versus a for-profit entity. Students will compare and contrast balance sheets and income statements for a corporation, partnership, proprietorship, not-for-profit and governmental

entity. Tax terminology will be covered with the assignment of completing simple personal and corporate tax returns.

ACC-250 Tax Accounting

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Principles of income tax accounting including current laws and reporting are covered in this course. Students are provided practical experience in preparation of individual returns while introducing proprietorship, partnership and corporate taxes. This course is only offered during the fall semester.

Prerequisite(s): Grade of "C" or better in ACC 120 or ACC 220.

ACC-278 Case Study/Capstone

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is designed to teach students their ethical obligations in accounting and to help them evaluate the decision making process accountants go through. This will be completed through the study of various accounting scandals, case studies, and interactions with guest speakers. Students will be required to create questions for each guest speaker and report on what they learned. Students will also develop various self-action plans to help cultivate and grow self-initiative and self-motivation. Students will be required to present themselves in a professional manner and must be able to discuss applied accounting topics with various experienced accountants and managers.

ACC-290 Co-Operative Ed/Intern/Related Elective

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier I

This course involves supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required.

Prerequisite(s): Completion of 30 credit hours and 2.0 GPA, or advisor's approval. Please see the department chair of the specific program area for application.

Agriculture

AGR-100 Introduction to Agriculture

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course covers a survey of technological progress of agriculture and the industry it encompasses, including its socioeconomic impact on the United States and in a global environment.

AGR-102 Four Stroke Small Engines

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Gives an in-depth overview of engine design and operational theory. Parts identification, function and repair are incorporated into the disassembly, reconditioning and assembly of small air-cooled engines.

AGR-103 Two Stroke Small Engines

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

This course emphasizes the repair of two-cycle and small four-cycle engines used on chainsaws, cutoff saws, line trimmers, backpack blowers, hedge trimmers and other small power units. Students will learn new emission requirements and understand the current laws on product liability.

AGR-105 Agriculture & Landcare Safety

Credits: 3

Contact Hours: Lec 3 Lab 0

Tier Rate: Tier II

This course is a basic introduction to accident prevention and safety regulations in the agricultural and landcare industries. Students will also be provided basic first aid training.

AGR-112 Woody Ornamental Identification

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course will expose students to the identification of commonly used woody landscape plants and allow students to learn the uses and growth requirements of these plants in landscape settings. Labs will be devoted primarily to the identification of the plants, while lectures will cover both identification and landscape use and requirements.

AGR-113 Pest Management

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course covers all types of ornamental and turf pests, common diseases, identification, symptoms, life cycle and control. Other topics include safety, application and laws. Upon successful completion of this course, the student will be ready to take the Missouri test for private pesticide application and category 3 application.

AGR-114 Environmental Stewardship

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course examines how the turf and landscape industry impacts the earth's resources; the influences that we have on the natural world both locally and globally; how decisions are made regarding the management of these resources and what factors influence these decisions. The latest innovations in resource management will be presented with the focus being on environmental sustainability.

AGR-116 Ornamental Herbaceous ID

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course will expose students to the identification of commonly used herbaceous landscape plants and allow students to learn the uses and growth requirements of these plants in landscape settings. Labs will be devoted primarily to the identification of the plants, while lectures will cover both identification and landscape use & requirements.

AGR-136 Basic Electrical for OPE

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Course will cover Ohm's law and electrical theory, operation and troubleshooting methods for batteries, starting circuits, charging circuits and accessories.

AGR-145 Landcare Equipment Operation and Maintenance

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course is a basic introduction to equipment operation and maintenance, light mechanical work, and maintenance scheduling. Laboratory instruction will provide students an opportunity to safely operate common landscaping equipment.

AGR-155 Small Eng&Power Sports Repair

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course is a basic introduction to small engine and power sports equipment repair. Laboratory instruction will provide students an opportunity to safely perform engine and equipment service, maintenance, basic troubleshooting and repair of common landscaping, agriculture, and power sports equipment.

AGR-160 Animal Science

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier II

This course provides an introduction to farm animal industries, breeds, numbers, distribution, nutrition, heredity, reproduction, health and products.

AGR-180 Plant and Soil Science

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course focuses on plant growth and development for all types of plants through classroom and laboratory instruction. Relationships between soils and plants, introduction to soils, nutrient availability, water holding ability, vegetative resource management, proper application of plant foods, and interpretation of soil test analysis results will be included.

AGR-185 Irrigation Dsn, Install, Main

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course will include the basics of irrigation design, installation, maintenance and troubleshooting as it pertains to the landscaping industry. Water saving technologies and sprinkler scheduling will also be included through classroom and laboratory instruction. Basic math skills are strongly recommended for successful completion of this course.

AGR-190 Turfgrass Management

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course focuses on the construction, renovation and maintenance of turf areas. Identification, growth requirements, use of commonly used turf grasses, irrigation and weed control are included. Stand establishment with seeding, sod, sprigs and plugging is presented.

AGR-205 Outdoor Power Fuel Systems

Credits: 3

Contact Hours: Lec 1 Lab 4

Managing fuel use in engines is a crucial part of engine performance. Students will monitor engine functions and diagnose performance issues. The course materials will focus on Briggs & Stratton, Kohler,

Honda, Kawasaki and Stihl electronic fuel injection (EFI) systems. *Prerequisite(s)*: AGR 102 and AGR 103 or concurrent enrollment.

AGR-210 Wildlife Management

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This class provides an overview of the management and conservation of wildlife animals and their habitats.

AGR-212 Greenhouse Horticulture

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course deals with all areas of greenhouse operations. Specific areas include herbaceous plant identification, growing structures, layout, environment, plant growth and development, growth regulation, identification, propagation, growing medium, containers, cultural care and plant nutrition.

AGR-214 Landscape Design

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the fall semester. This lecture/lab course includes the basic principles of landscape design, plan reading, plant installation methods, layout considerations, special features and time estimating through a combination of lecture and laboratory instruction. Aftercare and maintenance of interior and exterior landscapes will also be included.

AGR-215 Landscape Construction and Maintenance

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the spring semester. This is an applied course of the basics of woody ornamental plant installation into the landscape, including timing, methods used and aftercare. Also included is basic plan reading, calculation, cut and fill, cost/time estimating and the use of hardscape materials.

AGR-218 Computer Designs in Landscaping

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course focuses on using a personal computer to complete an electronic landscape design. Digital imaging is utilized to increase marketability of a completed design. Emphasis is placed on practical application of software to develop effective drawings for the green industry. *Prerequisite(s):* AGR 214 and AGR 185 (or concurrent enrollment).

AGR-220 Agriculture Business Management

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the spring semester. This is a basic course in the management and operations of an agricultural business. Included is net worth, profit/loss, employee relations, credit, business management and liability. Current technologies for managing and marketing a Turf and Landscape business will be introduced.

AGR-225 Urban Forestry

Credits: 4

Contact Hours: Lec 4

Tier Rate: Tier II

This course provides students with an introduction to arboriculture and provides a basis for planning and managing of forest areas in urban settings. Students learn the social and economic value placed on trees in an urban setting and how human activities may impact the urban forest.

AGR-235 Soils

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course provides an introduction to the physical, chemical and biological activities within the soil including soil genesis, morphology, development, land description, nutrient availability, water holding ability, vegetative resource management, plant growth and recreational use, fertilizer application and soil test analysis.

AGR-245 Hydraulics for Outdoor Power

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Provides the knowledge and skills needed to diagnose and repair hydraulic components used in equipment such as skid loaders and compact tractors.

AGR-260 Drivelines and Chassis OPE

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

This course will cover belt, gear, and hydrostatic transaxles and drivelines for lawn mowers, tillers, snowblowers, garden tractors, zero-turn mowers, compact tractors, ATVs and UTVs. *Prerequisite(s)*: AGR 102 and AGR 103 or concurrent enrollment.

AGR-262 Livestock Management

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course is a study of livestock production and the management components of profitable livestock production. Topics will include nutrition, breeding, herd health programs, forage management, and business management principles. *Prerequisite(s)*: AGR 160

AGR-265 Livestock Breeding

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course includes the study of genetic factors contributing to animal value and selection criteria for a production operation and mating system. *Prerequisite(s)*: AGR 160

AGR-268 Forage Management

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

This course will cover forage production, grazing, harvesting, and management. *Prerequisite(s)*: AGR 180.

AGR-275 Outdoor Power Shop Management

Credits: 3

Contact Hours: Lec 1 Lab 4

This course covers customer service skills, writing work orders and invoices, work space management, and personnel management. *Prerequisite(s)*: AGR 102 and AGR 103.

AGR-280 Turf and Landscape Management Capstone

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course involves a comprehensive assessment of the entire turf and landscape management option. Students apply critical thinking, decision-making and problem solving skills to a landscape project. The student must score a "C" or better to complete the degree option. *Prerequisite(s)*: Completion of a minimum of 36 credit hours in the Turf and Landscape Management option.

AGR-290 Co-operative Education/Internship

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier II

This course encompasses a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained in coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. *Prerequisite(s):* Completion of 30 credit hours and 2.0 GPA, or advisor's approval. Please see the department chair of the specific program area for application.

Anthropology

ANT-101 Introduction to Anthropology

MOTR Equivalent: MOTR ANTH 101 General Anthropology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course introduces the student to the four subfields of anthropology: physical/biological, ethnology/cultural, linguistic and archaeological/material. The human condition will be studied using the various methods and theories that are specific to each sub-discipline.

ANT-220 Cultural Anthropology

MOTR Equivalent: MOTR ANTH 201 Cultural Anthropology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Cultural Anthropology, also known as ethnology, social anthropology or sociocultural anthropology, is the largest of the four 'fields' or subdisciplines of anthropology. Cultural anthropologists study the ways in which people live throughout the world and write accounts of cultures, known as ethnographies, to gain insights into the human condition. Cultural anthropology also compares the ways of living, developing concepts and theories that apply to all cultures and making cross-cultural generalizations about human behavior. *Prerequisite(s):* ANT 101 or SOC 101.

Art

ART-100 Art and Experience

MOTR Equivalent: MOTR ARTS 100 Art Appreciation

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course introduces the visual arts in the context of history and culture providing students with knowledge and practice in the skills necessary to make art a greater part of everyday life. It involves

analysis of art works and introduces terminology and concepts for understanding the study of style, design, technique, iconography and function of art within various cultural matrices. This course provides an introduction to the western artistic and cultural tradition and provides students with knowledge of and practice in the skills necessary to make art a greater part of everyday life. In addition to learning to recognize and explain art from the major periods and styles in the western tradition, students also practice describing and reflecting upon their experience of particular works and investigate the creation of art.

ART-101 Art History I

MOTR Equivalent: MOTR ARTS 101 Art History I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course covers an illustrated study of the history of art. Vocabulary of the basic art elements will be covered as well as the study of prehistoric art through the Gothic period. Major works of paintings, sculptures and architecture will be explored.

ART-105 Art History II

MOTR Equivalent: MOTR ARTS 102 Art History II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course covers an illustrated study of the history of art. Vocabulary of the basic art elements will be covered as well as the study of the Renaissance through Contemporary movements. Major works of paintings, sculptures and architecture will be explored.

ART-115 Foundation I: 2-Dimen. Design

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

Elements of design are explored through a variety of methods and mediums of two-dimensional design. Techniques are explored through the solution of two-dimensional design problems.

ART-116 Foundation II: 3-Dimen. Design

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course provides continuation of two-dimensional design with emphasis on three-dimensional concepts. Elements of design are explored in a variety of methods of three-dimensional construction. Sculptural techniques are explored through the solution of design problems.

ART-117 Intro to New Media

Credits: 3

Contact Hours: Lec 0 Lab 6

Tier Rate: Tier I

This course is structured around three components – studio work, the development of technical skills, and introduction to the broad fields of Digital Art, New Media / Electronic and Time-Based Arts. Students will be focused on the processes of creating and understanding art images within the digital realm while learning about themes present in Contemporary Art.

ART-120 Drawing I

MOTR Equivalent: MOTR PERF 105D Studio Art

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course introduces basic visual art concepts, ideas and techniques that emphasize design principles and hand-eye coordination. The student will solve a variety of drawing problems with different methods and media. Students will become familiar with the basic vocabulary of the drawing process.

ART-121 Drawing II

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course expands on the basic visual art concepts, ideas and techniques that emphasize drawing principles and hand-eye coordination previously learned. The student solves more complex drawing problems with different methods and media. Students increase their vocabulary and observational drawing skills. This course serves as an introduction to drawing the nude human figure. *Prerequisite(s):* Grade of "C" or better in ART 120.

ART-125 Painting I

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This is an introductory course, designed to strengthen the individual student's awareness of the history and techniques of the craft of painting. This course will develop the student's technical and observational skills. The course concentrates on the essential elements of painting: its materials, methods and craft. This course develops the student's understanding of brushwork, composition and color. Students learn painting terminology and the importance of dialog in the creative process.

ART-126 Painting II

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course extends the knowledge and techniques learned in Painting I and is designed to further enhance and strengthen the student's awareness of the history and techniques of the art of painting. This course concentrates on the essential elements of painting: its materials, methods and craft. Students expand their exploration in painting media and techniques and strive to achieve the beginnings of personalized pictorial expression and demonstrate an understanding of the characteristics of the media. *Prerequisite(s):* Grade of "C" or better in ART 125.

ART-130 Printmaking I

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This is an introductory course in traditional and contemporary printmaking techniques. The student learns a variety of printmaking techniques from a selection of monotypes, woodcut blocks, linoleum blocks, serigraphs, etchings and solvent transfers.

ART-135 Ceramics I

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course is a study of the basic principles of ceramics and ceramic sculpture with emphasis on hand-built methods. Wheel thrown pottery and the various processes of working in clay including glazing and firing are explored. Students learn the skills needed for traditional hand-building and wheel-throwing techniques as well as nontraditional approaches to ceramics.

ART-210 Portfolio Development

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This class is designed to help prepare students for a major in Visual Arts to successfully transfer to a B.F.A. or B.A. program in Art. The student establishes a portfolio and studies the professional activities associated within the larger art world. Students learn appropriate ways to present their work, how to write about their ideas, how to document artwork in electronic form, guidelines and conventions for writing a resume, research into area art programs, career topics and exhibitions.

ART-220 Drawing III

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

Building on Drawing II, this class expands upon the development and execution of ideas using traditional and nontraditional media. Students are introduced to various types of drawing styles and challenge traditional definitions of drawing. They complete projects in drawing the nude model, complex perspective, environmental art, ephemeral drawings, installation art and develop a portfolio and artist's statement. *Prerequisite(s):* ART 121.

ART-221 Drawing IV

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course builds upon Drawing III and is considered an advanced course. Students are expected to be self-directed in their choice of subject matter. Students explore historical and contemporary issues in drawing and continue to develop their body of work to enhance their professional portfolio.

Prerequisite(s): Grade of "C" or better in ART 220.

ART-235 Ceramics II

Credits: 3

Contact Hours: Lab 6

Tier Rate: Tier I

This course is a study of the intermediate principles of ceramics and ceramic sculpture with emphasis on wheel thrown techniques and altered works. The main focus of Ceramics II is the investigation of vessel or pottery making, primarily functional, but adding sculptural aspects as well. The various processes of working in clay including firing a kiln, glazing and remixing clay will be explored. Students will continue to learn the skills needed for traditional hand-building and wheel-throwing techniques as well as non-traditional approaches to ceramics. Alternative firing techniques will be covered. *Prerequisite(s):* Grade of "C" or better in ART 116 or concurrent enrollment, and ART 135.

American Sign Language

ASL-101 American Sign Language I

MOTR Equivalent: MOTR LANG 105 Foreign Language I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course introduces students to the basic structural principles of American Sign Language and emphasizes visual reception and expression of signed concepts.

ASL-102 American Sign Language II

MOTR Equivalent: MOTR LANG 106 Foreign Language II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course continues development of the basic knowledge and understanding of conversational American Sign Language and expands on the cultural features of the language and the deaf community.

Prerequisite(s): ASL 101.

ASL-115 Fingerspelling and Numbers

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides students the opportunity to develop increased fluency in their expressive and receptive abilities in fingerspelling through in-class practice and viewing of additional materials. Students also reinforce their abilities to utilize American Sign Language numbering systems for time, money, measurements, sports, and scientific numbering. *Prerequisite(s):* Grade of "C" or better in ASL 102.

ASL-201 American Sign Language III

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course offers the American Sign Language student the opportunity to polish their expressive and receptive skills in classroom and conversational environments. Emphasis is on the transition from simply learning vocabulary to learning good conversational skills. *Prerequisite(s):* Grade of "C" or better in ASL 102.

ASL-202 American Sign Language IV

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course builds on what was learned in American Sign Language III. It offers the advanced American Sign Language student the opportunity to polish their expressive and receptive skills at an advanced level. Emphasis is on the use of classifiers, role shifting, listing, using space and communicating money issues, major decisions and health conditions in ASL discourse. The focus is on utilizing all American Sign Language skills simultaneously and fluently. *Prerequisite(s):* Grade of "C" or better in ASL 201.

Associate of Science in Nursing

ASN-200 Transition to Prof Nursing

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier III

This is a transition course between the knowledge base as a Licensed Practical Nurse (LPN) to the introduction of the knowledge base of a professional Registered Nurse (RN). *Prerequisite(s):* Admission to the ASN program.

ASN-210 Adv Nursing - Lifespan I

Credits: 4

Contact Hours: Lec 3 Lab 0 Practicum 3

Tier Rate: Tier III

This course focuses on contemporary nursing of the adult client with complex health alterations.

Prerequisite(s): ASN 200.

ASN-215 Adv Nursing-Psy/Mental Hlth

Credits: 2

Contact Hours: Lec 1 Lab 0 Practicum 3

Tier Rate: Tier III

This course focuses on contemporary nursing of the client through the lifespan with psychiatric/mental health alterations. *Prerequisite(s):* ASN 200 and concurrently with ASN 210.

ASN-220 Adv Nursing - Lifespan II

Credits: 4

Contact Hours: Lec 3 Lab 0 Practicum 3

Tier Rate: Tier III

This course focuses on contemporary nursing of the adult client with complex health alterations.

Prerequisite(s): ASN 200, ASN 210, ASN 215 and concurrently with ASN 225.

ASN-225 Advanced Concepts of Maternal Newborn Nursing

Credits: 2

Contact Hours: Lec 1 Lab 0 Practicum 3

Tier Rate: Tier III

This course focuses on contemporary nursing of the childbearing family from pregnancy through birth. The nursing process will be utilized to focus on the holistic health and sociocultural needs of the childbearing family. Emphasis will be placed on the registered nurse's role in providing care to high-risk mothers and newborns with the goal of achieving optimal health outcomes for this client population. Critical thinking and evidenced-based practice will be used in the clinical area to develop a case study of a client from labor and delivery, post-partum nursery or neonatal intensive care with the goal of administering care to the client and the entire family. Included will be assessing client and family development, prioritizing family physical, psychosocial, Maslow's Human Needs and cultural diversity needs, appraising the client stress adaptation level and devising interventions to assist in health

promotion, health protection and disease prevention. *Prerequisite(s)*: ASN 200, 210, 215 *Corequisite(s)*: ASN 220
Maximum Credit Hours 2

ASN-230 Adv Nursing - Lifespan III

Credits: 5

Contact Hours: Lec 4 Lab 0 Practicum 3

Tier Rate: Tier III

This course focuses on contemporary nursing of the adult client with complex health alterations.

Prerequisite(s): ASN 200, ASN 210, ASN 215, ASN 220, ASN 225 and concurrently with ASN 235.

ASN-235 Adv Nursing Pediatric Concepts

Credits: 2

Contact Hours: Lec 1 Lab 0 Practicum 3

Tier Rate: Tier III

This course focuses on contemporary nursing of the family from neonate through adolescence.

Prerequisite(s): ASN 200, ASN 210, ASN 215, ASN 220, ASN 225 and concurrently with ASN 230.

ASN-240 Community Health & Management

Credits: 3

Contact Hours: Lec 2 Practicum 3

Tier Rate: Tier III

This course is an ASN capstone course focusing on contemporary nursing in the community setting. The nursing process will be utilized to analyze the health status, health potential, and environmental influences of selected individuals, families, & groups in communities. Students will apply the nursing process to identify gaps and strengths and weaknesses in healthcare delivery for community health. Community clinical experiences will be utilized in the development of the entry-level knowledge base of concepts of community health nursing & the role of nursing and allied health professionals in addressing public health problems. *Prerequisite(s)*: ASN 200, ASN 210, ASN 215, ASN 220, ASN 225, ASN 230, ASN 235 and concurrently with ASN 250.

ASN-250 Prof Nursing Integration

Credits: 3

Contact Hours: Lec 2 Lab 0 Practicum 3

Tier Rate: Tier III

This course is designed to provide the student with in-depth clinical experiences within a chosen client care setting. *Prerequisite(s)*: ASN 200, ASN 210, ASN 215, ASN 220, ASN 225, ASN 230, ASN 235 and concurrently with ASN 240.

Applied Technical Science

ATS-100 Introduction to Scientific Research

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier II

This course is an interdisciplinary investigation into scientific research. The various processes of scientific inquiry will be studied to provide students with a better understanding of the scientific method. Guest speakers, field trips, and journal articles will allow students to experience the critical thinking of research problems.

ATS-101 Scientific Math

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier II

This course is a survey of mathematical and statistical operations and Excel operations used in a chemical laboratory setting. Critical thinking exercises and real-world problems will be employed. Topics covered will include significant figures and rounding, scientific notation, logarithmic scales, dimensional analysis/unit conversions, reading and evaluation of measurements from common measuring devices, and statistical evaluation of data using Excel. This course is required for those in the Chemical Laboratory Technology program.

ATS-105 Applied Biology

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

A survey of the biological principles that apply to all living systems with emphasis on laboratory work for the technician. The course is a survey of living organisms, in particular the human species and our interactions with our environment.

ATS-112 Introduction to Environmental Science

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course provides an introduction to an interdisciplinary field that focuses on how different elements of the environment interact and interrelate. Topical environmental issues like climate change, aquatic and terrestrial ecology, air and water pollution, world human population problems, and the unsustainable use of natural resources will be examined. Laboratory sessions include measurements of various environmental pollutants, fundamental lab exercises in ecology, analysis of environmental parameters, and descriptive and practical reinforcement of lecture material.

ATS-115 Applied General Chemistry

Credits: 5

Contact Hours: Lec 3 Practicum 3

Tier Rate: Tier II

This course is an introductory chemistry course that surveys the basic concepts of the science, including atomic theory and the periodic table, molecular structure, chemical bonding and reactions, equation writing and balancing, stoichiometry, gases, acids/bases, and solutions. The lab component of this course supports the basic chemical concepts of the course while emphasizing industry-related laboratory skills and competencies including proper measurement techniques, notebooks, laboratory safety and report writing.

ATS-120 Applied Organic Chemistry

Credits: 5

Contact Hours: Lec 4 Lab 2

Tier Rate: Tier II

This course is a survey of the principles of organic chemistry, stressing reaction types and mechanisms. Organic compounds will be classified into families, and the physical and chemical properties of each family will be discussed as well as the naming of the members of the family. Major chemical reactions associated with each family will be the main focus. The lab component of this course supports the chemical concepts of the course as well as instrumental techniques used in the identification of organic molecules. *Prerequisite(s):* Grade of "C" or better in ATS 115.

ATS-200 Chemical Laboratory Technology Internship/Research

Credits: 6

Contact Hours: Practicum 18

Tier Rate: Tier II

Students of the Chemical Laboratory Technology program will carry out a supervised independent work experience through either an internship in an industrial lab or through an independent research project, allowing the opportunity to make practical application of the knowledge and skills attained during the course of study. An individualized instructional management plan will be prepared to determine goals to be accomplished. *Prerequisite(s):* Minimum of 30 hours toward degree program and Program Director approval.

ATS-202 Introduction to Cell Biology

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course is a study of the basic concepts of cellular and subcellular structure and function, including organelle structure and organization, bioenergetics, cell growth and cellular communication.

Prerequisite(s): BIO 160, CHM 160.

ATS-205 Chemical Laboratory Technology Internship/Research Presentation

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier II

This seminar provides students who are completing an internship or research project with a specific forum in which to share and discuss the experiences of the scope of work and relate this work to the course of study.

Automotive Technology

AUM-110 Engine Repair

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course teaches the occupational competencies needed to perform preventive maintenance and repair methods, engine measurement and assembly required of an entry level technician. The instruction will include classroom demonstration and practical exercises in a lab setting related to the Automotive Service Excellence (ASE) area of Engine Repair. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

AUM-121 Engine Diagnosis and Repair

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course introduces students to the techniques and fundamentals used in order to properly diagnose and repair internal combustion engines. Students will further explore the theory and operation of the engine's operating systems such as fuel, air, oiling and cooling systems. Students will perform test adjustments on each of these systems including an internal combustion engine. Examples include both dynamic and static compression testing, valve timing (both overhead valve and overhead cam), cooling system pressure and head gasket leak.

AUM-135 Manual Drive Train & Axles

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course develops each student's occupational competencies needed to perform preventive maintenance and repair methods required of an entry level technician. The instruction will include classroom, demonstration and practical exercises related to the Automotive Service Excellence (ASE) area of Manual Drive Train and Axles.

AUM-171 Electrical I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course teaches the occupational competencies required of an entry level technician which are needed to perform preventive maintenance and repair methods for automotive electrical systems. Instruction will include classroom demonstration and practical exercises related to the Automotive Service Excellence (ASE) area of Automotive Electrical Systems. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

AUM-175 Electrical II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course develops each student's occupational competencies needed to perform preventive maintenance and repair methods required of an entry level technician. The instruction will include classroom demonstration and advanced practical exercises related to the Automotive Service Excellence (ASE) area of Electrical Systems. Lighting systems, gauges, warning devices, and driver information systems will be covered, as well as accessories and safety equipment diagnosis and repair. *Prerequisite(s):* AUM 171.

AUM-185 Heating and Air Conditioning

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course introduces students to the theory and operation of the components which make up the automotive heating and air conditioning system. Students will handle refrigerants using EPA approved techniques including the use of a recovery station. Component identification, function, and replacement will be performed on different types of systems. System diagnosis will be covered prior to the replacement of components. *Prerequisite(s):* AUM 171.

AUM-210 Brakes

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course is designed to develop occupational competencies relative to modern braking systems. The specific study units include the following: physical principles which affect brake system performance, hydraulics, mechanical linkages and levers, power assist systems including pressure, vacuum and electrical over hydraulic subsystems, drum and disc brakes, lines and hoses. Students will be using the latest traditional as well as Dynamic test equipment to check, service and repair automotive brake systems. Classroom demonstrations as well as laboratory exercises are utilized to meet or exceed Automotive Service Excellence (ASE) standards in the area of Brakes.

AUM-215 Steering and Suspension

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course teaches the occupational competencies related to the geometric and physical properties of modern wheel alignment. It includes service and repair of general chassis and suspension systems. Students will apply classroom theory within a laboratory environment duplicating the automotive shop environment. All classroom, demonstration, and laboratory instruction are related to the Automotive Service Excellence (ASE) area of Steering and Suspension. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

AUM-221 Engine Performance I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course introduces to the theory and operation of electronically controlled engine systems. Students will explore the theory and operation behind computer controlled engine performance systems, electronic sensors and input signals, and electromechanical components and output signals. Students will learn the theory and operation of electronically controlled ignition systems and be able to perform diagnosis and service on those systems. Students will use advanced diagnostic equipment including, scan tools, lab scopes, and graphing multi-meters to interpret vehicle data and to diagnose and perform repairs on engine performance related systems. *Prerequisite(s):* AUM 121 and AUM 171.

AUM-222 Engine Performance II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course introduces students to the theory and operation of distributorless ignition, emission systems, and inputs/outputs dealing with OBD II type vehicles. Students will further explore techniques used in the diagnosis and repair of engine performance issues. Students will use diagnostic equipment such as scanner, lab scopes, oscilloscopes and 5-gas analyzers. *Prerequisite(s):* AUM 221.

AUM-233 Automatic Transmission and Trans Axle

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course combines the study of planetary gear trains, hydraulics and electronics in the repair of automatic transmissions. A "hands on" approach is taken to learning and applying fluid dynamics and epicyclical (planetary) gear train components. Students will remove and install a transmission in a

vehicle, use current industry tools and techniques to diagnose transmission problems and completely overhaul a front wheel drive transaxle. Upon completion of the transaxle overhaul, the student will be required to set up and test the operation of the overhaul using a transmission dynamometer.

Prerequisite(s): AUM 171.

AUM-290 Capstone/Co-op/Internship

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier II

This course provides students the opportunity for supervised work experience in their major field with practical application of the knowledge and skills attained. Students will also apply critical thinking, analytical reading, decision making and valuing skills to issues across the automotive technology curriculum. An assessment will give students the opportunity to demonstrate their level of application and learning in the auto collision program. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. Please see the Chair of specific program area for application. *Prerequisite(s):* Completion of at least 30 credit hours in automotive technology courses and a minimum GPA of 2.0 or advisor's approval.

AUM-294 Adv Topics in Auto Industry

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course provides students the opportunity for lab practical application of the knowledge and skills attained throughout the program. Students will also apply critical thinking, analytical reading, and problem solving skills to issues across the automotive technology curriculum. NATEF associated project will be completed during this course. Student will have the opportunity to complete relevant certifications. *Prerequisite(s):* Completion of at least 30 credit hours in automotive technology courses and a minimum GPA of 2.0 or advisor's approval.

Aviation Flight Technology

AVI-101 World of Aviation

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

A broad overview of changes in aviation technology throughout history, with special emphasis on fixed-wing aircraft. The effect of the introduction and expansion of aviation will be analyzed as it relates to travel, trade, culture and combat. *Prerequisite(s):* Active program of study must be AVI. Instructor consent required.

AVI-102 Airline Operations

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

A study of transportation systems and the aviation industry as they exist today. Applicable government organizations, controls, and regulations will be studied. Airline organization, operation, management, and marketing will be examined as well as career opportunities. *Prerequisite(s):* Grade of "C" or better in AVI 101

AVI-105 Aviation Weather

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course provides an analysis of aviation weather, which is appropriate for a professional commercial pilot. The student is expected to gain knowledge about basic weather concepts and acquire an understanding of weather theory. Weather hazards including thunderstorms, turbulence, wind shear, restrictions to visibility, icing, and hydroplaning will be discussed. Weather services will also be explained. The details of using coded weather reports, forecasts, weather charts and prognostic charts will be utilized in class for flight planning and in-flight decision-making. Extensive use of the Internet will be necessary. *Prerequisite(s):* Grade of "C" or better in AVI 101.

AVI-131 Credential Completion Lab

Credits: 1

Contact Hours: Lec 0 Lab 2

Tier Rate: Tier III

This class is designed for students who have already logged 20 or more hours of flight time. The lab allows for instruction and plane rental to complete the private pilot license without having to re-start at lesson one. Student logbooks will be audited and flight skills evaluated before registration.

AVI-150 Private Pilot Ground

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

Essentials to pass the Federal Aviation Administration Private Pilot Knowledge examination. Subjects include introduction to the airplane, airplane systems, airplane performance, weight and balance, airports, radio communications, air traffic control and airspace, navigation charts and flight computer, cross-country flight planning, flight publications, radio navigation weather theory and weather data, federal aviation regulations and National Transportation Safety Board, and medical factors of flight. *Prerequisite(s):* Grade of "C" or better in AVI 101 or concurrent enrollment.

AVI-151 Private Flight Lab I

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier III

This flight training course focuses on acquiring the aeronautical skills necessary for a private pilot license with an airplane category rating and single-engine land class rating. Be advised, additional time is often needed to meet completion standards and proficiency. Fee required. *Prerequisite(s):* Grade of "C" or better in AVI 150 or concurrent enrollment.

AVI-152 Private Pilot Lab II

Credits: 1

Contact Hours: Lec 0 Lab 2 Practicum 0

Tier Rate: Tier III

This course is the continuation of flight training required to complete the private pilot program by acquiring aeronautical skills necessary to meet the requirements for a private pilot certificate. Be advised, additional time is regularly needed to meet completion standards and proficiency. Fee required. *Prerequisite(s):* Grade of "C" or better in AVI 150 and AVI 151, or concurrent enrollment.

AVI-170 Instrument Ground

Credits: 3

Contact Hours: Lec 3 Lab 0

Tier Rate: Tier III

This flight training course focuses on acquiring the aeronautical skills necessary for a private pilot license with an airplane category rating and single-engine land class rating. Be advised, additional time is often needed to meet completion standards and proficiency. Fee required. *Prerequisite(s):* Grade of "C" or better in AVI 150 or concurrent enrollment.

AVI-171 Instrument Flight Lab I

Credits: 1

Contact Hours: Lec 0 Lab 2 Practicum 0

Tier Rate: Tier III

This course is a continuation of flight training and the beginning of instrument flight training. Be advised, additional time is regularly needed to meet completion standards and proficiency. Fee required. *Prerequisite(s):* Grade of "C" or better in AVI 150, AVI 151; AVI 170 or concurrent enrollment.

AVI-172 Instrument Flight Lab II

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier III

This course is a continuation of flight instrument training from AVI 171. The student completes the solo cross-country requirements. Be advised, additional time is regularly needed to meet completion

standards and proficiency. Fee required. *Prerequisite(s)*: Grade of "C" or better in AVI 150, AVI 151; AVI 171, AVI 170 or concurrent enrollment.

AVI-203 Aircraft & Engine Components

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

Basic maintenance procedures, personnel, & regulations will be studied in conjunction with the fundamental components and systems of aircraft. Topics included in this course will be FAR'S, personnel, inspections, data, aircraft engines, airframes, systems, operating procedures and limitations, instruments and aircraft structures. *Prerequisite(s)*: Grade of "C" or better in AVI 101.

AVI-230 Air Transportation

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

Study of the common carrier air transportation system and the structure of commercial air carriers. This course will have an emphasis on scheduled air carrier organizations and activities. *Prerequisite(s)*: Grade of "C" or better in AVI 101.

AVI-240 Air Traffic Control System

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

A study of the nation's air traffic control system; focusing on basic air traffic control procedures and regulations, FAA control facilities, FSS services, radio communication, navigation principles, safety, and new developments *Prerequisite(s)*: Grade of "C" or better in AVI 101.

AVI-250 Commercial Pilot Ground

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

Basic knowledge to pass the Federal Aviation Administration commercial pilot knowledge test. Includes advanced multi-engine performance control, advanced meteorology, advanced multi-engine airplane systems, advanced radio navigation, commercial pilot FARs, physiology of flight, environmental systems, flight planning and commercial maneuvers. *Prerequisite(s)*: Grade of "C" or better in AVI 170, AVI 171.

AVI-251 Commercial Pilot Flight Lab I

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

Required flight training for the commercial pilot license for the student who has met the requirements for the private pilot license. Consists of 67 hours or the time needed to complete flight lesson 80. Be advised, additional time is often needed to meet completion standards for proficiency. Fee required.

Prerequisite(s): AVI 170, AVI 171; AVI 250 or concurrent enrollment.

AVI-252 Commercial Pilot Flight II

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

Finishes the required flight training for the commercial pilot license for the student who has met completed the commercial pilot flight lab I. Consists of 67 hours or the time needed to complete the final flight lesson. Be advised, additional time is often needed to meet completion standards for proficiency. Fee required. *Prerequisite(s):* AVI 251

AVI-260 Aviation Safety

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

An introduction to safety and security relating to airports and FBO ground operational activities, to include fueling, aircraft marshalling, ground vehicle operations, accident/incident response and reporting, and general aviation security *Prerequisite(s):* Grade of "C" or better in AVI 101.

AVI-270 CFI Ground

Credits: 3

Contact Hours: Lec 3 Lab Yes Practicum 0

Tier Rate: Tier III

The Certified Flight Instructor Ground course will instruct and train students for two FAA knowledge exams of Fundamentals of Instructing and Flight Instructor Airplane. Topics covered will be fundamentals of instructing, aerodynamics and principles of flight, aircraft systems, aircraft performance, weather and weather services, reroute flight and navigation, procedures and airport operations, regulations, flight instruction and maneuvers, and flight physiology. *Prerequisite(s):* AVI 150, AVI 170, AVI 250. *Corequisite(s):* N/A

AVI-271 CFI Airplane Lab

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

During this course, the student will learn the analysis and performance of all the maneuvers required for private and commercial pilot certification from the right seat of the training aircraft. In addition, the student will acquire the instructional knowledge of the elements of each of the maneuvers and

procedures including the recognition, analysis, and correction of common student errors. *Prerequisite(s)*: AVI 252, and AVI 270 or concurrent enrollment in AVI 270.

AVI-291 Multi Engine Plane Flight Lab

Credits: 1

Contact Hours: Lec 0 Lab 2 Practicum 0

Classroom and laboratory instruction to provide aeronautical knowledge and skills for multi-engine pilot certification. *Prerequisite(s)*: AVI 252

Behavioral Health Support

BHS-200 Introduction to Behavioral Health Support

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

Students are introduced to the programs and services offered by Community Behavioral Health Centers. Skills and ethical considerations needed to work with various clients are discussed. Students are introduced to diagnosis, the recovery/resiliency model, and care systems with the Community Support model as well as an overview of legal issues and responsibilities in the field. *Prerequisite(s)*: Acceptance into the Behavioral Health Support Program.

BHS-210 Legal and Ethical Issues

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course examines the legal and ethical issues related to services for clients served by Behavioral Health Centers. Topics include guardianship, custody and conservatorship, client rights, fraud and abuse, detention and other legal and court issues. Ethical standards, professional and personal boundaries are discussed. *Prerequisite(s)*: BHS 200

BHS-220 Systems of Care

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course provides a holistic approach to care. Approaches that promote active participation by the client in decision making and self-advocacy are examined. Techniques to motivate clients toward personal responsibility for resiliency and recovery are introduced along with the development of wellness plans and support networks. *Prerequisite(s)*: BHS 200

BHS-230 Substance Use Disorders

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course is the study of chemical use and dependency, including the cycle of addiction and recovery. Comprehensive substance use treatment and rehabilitation models in a variety of settings will be examined. *Prerequisite(s):* BHS 210

BHS-240 Client Interactions I

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

Students will be introduced to the techniques for assuring consistency, accountability and effectiveness for intake operations. Topics include the concept of intake, the purpose and types of assessment tools utilized for determining risk and treatment needs. Skills will be developed in conducting interviews, establishing client rapport, eliciting client information, and utilization of proper clinical tools for documentation within a treatment plan. *Prerequisite(s):* BHS 210

BHS-250 Chronic Health Care Issues

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course presents the pathophysiology and treatment of chronic diseases including diabetes, hypertension, COPD, and various other common disease. Unique patient groups in relation to specific disability, disease, and/or restrictive issues are identified as well as typical medication and treatment protocols. *Prerequisite(s):* BHS 230

BHS-260 Family and Youth Issues

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course will examine family dynamics and problem patterns within the family unit. Family and youth interventions and problem prevention will be addressed. The Community Support role in family intervention is explored. *Prerequisite(s):* BHS 230

BHS-270 Client Interactions II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course examines techniques of working with others for collaboration, conflict resolution, crisis intervention and de-escalation. Listening and responding skills will be practiced along with developing skills to manage the dynamic differences presented by the clients and the communities served. Challenging client issues will be presented and resolutions examined. *Prerequisite(s):* BHS 230

BHS-280 Evidence Based Treatment

Credits: 4

Contact Hours: Lec 4 Lab 0 Practicum 0

Tier Rate: Tier III

This course will introduce students to cognitive behavioral therapy, parent management training, parent-child interaction therapy, and other evidence based practices. The types of medications commonly prescribed for emotional, personality, and physical disorders will be identified along with the requirements of administering and observing self-administration of medications. *Prerequisite(s):* BHS 250

BHS-291 Field Practicum I

Credits: 2

Contact Hours: Lec 0 Lab 0 Practicum 6

Tier Rate: Tier III

Course is a field placement designed to provide a student with 90 hours of observation and practical experience in a behavioral health community center or similar service agency or provider. Classroom time will compare and contrast how various populations are being served and how agencies collaborate and integrate services to meet client needs. Passing a background check and drug test is required for this course. *Corequisite(s):* BHS 230, BHS 240

BHS-292 Field Practicum II

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier III

This course provides students with 135 hours of practical experience in Behavioral Health Centers. Students participate in intake, assessment and treatment planning and learn how to conduct functional behavioral interventions plans and make informed decisions when working with clients having behavioral health issues. *Corequisite(s):* BHS 250, BHS 260, BHS 270

BHS-293 Field Practicum III

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier III

Course provides student with 135 hours of practical experience in Community Behavioral Health Centers and other community service agencies. Students will gain experience working with a variety of client populations facing a variety of behavioral issues. They will gain experience in how agencies coordinate

and integrate treatment and how a comprehensive individualized treatment plan is developed.

Corequisite(s): BHS 280

Biological Clinical Science

BCS-102 Intro to Bioclinical Science

MOTR Equivalent: MOTR LIFS 100L Essentials in Human Biology with Lab

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

The Biological Clinical Sciences Department believes that student success is built on the pillars of self-efficacy and engagement. This course has been designed to help students increase their academic potential, develop an educational plan, and begin learning and applying strategies for success in college and their allied health program. Topics include the academic environment, personal and career goals, self-discovery, learning systems and study strategies, critical thinking, communication skills, career plans, college resources and policies, and intrusive advising.

BCS-115 Survey of A & P

MOTR Equivalent: MOTR LIFS 100LAP Essentials in Human Biology with Lab

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This introductory-level online only course is intended for students pursuing a career in Health Information Technology. This course will provide a basic understanding of anatomy and physiology, the interrelationship between structure and function, and the effects of disease on body systems. Students will learn relevant content and concepts that prepare them for a career in Health Information Technology. Hearing Instrument Science students may also benefit from taking this course.

BCS-132 Allied Health Nutrition

MOTR Equivalent: MOTR LIFS 100 Essentials in Human Biology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a survey of human nutrition for Pre-Allied Health majors. Students will study the different nutrients found in food, food grouping systems, the human digestive system, body weight maintenances, immunity and disease prevention, nutrition through lifespan, and food processing technology. Students will also study the different dietary requirements for disease treatment.

BCS-165 Human Anatomy

MOTR Equivalent: MOTR LIFS 150L Human Biology with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

Microscopic and macroscopic examination of the human body structures and systems are the focus of this course. Students evaluate the integration of the various systems within the entire body. The laboratory provides an opportunity for identification and evaluation of representative human models and slides and dissection of comparable mammalian organ systems.

BCS-200 Microbiology

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier I

This course entails a study of the structure, growth, control, classification and identification of microorganisms. In the laboratory students learn basic aseptic techniques and become familiar with common laboratory procedures. *Prerequisite(s):* Grade of "C" or better in BCS 165 or BCS 205 or concurrent enrollment.

BCS-205 Human Physiology

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier I

This course examines the organization and function of the human body as a whole and the interrelationships of the various systems. The laboratory teaches the fundamental techniques necessary for the study of life processes. Laboratory activities give the students an opportunity to illustrate principles presented in lecture. *Prerequisite(s):* Grade of "C" or better in BCS 165.

BCS-210 Pathophysiology

MOTR Equivalent: MOTR LIFS 150 Human Biology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This survey course studies the changes in normal anatomy and physiology of the human body. Disease processes are studied and the disruption of homeostasis is emphasized. Also included is the correlation between the pathology of the disease process and clinical signs and symptoms of the disease.

Prerequisite(s): Grade of "C" or better in BCS 165 and BCS 200 and BCS 205.

Biology

BIO-100 Life Science

MOTR Equivalent: MOTR BIOL 100L Essentials in Biology with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This course covers a study of the biological principles that apply to all living systems. A survey of living organisms with an emphasis on how life functions on earth and how living things have adapted over time is explored. Laboratory activities give students the opportunity to apply biological principles presented in lecture.

BIO-105 Environmental Science

MOTR Equivalent: MOTR BIOL 100L Essentials in Biology with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier I

This course will survey basic environmental science topics including; how ecosystems function, standards of sustainability, and the impact of humans on the biosphere. Outdoor and indoor laboratory activities provide students with a hands on opportunity to apply principles presented in lecture.

BIO-135 Nutrition for Living

MOTR Equivalent: MOTR LIFS 100 Essentials in Human Biology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a survey of human nutrition. Students will study the different nutrients found in foods, food grouping systems, the human digestive system, body weight maintenance, immunity and disease prevention, nutrition throughout the lifespan and food processing technology.

BIO-142 Essential Biology

MOTR Equivalent: MOTR BIOL 100 Essentials in Biology

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides a study of the biological principles that apply to all living systems, including ecological principles. In addition, this course provides a survey of living organisms with an emphasis on how life functions on Earth and how living things have adapted over time.

BIO-160 General Biology I

MOTR Equivalent: MOTR BIOL 150L Biology with Lab

Credits: 4

Contact Hours: Lec 3 Lab 3

Tier Rate: Tier I

This course is an introductory biology course for biology majors and minors. It provides an introduction to the concepts of biological structure and function at the molecular and cellular level, genetics and evolution. Students have the opportunity to demonstrate in the laboratory the principles presented in lecture.

BIO-170 General Biology II

Credits: 4

Contact Hours: Lec 3 Lab 3

Tier Rate: Tier I

This is the second half of a two-semester biology sequence. This course introduces the student to the biology of organisms, including evolutionary history, diversity, structure and function of major taxa and ecology. Laboratory work gives students an opportunity to illustrate the principles presented in lecture. Laboratory activities include computer simulations of complex systems and dissection of different organisms.

BIO-250 Genetics

Credits: 4

Contact Hours: Lec 3 Lab 3 Practicum 0

Tier Rate: Tier I

This course is an introduction to basic concepts of molecular, Mendelian genetics and an inquiry into the basic processes of evolution. Basic laboratory techniques in genetics are performed. *Prerequisite(s):* BIO 160, MTH 130.

BIO-275 Environmental Biology

Credits: 4

Contact Hours: Lec 3 Lab 3

Tier Rate: Tier I

This course studies basic ecological principles with application and relevance to environmental issues. Students have the opportunity in the laboratory to demonstrate principles presented in lecture.

Prerequisite(s): BIO 160 or BIO 170.

BIO-290 Co-Operative Ed/Intern

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier I

This course provides students with supervised work experience in the major discipline, which allows the student the opportunity to make practical application of the skills and knowledge attained. An individual application and instructional management plan determines course goals. *Prerequisite(s):* Complete 30 credit hours or more and permission of department chair.

BIO-292 General Microbiology

Credits: 5

Contact Hours: Lec 3 Lab 4

Tier Rate: Tier I

The structure and function of bacteria, viruses and fungi are studied. The diversity of the microbial world and their role in the environment are also explored. Students master basic laboratory techniques in microbiology and have an opportunity to perform some of the more advanced molecular techniques.

Prerequisite(s): BIO 250.

Business and Marketing

BUS-100 Service Learning in Business

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

Students will broaden their educational experiences by being actively involved in the following student organization: Enactus. In addition to meeting once a week as a class, students will also be required to attend the regularly scheduled meetings of their student organization. A student may enroll in this course one or more semesters and receive 1 credit hour for each semester enrolled up to a maximum of 4 semester credit hours.

BUS-101 Microcomputer Keyboarding

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is designed to help students master the touch method and proper techniques for accurate use of the microcomputer and numeric keypad. Formatting of basic business documents will be provided. These skills will be valuable for all students, business persons and home-computer users.

BUS-105 Business English

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will provide a review of parts of speech and their routine functions: plurals and possessives; antecedents; verb tense; transitive and intransitive verbs; active and passive voice; subject-verb agreement; comparative and superlative forms of adjectives and adverbs; prepositional phrases; coordinate, correlative and subordinate conjunctions. Also included will be a review of the mechanical aspects of business communication: punctuation, abbreviations, capitalization, number expression rules, appropriate word choice, sentence construction, parallelism and editing and proofreading documents.

BUS-110 Principles of Business

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides a survey of business in the United States and also global considerations, including its background, functions, objectives, ethics and opportunities for careers. Various aspects of business will be covered: marketing, management, human resources, production, accounting, finance, administrative services, technology, computerization of the workplace, regulations, international trade and the impact of e-commerce on businesses around the globe.

BUS-111 Principles of Insurance

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an introduction to insurance principles and risk management for both personal and professional applications. Topics covered include: property insurance, casualty insurance, life insurance, and health insurance. *Prerequisite(s):* BUS 110.

BUS-112 Document Processing

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course includes use of word processing software on a microcomputer. Students will learn to perform word processing functions for creating business documents. *Prerequisite(s):* BUS 101.

BUS-115 Personal Finance

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

The course is a survey of personal financial planning. Topics covered include: personal budgeting, investments, insurance, credit, housing and retirement planning. The goals are for students to learn the fundamentals of financial planning so they can make informed choices related to spending, saving, borrowing and investing that lead to long-term financial security.

BUS-120 Retailing

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to retail businesses, operations, retailing concepts and practices, problem-solving for effective retailing, the similarities and differences between traditional and e-

commerce retailing, the use of technology and information systems and careers in retailing.

Prerequisite(s): BUS 110.

BUS-125 Selling

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will introduce students to the principles and methods of effective selling, steps of the sales process, customer analysis, sales-supporting skills, and careers in sales. *Prerequisite(s):* BUS 110.

BUS-130 Principles of Marketing

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course deals with the structure of the marketing system, considering the four elements of marketing: product, price, place and promotion. Students will explore marketing as a business activity directed at satisfying the needs and wants of potential customers through the exchange process. Students will also be introduced to e-business technology and distribution systems. *Prerequisite(s):* BUS 110.

BUS-135 Integrated Business Applications

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course is a study of computerized applications such as word processing, database management, spreadsheets, graphics and multimedia presentations. Emphasis is on business and education decision-making using simple and integrated applications. *Prerequisite(s):* CIS 101, BUS 112 or equivalent or concurrent enrollment.

BUS-140 Business Communications

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will help students develop business communication skills by composing and writing letters, memos, reports and electronic mail messages. The students will develop a writing portfolio of business documents and prepare and present oral reports. In their preparation of business communications, the students will have opportunities to use word processing software, to use computer skills in searching the Internet and sending email messages and to learn useful communication practices for a career in business. *Prerequisite(s):* ENG 101 or concurrent enrollment.

BUS-145 Principles of Advertising

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course is an introduction to advertising principles, strategies, the importance of integrated marketing communication and how it impacts advertising, marketing research, media planning, budgeting, and buying, creative design for effective advertisements for print, electronic, and digital media, and careers in advertising. *Prerequisite(s):* BUS 110 and BUS 130.

BUS-150 Principles of Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course examines various techniques and theories of management and their effects on current practices. Students will study management functions, relating them to organizational structures. Discussions cover the basic elements of management: planning, organizing, leading and controlling and how the manager relates to personnel issues and organizational change and conflict. Consideration is given to the changing business environment where diversity of personnel, geographic dispersion of work locations, e-commerce and global activities will dominate the work place. *Prerequisite(s):* BUS 110.

BUS-155 Customer Service

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier I

Emphasis will be on developing customer support, practicing good work ethics in handling customer complaints and dealing with upset customers, accepting diversity in the workforce, demonstrating professionalism through better attitudes and teamwork involvement and developing the social skills needed to sustain customer relationships. Internalcustomer and externalcustomer communication skills will be taught through proper phone use and creating and distributing coherent and consistent messages with emphasis on working together to meet customers' needs. Skills needed to negotiate conflicts will be taught through problem solving/critical thinking case studies and exercises, as well as planning and goal setting to build positive work environments and promote internal cooperation and communication.

BUS-160 Business Law

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

An introduction and study of the legal regulations governing business and e-business conduct will be provided in this course. Students will be introduced to laws that affect public and international environments which include contracts, sales and leases, torts and strict liability, product liability, cyberlaw and ecommerce, creditordebtor relations, sole proprietorships, partnerships, corporations and

limited liability companies, as well as laws governing agency and employment, the regulatory environment of consumer protection, environmental law, land-use control, and antitrust/monopoly law.

Prerequisite(s): BUS 110.

BUS-165 Administrative Procedures

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course covers principles and procedures for completing basic office essentials including meeting documents, scheduling, making travel arrangements, editing and proofing business documents, mail handling, and proper techniques for the management of records. *Prerequisite(s):* BUS 101 and BUS 112 or concurrent enrollment of BUS 112.

BUS-170 Human Resources Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to human resource management and its impact on the success of the business. Topics include the strategic planning process, human resource planning, equal employment opportunity, selection, training and development, performance appraisal, compensation, safety and health, and employee and labor relations. The role of managers in dealing with human resources is emphasized. *Prerequisite(s):* BUS 150.

BUS-185 Professional Readiness

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

To develop the professional skills necessary to thrive in the 21st century workplace. Learning will focus on professionalism, critical thinking, complex problem solving, oral and written communication, interpersonal skills, and job preparedness. Students will be required to participate in collaborative activities and case studies. The course will culminate with the research of employment opportunities and production of a professional portfolio.

BUS-200 Leadership

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course involves examination of all aspects of leadership, including the foundations of individual and group behavior, supervision, motivating and rewarding employees, interpersonal skills and communication in a group environment, and an understanding of the work team and the dynamics of such a group. *Prerequisite(s):* BUS 150.

BUS-212 Principles of Project Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course introduces students to project management principles and strategies commonly used in project management situations in various industries. Students will apply globally accepted concepts and methods from the Project Management Body of Knowledge (PMBOK) to a project from conception to closure. Highlighting key management techniques and business models, this course will guide students through the organization, integration, scope, scheduling, cost, quality control, human resources, communications, risk management and contingency planning involved in project management. Other topics will include the project manager, the project team and the project life cycle. Standard project management software will be used to plan and control a project. *Prerequisite(s):* BUS 110, CIS 101.

BUS-245 Entrepreneurship

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will enable the student to recognize characteristics of a successful entrepreneur, and identify entrepreneurial opportunities and challenges. Students will assess the strengths and weaknesses of a business concept; collect, analyze, and organize market research data into a marketing plan; and prepare financial projections for a business concept. Students will write a formal business plan. They will identify legal issues related to entrepreneurship, and identify sources of capital. Students will examine strategies for growth, success and risks associated with entrepreneurship. *Prerequisite(s):* BUS 110.

BUS-255 Desktop Publishing

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Instruction includes introduction to desktop publishing terms and concepts and the step-by-step procedures to implement the concepts. *Prerequisite(s):* BUS 101.

BUS-260 Business Strategy

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students will analyze and evaluate business models and concepts. In the process of doing so, students will assess the strengths and weaknesses of a business concept; collect, analyze and organize market research data into a marketing plan; and prepare the financial projections for a business concept. As the capstone course for the Business and Marketing program, this course will refresh and enhance the

students' strengths introduced in required program-specific business courses. *Prerequisite(s)*: BUS 110 and BUS 130; *Corequisite(s)*: Pre or corequisites: BUS 140 and BUS 150.

BUS-265 Certification Review and Skillbuilding

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier I

This capstone course is to be taken during the last semester of a student's associate's degree. Students work independently with minimal instructor supervision to review and reinforce competencies learned in previous BUS courses. This course helps prepare students for administrative professionals' certifications and exams, such as the Office Proficiencies and Competencies (OPAC) tests. Students also continue to develop and improve their keyboarding skills. *Prerequisite(s)*: BUS 101, BUS 105, BUS 112, BUS 135, BUS 155, BUS 165, BUS 185, ACC 120.

BUS-275 Office Simulations

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course incorporates project-based business and office applications that reinforce the full range of knowledge, skills and techniques learned in previous courses throughout the Business Technology program. These projects will include assignments involving the planning and preparation of documents from different areas within the workforce. *Prerequisite(s)*: BUS 101, BUS 112, BUS 135, BUS 165, BUS 185.

BUS-290 Co-Operative Ed/Intern/Related Elective

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier I

This course involves supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. *Prerequisite(s)*: Completion of 30 credit hours and 2.0 GPA or advisor's approval. Please see the department chair of the specific program area for application.

College & Careers

CAC-101 Strengths in Careers & Beyond

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This interactive course offers students the opportunity to discover, develop, and apply their talents to college success, relationships, and career fulfillment.

Computer Information Science

CIS-100 Basic Computer Literacy

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This is a hands-on course designed for the beginner or new user who wants to learn the essentials of how to use a personal computer. Course topics include: an introduction to computer hardware, keyboarding, purchasing and maintaining a computer, computer security and the Internet, online learning environments, file management, search engines, and email. You will also be introduced to word processing, spreadsheet, and presentation software.

CIS-101 Technology & Digital Literacy

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an overview of digital literacy topics such as computer hardware, software, programming, security, safety, and information systems. This is a "hands-on" class learning to use the most common computer software programs and information resources facilities. This course provides a look at the structure and components of computers, their operating systems, and an introduction to various applications with emphasis on word processing, spreadsheet applications, presentation software, and Internet usage. *Prerequisite(s):* Keyboarding skill of 25 WPM or BUS 101 or CIS 100 recommended.

CIS-120 Introduction to Computer Programming

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course teaches introductory skills in computer programming using a high-level computer programming language. There is an emphasis on both the principles and practice of computer programming topics such as basic principles, object-oriented programming, algorithms, and software development methods. Emphasis in both synthesis and analysis of computer programs. *Prerequisite(s):* CIS 101 or CIS 200 or concurrent enrollment.

CIS-125 Intro to Computer Game Develop

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course provides an introduction to computer game development for those seeking a career in this industry. Technologies commonly employed in developing interactive software will be examined, including software, hardware and middleware such as class libraries and engines. Game design modes and genres will be explored, as well as other applications and markets for this medium. Issues surrounding the computer game business will be explored, including personnel, philosophical and production issues, ethical concerns and influences of games and other interactive media on society.

CIS-130 Web Site Development I

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course entails development of web sites using modern technologies. Students will learn to develop web sites using the latest HTML standards, to employ cascading style sheets (CSS), and to use web scripting languages. Provides extensive hands-on experience of an introductory nature.

CIS-131 Web Site Development II

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

Note: Course only offered in the fall semester. This course covers the advanced features of Web Development, which brings interactivity and personalization to Web pages. Subjects explored include advanced HTML, using forms to gather information, JavaScript, and current frameworks. *Prerequisite(s):* Grade of "C" or better in CIS 120 and a grade of "C" or better in CIS 130.

CIS-150 C# Programming I

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Note: Course only offered in the spring semester. This course is an introduction to structured, event-driven and object-oriented programming using the C# language. Students will learn to design programs that solve common business problems using good programming style appropriate in a team environment. Students will also learn to use a variety of visual components to create effective user interfaces targeting the Windows operating system. *Prerequisite(s):* Grade of "C" or better in CIS 120.

CIS-151 C# Programming II

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Note: Course only offered in the fall semester. This course is a continuation of CIS-150 C# Programming I. After a quick review, the student is introduced to advanced programming concepts such as data abstraction,

classes, maintaining relational data, the use of additional visual components and other techniques commonly employed in advanced, commercial, multi-tiered applications. Other topics such as programming for the Internet, targeting hand-held devices, and using graphics to enhance an application's visual appeal may also be explored. *Prerequisite(s)*: Grade of "C" or better in CIS 150.

CIS-170 Java Programming I

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

Note: Course only offered in the fall semester. This course is an introduction to object oriented programming using Java. Topics covered are: control structures, classes, objects, encapsulation, polymorphism, run-time type identification, messages, methods, and arrays. *Prerequisite(s)*: Grade of "C" or better in CIS 120.

CIS-171 Java Programming II

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

Note: Course only offered in the spring semester. This course is a continuation of CIS-170 Java Programming I. After a review, the student is introduced to intermediate programming concepts essential for students seeking a career in software development. Topics include: graphical user interface (GUI) components, lists, queues, trees, other data structures and the Collections API. *Prerequisite(s)*: Grade of "C" or better in CIS 170.

CIS-201 Computer Apps for Business

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides a "hands-on" use of electronic spreadsheets and database application software. Students will design, test, and debug spreadsheet applications and implement databases. This course will demonstrate why spreadsheets and databases are valuable when making business decisions and provide an overview of how to solve problems in these applications. Upon successful completion of the course, students will have the knowledge and skills to determine how to use spreadsheets and databases effectively in further college courses and a business environment. *Prerequisite(s)*: CIS 101

CIS-220 Game Development

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course provides students the opportunity to demonstrate mastery of advanced skills, including mathematics, algorithms, object-oriented programming, software design patterns and graphics as students develop features common to modern computer games. Various technologies and platforms are

explored, giving students exposure to what it takes to develop computer games. *Prerequisite(s)*: CIS 125 or concurrent enrollment, and grade of "C" or better in CIS 150 or CIS 170.

CIS-230 Systems Analysis & Design

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Note: Course only offered in the spring semester. In this course, students will use systems design and database to provide enterprise-wide business, organizational and managerial solutions. *Prerequisite(s)*: Grade of "C" or better in CSC 140 or CIS 150 or CIS 170 or concurrent enrollment.

CIS-235 Intro to Cloud Computing

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

Note: Course only offered in the fall semester. This course provides the concepts and skills necessary to use different cloud-computing resources in an application development setting. Topics include the benefits of different cloud service models, learning how to use services provided by major public cloud providers and best practices when working with application cloud services. *Prerequisite(s)*: Grade of "C" or better in CIS 150. OR Grade of "C" or better in CIS 170 OR Grade of "C" or better in CSC 140 .

CIS-239 PHP Programming

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Note: Course only offered in the spring semester. Upon successful completion of this course, students will have hands-on experience with PHP syntax and constructs and know how to integrate HTML and PHP code to manage and process data. This course is recommended for Web developers, designers, and programmers who want to learn PHP fundamentals and create interactive and dynamic Web pages.

Prerequisite(s): Grade of "C" or better in CIS 130.

CIS-240 Mobile App Development

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course is an introduction to mobile application development, including market opportunities, challenges, and architectural models. Course covers an overview and comparison of technical approaches by Apple (iOS), Google (Android) and Microsoft. Course topics will include design and creation of basic and advanced applications, use of an integrated development environment, performance and security issues, and application packaging and distribution mechanisms. Students will

become familiar with the end-to-end process to install, develop, test, and distribute mobile applications.

Prerequisite(s): Grade of "C" or better in CIS 150, or CIS 170, or CSC 140.

CIS-250 Database and Query

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Note: Course only offered in the fall semester. This is an introductory course that provides database theory with an emphasis on relational database management. Hands-on Structured Query Language (SQL) database programming is included. The course also covers design, normalization, implementation and query of a relational database and uses an enterprise level database management system. *Prerequisite(s):* Grade of "C" or better in CSC 140 or CIS 150 or CIS 170.

CIS-260 Software Engineering Project

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course is intended to develop the student's programming knowledge and skills in an applied environment. Students will work as individuals and in teams to implement a real-world equivalent system, perhaps converting legacy code to current technology standards or designing a new product from scratch. Students will develop designs, generate test procedures, and build a multitiered, clientserver application capable of being utilized from a variety of platforms. Students will also learn project management and scheduling skills and that will be used to manage project phases and keep teams on task. Students must earn a grade of C or better in this course to meet graduation requirements. *Prerequisite(s):* Grade of "C" or better in CIS 250 and a grade of "C" or better in either CIS 151 or CIS 171.

CIS-290 Co-Operative Ed/Intern/Related Elective

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides supervised work experience in the major field, which provides the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. Please see the department chair of specific program area for application. *Prerequisite(s):* Completion of 30 credit hours and 2.0 GPA or advisor's approval.

Computer Science

CSC-140 C++ Programming

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier I

This course is an introduction to scientific and engineering computer programming using C . Topics included are control structures, data types, functions, classes, pointers and software development tools.

Prerequisite(s): Grade of "C" or better in CIS 120 or MTH 130.

CSC-210 Data Structures

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier I

This course will instruct students in the design and use of common data structures, lists, stacks, queues, trees, tables, hash tables, and graphs. Common data structure algorithms will be explored, including sorting, searching, and reorganizing data, with attention paid toward trade-offs between space and efficiency. Students will implement many of these data structures in an object oriented programming language and complete programming projects utilizing them. *Prerequisite(s):* Grade of "C" or better in CSC 140 or CIS 150 or CIS 170.

Chemistry

CHM-101 Introductory Chemistry

MOTR Equivalent: MOTR CHEM 100L Essentials in Chemistry with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This is an introductory course designed to study basic chemical principles. Topics include atomic structure, measurement, bonding, properties of gases, acids and bases, solutions, organic nomenclature, functional groups, carbohydrates, lipids, proteins, and nucleic acids. Laboratory activities give students the opportunity to demonstrate chemical principles presented in lecture.

CHM-160 General Chemistry I

MOTR Equivalent: MOTR CHEM 150 Chemistry I

Credits: 4

Contact Hours: Lec 4 Lab No Practicum 0

Tier Rate: Tier I

This course is a study of the fundamental laws and theories of chemical structures and reactions. Topics include: atomic theory, stoichiometry, aqueous reactions, properties of gases, liquids, and solids, periodicity, bonding, thermodynamics, and properties of solutions. This course is recommended for all those majoring in Science as well as Chemistry majors and minors. *Prerequisite(s):* Grade of "C" or better in MTH 110 or higher, or satisfactory score on the ACT.

CHM-161 General Chemistry I Lab

MOTR Equivalent: MOTR CHEM 150L Chemistry with Lab (if completed with CHM 160)

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

The lab emphasizes proper laboratory technique, synthesis, physical studies, qualitative and quantitative analysis, and data manipulation and statistical analysis. This course is recommended for all those majoring in Science as well as Chemistry majors and minors. *Prerequisite(s):* Grade of "C" or better in MTH 110 or higher, or satisfactory score on the ACT.

CHM-170 General Chemistry II

Credits: 4

Contact Hours: Lec 4

Tier Rate: Tier I

This science majors course will include topics such as kinetics, chemical equilibrium, acid-base equilibrium, solubility equilibrium, complex ion formation, acid-base theory, thermodynamics, and electrochemistry *Prerequisite(s):* Grade of "C" or better in CHM 160.

CHM-171 General Chemistry II Lab

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This science majors course will include topics such as kinetics, chemical equilibrium, acid-base equilibrium, solubility equilibrium, complex ion formation, acid-base theory, thermodynamics, and electrochemistry *Prerequisite(s):* Grade of "C" or better in CHM 160.

CHM-200 Survey of Organic Chemistry

Credits: 5

Contact Hours: Lec 4 Lab 3

Tier Rate: Tier I

The course is a study of the principles of organic chemistry and biochemistry. At the conclusion of this course, students will demonstrate an understanding of organic nomenclature, molecular structure and bonding, physical and chemical characteristics of organic functional groups, organic reactions and mechanistic principles, organic lab techniques and safety, and elementary biochemistry. *Prerequisite(s):* Grade of "C" or better in CHM 101 or CHM 160 and CHM 161.

CHM-225 Environmental Chemistry

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Students in this course study the sources, reactions, transport and fate of chemical entities in the air, water and soil environment as well as their effects on human health. Topics of interest include: environmental chemistry of water pollution, water treatment, geochemistry, atmospheric chemistry, air pollution, hazardous materials, resources. The lab component consists of field activities, experiments and demonstrations to reinforce the concepts and ideas presented in lecture. *Prerequisite(s)*: Grade of "C" or better in CHM 101 or CHM 160 and CHM 161.

CHM-242 Organic Chemistry I

Credits: 5

Contact Hours: Lec 4 Lab 3

Tier Rate: Tier I

A lecture/lab course that studies the chemistry of carbon compounds from a functional group perspective. Emphasis is placed on reaction mechanisms and synthetic application in lecture while analytical and synthetic techniques will be emphasized in lab. *Prerequisite(s)*: Grade of "C" or better in CHM 170 and CHM 171.

CHM-243 Organic Chemistry II

Credits: 5

Contact Hours: Lec 4 Lab 3

Tier Rate: Tier I

This course will further develop knowledge of organic chemistry with a greater emphasis on functional group reactivity, mechanisms, and multistep synthetic sequences. The topics include: aromatic compounds, including phenols and aryl halides as well as a thorough discussion of delocalized chemical bonding; aldehydes and ketones; amines; carboxylic acids and their derivatives. There will be enhanced requirements for naming compounds, elucidating structures via spectroscopy and actual synthesis in the lab. *Prerequisite(s)*: Grade of "C" or better in CHM 242

CHM-250 Intro Quantitative Analysis

Credits: 5

Contact Hours: Lec 3 Lab 4

Tier Rate: Tier I

The lectures in this course present the theory of analysis performed in the laboratory. Laboratory includes gravimetric analysis, volumetric analysis, chromatography, colorimetry, spectroscopy, complexometric and ion-exchange analysis as they apply to chemical analysis. This course is heavily weighted on the laboratory skills of the student. *Prerequisite(s)*: Grade of "C" or better in CHM 170 and CHM 171

Chinese

CHN-101 Beginning Chinese

MOTR Equivalent: MOTR LANG 105 Foreign Language I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an introductory course in Mandarin Chinese (Putonghua) designed for students who have little or no prior exposure to Chinese language. The emphasis of this course is on the four basic language skills: listening, speaking, reading, and writing using both Pinyin phonetic system and simplified Chinese characters. The course will focus on correct pronunciation, accurate tones, and grammatical structures. Content appropriate Chinese social and cultural background and history will be presented in order to promote an understanding of Chinese language and its culture.

Communication

COM-100 Introduction to Communication

MOTR Equivalent: MOTR COMM 100 Introduction to Communications

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to the study of communication, including interpersonal communication, small group dynamics, and public speaking.

COM-105 Public Speaking

MOTR Equivalent: MOTR COMM 110 Fundamentals of Public Speaking

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an introductory course in research, composition, delivery, and evaluation of speeches for a variety of purposes and occasions. Students develop skills in critical listening and analysis through small group and individual activities.

COM-150 Intro Mass Communication

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

The media are everywhere, and they affect almost every aspect of our lives, including our knowledge of the world around us: the decisions we make as consumers and the values we embrace. Print and electronic media are covered in this course. *Prerequisite(s):* COM 100 or COM 105.

COM-200 Interpersonal Communication

MOTR Equivalent: MOTR COMM 120 Interpersonal Communication

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is designed as an introduction to the theory and practice of interpersonal communication. Students learn how to become both effective and appropriate communicators in a variety of contexts. Students also develop good listening and responding skills, conflict management strategies, sensitivity to language and an understanding of cultural and gender differences. *Prerequisite(s):* Grade of "C" or better in ENG 101.

COM-225 Organizational Communication

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an in-depth study and application of effective communication practices within the workplace or any other organization. Students learn to improve infrastructural communication, while developing the skills required to lead, manage, and maintain positive and effective information flow within organizations. *Prerequisite(s):* COM 100 or COM 105.

COM-290 Co-Operative Ed/Internship

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier I

This course provides supervised work experience in the major discipline, providing the student with the opportunity to make practical application of the skills and knowledge attained. An individual application and instructional management plan will determine goals. *Prerequisite(s):* Completion of 30 credit hours or more and permission of department chair.

Criminology

CRM-210 Introduction to Criminal Justice

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an introductory course in the philosophical and historical background of the American criminal justice system and its primary components: law enforcement, courts, and corrections. Students examine the origins of crime and the organization, purpose, and functions of law enforcement and other agencies involved in the administration of criminal justice.

CRM-230 Introduction to Criminology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an overview of criminological theories in order to classify and analyze different crime trends and patterns. Topics include the nature of criminology, criminological methods, crime causation, and the characteristics of types of crimes and offenders.

CRM-250 Policing in America

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course focuses on the structure, role and function of policing within the community and the American Society. Types of policing and police-community relations are explored. Students focus on developing communication skills, working with special populations, conflict management, utilizing technology and the importance of professionalism as a criminal justice practitioner.

CRM-260 Criminal Law and the Courts

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course examines the nature and development of criminal law along with the principles, processes, and structures found in adult criminal courts. Courtroom participants and their roles as well as contemporary criminological issues involving the courts are also examined.

CRM-270 Institutional and Community Based Corrections

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course presents an overview of justice and corrections. The course will explore the rationale and effectiveness of punishment, deterrence, restorative justice and corrections as well as the history and evolution of incarceration and community-based sanctions in America.

Construction Technology

CST-105 Intro Construction Technology

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course provides students skills necessary for achieving success within the construction industry. Topics of study includes: Basic safety, construction math, introduction to hand tools, introduction to

power tools, basic rigging, and communication and employability skills. This course is the gateway course into the Construction Technology program.

CST-115 Printreading for Construction

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Students will learn to read, understand, interpret and apply information from a construction blueprint. A study of construction materials and practices as applied to the reading of blueprints, as well as a study of technical sketching, is included. This course is geared around the reading and interpretation of residential blueprints with transference to commercial construction.

CST-135 Construction Carpentry I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course introduces students to carpentry skills necessary to frame residential floor, wall, and ceiling components.

CST-140 Cabinetmaking and Millwork I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course provides a study of materials, tools, and equipment, processes, and joinery as an introduction to the woodworking/cabinetmaking industry. Lab exercises include safe equipment/tool use, joinery techniques and a woodworking project.

CST-150 Concrete and Forms

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course is designed to provide background and related information about concrete and forms including setting and leveling. Extensive use of form layout, form cutting, form construction and form erecting will be required.

CST-170 Masonry I

Credits: 4

Contact Hours: Lec 2 Lab Yes Practicum 0

Tier Rate: Tier II

This course provides a study of masonry units and shapes and masonry tools, terminology, and

equipment. Blueprint reading and estimating materials and labor will be covered. Techniques for laying of walls, floors and leads will be practiced in lab.

CST-210 Interior Finishes

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course is designed to provide background and related information about a variety of commercial interior applications related to the field of commercial carpentry. Topics include; drywall, suspended ceilings, metal studs, patented wall coverings, cabinet and fixture installation, metal door installation and other commercial hardware. Extensive laboratory experiences provide the student with practical applications associated with the topics.

CST-235 Construction Carpentry II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course is designed to provide technical information, math skills and practical experience necessary to layout, cut and construct roof rafters including common, hip and valley rafters. Straight and landing stairs are also included. *Prerequisite(s):* CST 135.

CST-239 Construction Trim Carpentry

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course provides a wide variety of projects and technical information that will provide students knowledge and experience in installing interior trim, doors, and hardware.

CST-240 Cabinetmaking and Millwork II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course provides a study of materials, tools and equipment, processes, joinery, face frame/frameless design, counter tops and production techniques as applied to the cabinet industry. Lab exercises include joinery techniques and cabinet construction. *Prerequisite(s):* CST 140.

CST-245 Green Construction Practices

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

The purpose of this course is to give students an understanding into the meaning of green construction. The course enables them to identify the vocabulary used in the green movement, with an emphasis in design practices, sustainable building materials, green building techniques, energy efficient best practices, sighting and orientation, water and energy systems, landscapes and the natural resources available. The course is designed for those interested in sustainable building practices, and/or those who recognize the importance of sustainable design practices in their daily lives.

CST-250 Exterior Finishes

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course is designed to provide background and related information about a variety of exterior finishes such as roofing components, wall coverings including wood siding, vinyl siding, EIFS, windows, doors, soffits, fascia and hardware. Extensive laboratory experiences provide the student with practical applications related to the subject.

CST-265 Construction Technology Capstone

Credits: 4

Contact Hours: Lab 8

Tier Rate: Tier II

Note: Course only offered in the spring semester. This comprehensive course will be used to evaluate the student's knowledge and skills in CST using concepts and skills learned from previous CST courses. A Grade of "C" or better will be required to complete the CST degree program. *Prerequisite(s):* CST 239, CST 140, CST 235, CST 260, CST 290 or concurrent enrollment in CST 290, and a minimum of 45 credit hours completed.

CST-270 Masonry II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Through classroom and laboratory experiences, students will study leads, cavity, composite and reinforced block and brick walls and structures. Setting doors and window frames, floor tile, as well as types and use of scaffolding will be included. *Prerequisite(s):* CST 170.

CST-275 Masonry III

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Emphasis will be placed on specialty masonry units such as fireplaces and chimneys, cornices, arches, quoins, tile and stone. In addition to classroom sessions, students will attain measurable skill levels in laboratory settings. *Prerequisite(s):* CST 170.

CST-280 Fundamentals of Crew Leadership

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

Today's leaders face a complex and challenging workforce, and having a capable leader is essential to the success of any team. This course introduces the trainee to the principles of leadership. Trainees will learn about: the construction industry today, business organizations, team building, gender and minority issues, communication, motivation problem solving, decision making, safety, and project control.

Prerequisite(s): Grade of "C" or better in CST 235.

CST-281 Project Supervisor

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

Project Supervision is a comprehensive, competency-based program that gives both veteran and new field managers a step-by-step approach to honing their natural abilities, developing essential skills, and generally improving their performance as leaders. As a one-level curriculum, Project Supervision covers topics such as Human Relations and Problem Solving, Safety, and Quality Control.

CST-290 Co-Operative Ed/Intern/Related Elective

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier II

This course provides a supervised work experience in the major field giving the student opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required.

Prerequisite(s): Completion of 30 credit hours and 2.0 GPA or advisor's approval. Please see the Department Chair of the specific program area for application.

Culinary Arts

CUL-040 Culinary Skills I

Credits: 4

Contact Hours: Lec 2 Lab 4

This course is designed to provide students with hands-on learning activities in the area of culinary arts and hospitality. Students will develop a foundation of knowledge in which to apply to further education and/or employment opportunities. A key focus of the course is to build transferable skills needed as a successful foundation in future career employment.

CUL-050 Culinary Skills II

Credits: 2

Contact Hours: Lec 0 Lab 4

This course is the companion course to Culinary Skills I and is designed to provide students with hands-on learning activities in the area of culinary arts and hospitality. Students will develop a foundation of knowledge in which to apply to further education and/or employment opportunities. A key focus of the course is to build transferable skills needed as a successful foundation in future career employment.

CUL-100 Culinary Fundamentals

Credits: 3

Contact Hours: Lec 1 Lab 4

Tier Rate: Tier II

This course will provide the students with the knowledge of various safety and sanitation practices in the food-service and hospitality industries. This course will also teach students basic skills in the kitchen as well as introducing them to the basics of cooking, baking and nutrition. This course will also offer the students a brief look at everything that goes into owning and operating a foodservice facility.

CUL-101 Food Preparation & Theory

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

Students will learn classical and contemporary cooking techniques, preparation of nutritionally balanced meals and proper plate presentation. Students will gain an understanding of industry standards in safety and sanitation, standard recipes and measurements, operation of food service equipment and application of basic math skills in the determination of cost factors and menu pricing. The lab portion of the course will focus on the application of principles taught in lecture. This course will prepare students for entry level job skills and is a prerequisite for the next series of courses in the program. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. Grade of "C" or higher is required for this course for advancement into upper level courses.

CUL-102 Meat Fabrication

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

This course will expand on the cooking techniques learned in CUL 101 Food Preparation & Theory through fabrication, identification and purchasing of proteins they will use in the industry. In this class, the student will have an opportunity to observe the fabrication of whole meats, seafood and poultry and apply it to cooking and plating techniques at a more advanced level. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pound. *Prerequisite(s):* HSM 115 or concurrent enrollment and grade of "C" or better in CUL 101.

CUL-103 Garde Manger

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

Garde Manger is the art of the cold kitchen. A Garde Manger Chef is considered to be the "keeper of the food" or pantry supervisor, referring to the task of preparing and presenting cold foods. Students will learn to use products from all areas of the kitchen to make a modern menu profitable and sustainable. This course will develop skills in producing a variety of cold foods products including salads, hors d'oeuvres, cold soups and charcuterie; as well as creating decorative elements for buffet presentation. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s):* HSM 115 or concurrent enrollment and grade of "C" or better in CUL 101.

CUL-105 Soups and Sauces

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier II

This course expands on the use of contemporary sauces and soups in the culinary industry. Students will learn new techniques in soups, sauces and gastriques taking classical sauces and making them modern using alternative starches, techniques and healthier thickeners. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s):* CUL 101 or concurrent enrollment.

CUL-121 Introduction to Baking

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

This course is an introduction of the student to the ingredients, procedures and processes of basic baking. Course includes concepts in formulas and the chemical reactions of basic doughs, cakes and batters. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. Grade of "C" or higher is required for this course for advancement into upper level courses.

CUL-130 European Pastries

Credits: 3

Contact Hours: Lec 1 Practicum 0

Tier Rate: Tier II

This course involves the study and practice of the fine culinary arts European and classical dessert preparation as well as sugar and chocolate decorating techniques, including stenciling, piping, marzipan and pastillage. Please note: Students participating in lab courses should be prepared to stand for long

periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s)*: HSM 115 or concurrent enrollment and grade of "C" or better in CUL 121.

CUL-150 Specialty Breads

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

This course is the study and practice of the culinary art of quick bread and yeast bread techniques, including biscuit, scones, muffins, miscellaneous quick breads, as well as basic yeast bread, artisan bread and sourdough bread production. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds.

Prerequisite(s): CUL 121 or concurrent enrollment.

CUL-160 Cake Decorating

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

Cake decorating is one of the sugar arts that uses icing or frosting and other edible decorative elements to make cakes and showpieces. Decorated cakes are often a focal point of special celebrations including: birthdays, graduations, bridal showers, weddings and anniversary. This course will cover skills needed to produce decorated cakes for use in commercial operations as decorative centerpieces and for retail sales. Topics covered will include: various frosting and their application, use of borders and flowers as decorative elements, construction of multi-tiered cakes and pricing strategies based on product cost. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s)*: HSM 115 or concurrent enrollment and grade of "C" or better in CUL 121.

CUL-170 Chocolate & Sugars

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

This course introduces students to the art of working with chocolate and sugar. Topics include tempering, cutting shapes, transfer sheets, display pieces, candies and sugar doughs. Students will be exposed to the idea of sugar as an art with techniques in poured, pulled and spun sugar. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s)*: HSM 115 or concurrent enrollment and grade of "C" or better in CUL 121.

CUL-180 Plated Dessert Presentation

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier II

This class focuses on the elements of modern dessert composition. It stresses a complete understanding and creation of all components of plated dessert production, using the basic patisserie principles. This class will help prepare students by giving them the basic skills needed to compose and present desserts in a restaurant, club, hotel or resort setting. Students will gain knowledge of techniques and equipment needed to produce desserts, sauces and garnishes and to use these components to create finished plated desserts that are both delicious and visually striking. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s):* HSM 115 or concurrent enrollment and grade of "C" or better in CUL 121.

CUL-201 Contemporary Cuisine

Credits: 8

Contact Hours: Lec 3 Lab 10 Practicum 0

Tier Rate: Tier II

This course provides the advanced cul culinary arts student instruction and practice in the actual back of the house operation of a working restaurant. Students will research and design menus, determine purchasing needs for menu production, and prepare food to proper safety and sanitation standards utilizing accepted classical and contemporary techniques. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s):* HSM 125 and grade of "C" or better in CUL 102, CUL 103, CUL 121, HSM 115.

CUL-203 World Cuisine

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier II

This course exposes the student to different ethnic cuisines by linking the past and its people with the different regions from around the world. Study of the unique ingredients used in the traditional foods and preparations will be discussed and used in lab applications. Students will apply knowledge and techniques learned to present restaurant quality dishes from each cuisine using standardized recipes with a contemporary flair. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds.

Prerequisite(s): CUL 102, CUL 103, and grade of "C" or better in HSM 115.

Dental Assisting

DAS-101 Chairside Assisting I

Credits: 4

Contact Hours: Lec 2 Practicum 6

Tier Rate: Tier III

This course focuses on the introduction to the business of dentistry, the ethics and law of dentistry, and the professionalism and duties of a chair-side dental assistant. *Prerequisite(s):* Admission to the Dental Assisting program.

DAS-102 Infection Control

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier III

This course introduces the infection and hazard control procedures necessary for the safe practice of dentistry. It will include an overview of microbiology, OSHA standards, chemical disinfecting and sterilizing techniques. *Prerequisite(s):* Admission to the Dental Assisting program.

DAS-103 Chairside Assisting II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course focuses on the continual studies of chair-side dentistry that includes specialized area of dentistry. It will provide a level of knowledge and skill that will prepare the dental assistant for clinical dentistry. *Prerequisite(s):* Grade of "C" or better in all of the previous Dental Assisting courses.

DAS-105 The Dental Professional

Credits: 2

Contact Hours: Lec 2 Lab No Practicum 0

Tier Rate: Tier III

This course focuses on the student to professionally communicate with patients, colleagues, and the community. Through role playing, community service, and career preparation, the student will learn the importance of verbal and nonverbal communication skills applicable to the dental field. *Prerequisite(s):* Grade of "C" or better in DAS 101 DAS 102 DAS 114 DAS 115 DAS 120 DAS 130.

DAS-114 Operative Dentistry

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier III

This course introduces basic knowledge and skill application for general chair-side assisting procedures. Emphasis is placed on the application and procedures of four-handed dentistry and clinical support functions. Upon completion, students should be able to utilize theory and clinical skills in a dental setting. *Prerequisite(s):* Admission to the Dental Assisting program.

DAS-115 Dental Science and Health

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course offers the following topics related to dental science and health: dentition, head and neck anatomy, tooth morphology, oral embryology and histology, nutrition, oral pathology, and pharmacology. *Prerequisite(s):* Admission to the Dental Assisting program.

DAS-120 Dental Materials I

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course provides a study of the science of dental materials, their composition, structures and properties; uses in dentistry, and manipulation techniques. Emphasis is on safety procedures during manipulations of materials and use of equipment. *Prerequisite(s):* Admission to the Dental Assisting program.

DAS-123 Dental Materials II

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course focuses on the study of the Missouri Expanded Functions and the practice with, manipulation of, and evaluation of material used in the specialized areas of dentistry. *Prerequisite(s):* Grade of "C" or better in DAS 101 DAS 102 DAS 114 DAS 115 DAS 120 DAS 130.

DAS-130 Dental Radiology I

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course is an introduction to radiographic procedures, theory of producing radiographs, biological effects and safety procedures; practice of techniques is mastered on typodonts before exposures are made on patients. Diagnostic quality with maximum radiation protection is of special emphasis.

Prerequisite(s): Admission to the Dental Assisting or Dental Hygiene program.

DAS-132 Dental Radiology II

Credits: 2

Contact Hours: Lec 1 Lab No Practicum 0

Tier Rate: Tier III

This course provides continued instruction of radiographic procedures which builds upon concepts introduced in Dental Radiology I. *Prerequisite(s):* Grade of "C" or better in DAS 130.

DAS-134 Dental Assisting Clinic

Credits: 2

Contact Hours: Lec 0 Lab No Practicum 6

Tier Rate: Tier III

This course is designed to apply the concepts of dental imaging, preventive dental procedures and patient care management in a clinical setting. *Prerequisite(s):* Grade of "C" or better in DAS 132.

DAS-150 Dental Office Procedures

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course provides a study of principles and procedures related to management of the dental practice. Emphasis is placed on maintaining clinical and financial records, client scheduling, and supply and inventory control. Upon completion, students should be able to demonstrate fundamental skills in dental practice management. *Prerequisite(s):* Grade of "C" or better in DAS 101 DAS 102 DAS 115 DAS 120 DAS 130.

DAS-191 Dental Clinic Practicum I

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier III

This clinical course enables the dental assistant student to apply basic chair-side skills in dental offices prior to advancing to DAS 192. *Prerequisite(s):* Grade of "C" or better in all of the previous Dental Assisting courses.

DAS-192 Dental Clinic Practicum II

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier III

This clinical course enable the dental assistant student to apply advanced chair-side skills in dental specialties offices: Endodontics, Prosthodontics, Oral Surgery, Orthodontics, and Pedodontics.

Prerequisite(s): Grade of "C" or better in all of the previous Dental Assisting courses.

Drafting and Design Technology

DDT-100 Fundamentals of Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Mechanical drafting is the graphic language used by engineers and technicians in high technical manufacturing environments. The basic drafting skills and knowledge necessary to communicate graphically are investigated through lecture and lab opportunities using a 2D computer aided drafting system (CAD).

DDT-110 Mechanical Demn & Tolerancing

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course focuses on the interpretation and application of American National Standards Institute (ANSI) and American Society of Mechanical Engineers (ASME) Y14.5M current drafting standards and rules for dimensioning and tolerancing mechanical prints utilizing a computer aided drafting system.

Prerequisite(s): Recommend concurrent enrollment in DDT 100 for all DDT majors.

DDT-115 Manufacturing Processes and Materials

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier II

This lecture/lab course focuses on the study of mechanical, chemical, physical properties, and structure of engineering materials with heat treating of ferrous and nonferrous metals, and an investigation of the methods used to process these materials.

DDT-150 Descriptive Geometry & 2D CAD

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course offered in the spring semester. Intermediate Computer-Aided Drafting (CAD) skills are developed for graphic solutions of design problems with regard to spatial relationships using descriptive geometry to produce auxiliary, revolution, intersection and development drawings. *Prerequisite(s):* DDT 100.

DDT-160 Resident Architect Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course offered in the spring semester. Residential architecture will give the student an understanding of the basic concepts of construction and residential design. Students will produce a set of floor plans for a house. This course is based on space relationships required for the family uses of the structure, and explores basic design concepts, both for function and aesthetics. *Prerequisite(s):* DDT 100.

DDT-200 Production Design Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course offered in the fall semester. This lecture/lab course will provide students with the knowledge and skills in the use of current 3D computer aided design (CAD) systems with individual and group projects utilizing the design method, the engineering design cycle, and the access and application of standards and engineering data for the production of mechanical working drawings. *Prerequisite(s):* Grade of "C" or better in DDT 110 or EGR 100 or concurrent enrollment.

DDT-210 Structural Detail/Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Computer-Aided Drafting and design proficiency is increased through the design and detailing of structural steel projects of buildings and bridges for heavy construction industries. *Prerequisite(s):* DDT 100.

DDT-250 Machine Design Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course offered in the spring semester. This capstone course will simulate a real world mechanical design working environment, providing students with an opportunity to display acquired knowledge and skills. Students will apply the design method and produce working drawings that include detail, assembly, bill of material, specifications, and three dimensional (3D) models utilizing current 3D CAD solid-modeling software and 3D printer. *Prerequisite(s):* DDT 200.

DDT-260 Commercial Architect Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course offered in the spring semester. This course focuses on the study of the basics of architectural drafting on the (CAD) system, and how it applies to commercial buildings. Layout considerations and code requirements for commercial designs will be studied. *Prerequisite(s):* DDT 100.

DDT-270 Civil Engineering Drafting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course offered in the spring semester. This lecture/lab course introduces the drafting practices and standards utilized in civil engineering contract documents. A computer aided drafting (CAD) system is

used in the production of topographic mapping, site plan, grading, and road drawings. *Prerequisite(s)*: DDT 100.

DDT-290 Co-Operative Ed/Intern/Related Elective

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course entails a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained in coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. *Prerequisite(s)*: Completion of 30 credit hours and 2.0 GPA or advisor's approval. Please see the Department Chair of the specific program area for application.

Dental Hygiene

DHY-100 Foundations of Dental Hygiene

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is designed to prepare the dental hygiene student with the foundational knowledge, theory, and technical skills necessary to perform in subsequent clinical dental hygiene courses. Basic principles of patient assessments, periodontal examinations, dental indices, instrument design, function, and usage are taught to render safe and effective clinical dental hygiene treatment. *Prerequisite(s)*: Admission to the Dental Hygiene program.

DHY-101 Introduction to Dental Hygiene-Lab

Credits: 3

Contact Hours: Lec 0 Lab 6 Practicum 0

Tier Rate: Tier III

This course introduces the student to basic principles of dental hygiene care. Preclinical labs will include demonstration, and application on typodonts, manikins and lab partners. *Prerequisite(s)*: Admission to the Dental Hygiene program.

DHY-105 Orofacial Anatomy

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course is a detailed study of the morphology and functions of deciduous and permanent teeth, including the study of muscular and skeletal functions, blood supply, and nervous system in relationship to the oral cavity and general dentistry. *Prerequisite(s)*: Admission to the Dental Hygiene program.

DHY-110 Oral Histology and Embryology

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course will provide an understanding of how cells and tissues comprising the anatomical parts of the oral cavity develop and function. The course will also focus on the embryonic development of related facial and oral structures. *Prerequisite(s):* Admission to the Dental Hygiene program.

DHY-150 Dental Hygiene I

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is designed to further the knowledge of foundational dental hygiene care to include skill development, ethics, jurisprudence, professionalism, and risk management. *Prerequisite(s):* Grade of "C" or better in DHY 100, DHY 101, DHY 105, DHY 110.

DHY-152 Dental Hygiene I Pre-Clinic Lab

Credits: 2

Contact Hours: Lec 0 Lab 4 Practicum 0

Tier Rate: Tier III

This course is designed to apply the foundations of dental hygiene care with comprehensive patient care in a pre-clinical setting. Pre-clinic labs will include demonstrations, synchronous DVD presentations and applications involving typodonts, manikins and lab partners. *Prerequisite(s):* Grade of "C" or better in DHY 100, DHY 101, DHY 105, DHY 110.

DHY-153 Dental Hygiene I Clinic

Credits: 2

Contact Hours: Lec 0 Lab 0 Practicum 6

Tier Rate: Tier III

This course is designed to apply the concepts of comprehensive patient care in a clinical setting. *Prerequisite(s):* Grade of "C" or better in DHY 100, DHY 101, DHY 105, DHY 110.

DHY-155 Pharmacology Dental Hygiene

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course will provide general principles of pharmacology and use of pharmaceuticals with specific emphasis on those used in dentistry, including their physical and chemical properties, dosage and therapeutic effects. *Prerequisite(s):* Grade of "C" or better in DHY 100, DHY 101, DHY 105, DHY 110.

DHY-160 Introduction to Periodontology

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is the study of periodontal disease, etiologies, recognition of normal periodontium and deviations of normal, clinical assessment, treatment and prevention of disease progression.

Prerequisite(s): Grade of "C" or better in DHY 100, DHY 101, DHY 105, DHY 110.

DHY-200 Dental Hygiene II - Pain Mgt

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier III

This course is designed to further the student's knowledge of dental hygiene comprehensive patient care to include block/local anesthesia, nitrous oxide, pain management, and advanced techniques in nonsurgical periodontal therapy. *Prerequisite(s):* Grade of "C" or better in DHY 150, DHY 152, DHY 153, DHY 155, DHY 160.

DHY-201 Dental Hygiene II - Clinic

Credits: 2

Contact Hours: Lec 0 Lab 0 Practicum 6

Tier Rate: Tier III

This course is designed to apply the concepts of comprehensive patient care in a clinical setting with emphasis on administration of local anesthesia, pain management, and advanced techniques in nonsurgical periodontal therapy. *Prerequisite(s):* Grade of "C" or better in DHY 150, DHY 152, DHY 153, DHY 155, DHY 160.

DHY-205 Dental Hygiene III

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is designed to provide instruction in treatment planning, risk factors, and care of medically compromised patients in the dental hygiene process of care. *Prerequisite(s):* Grade of "C" or better in DHY 200, DHY 201

DHY-206 Dental Hygiene III - Clinic

Credits: 5

Contact Hours: Lec 0 Lab 0 Practicum 15

Tier Rate: Tier III

This course is designed to apply the concepts of comprehensive patient care in the clinical setting using advanced instrumentation and fulcruming. Emphasis will be placed on clinical treatment of medically

compromised patients and the dental hygiene process of care. *Prerequisite(s)*: Grade of "C" or better in DHY 200, DHY 201.

DHY-210 Oral Pathology

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

The course will include circulatory disturbances, inflammation and tumors. Also, the course will emphasize diseases affecting the oral cavity, dental caries, periodontal diseases, oral neoplasia and similar problems. *Prerequisite(s)*: Grade of "C" or better in DHY 200, DHY 201.

DHY-215 Community Dental Health

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course provides a study of the principles and methods used in assessing, diagnosing, planning, implementing and evaluating community dental health programs. Attitudes and behaviors necessary to promote dental disease prevention through organized community-based programs will also be discussed. Upon completing this course, students should be able to assess, diagnose, plan, implement, and evaluate a community dental health program. *Prerequisite(s)*: Grade of "C" or better in DHY 200, DHY 201.

DHY-250 Dental Hygiene IV

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is designed to enable the student to apply all previously acquired dental hygiene knowledge towards analyzing patient case studies, the business of dentistry, and career planning. *Prerequisite(s)*: Grade of "C" or better in DHY 205, DHY 206, DHY 210, DHY 215.

DHY-251 Dental Hygiene IV - Clinic

Credits: 5

Contact Hours: Lec 0 Lab 0 Practicum 15

Tier Rate: Tier III

This course is designed for the application of knowledge of the comprehensive patient care process into a clinical setting. *Prerequisite(s)*: Grade of "C" or better in DHY 205, DHY 206, DHY 210, DHY 215.

Diesel Technology

DSL-105 Diesel Engine Repair

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides instruction in the operation and repair of diesel engines, including basic fuel systems, cooling systems, lubrication, air intake and controls related to the Automotive Service Excellence (ASE) area of Diesel Engine Repair. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

DSL-112 Diesel Brakes

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course develops occupational competencies needed for the operation, repair, troubleshooting and diagnostics of diesel brakes.

DSL-115 Diesel Preventive Maintenance

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course develops occupational skills needed to provide preventative maintenance on diesel engines, trucks, and trailers related to the Automotive Service Excellence (ASE) requirements for diesel preventive maintenance. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF). The instruction will include classroom demonstration and laboratory exercises.

DSL-150 Principles of Remanufacturing

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course provides a broad overview of the remanufacturing industry and remanufacturing processes. Topics covered include: the advantages of remanufacturing, remanufacturing process, core management, inspection and cleaning techniques, additive and subtractive methods, mass production systems, and machining system basics.

DSL-171 Electrical I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course develops each student's occupational competencies needed to perform preventive maintenance and repair methods required of an entry level technician in the automotive and diesel fields. The instruction will include classroom demonstration and practical

exercises related to the Automotive Service Excellence (ASE) area of Electrical Systems. This program is ASE accredited by the National Automotive Technicians Educational Foundation (NATEF).

DSL-175 Electrical II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course develops each student's competencies needed for the operation and repair of truck electrical systems. The instruction will include classroom demonstrations and practical exercises.

Prerequisite(s): DSL 171.

DSL-185 Heating and Air Conditioning

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course develops each student's occupational competencies needed to perform preventive maintenance and repair methods required of an entry level technician. The instruction will include classroom, demonstration and practical exercises related to the Automotive Service Excellence (ASE) area of Heating and Air Conditioning.

DSL-205 Advanced Diesel Engines

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course develops each student's occupational competencies needed to perform engine operation, diagnosis and repair. The instruction will include classroom demonstration and practical exercises related to the area of Advanced Diesel Engines.

Prerequisite(s): DSL 105, DSL 115.

DSL-215 Suspension and Steering

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course develops each student's occupational competencies needed for the operation and repair of suspension and steering systems on medium-heavy diesel vehicles. The instruction will include classroom demonstration and practical exercises related to the area of Suspension and Steering.

DSL-232 Diesel Diagnostics & Repair

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course develops each student's occupational competencies needed for the operation, repair, troubleshooting and diagnostics of diesel fuel and electronic systems, to include diesel electronic injection systems. The instruction will include classroom demonstration and practical exercises related to the area of Diesel Diagnostics and Repair. *Prerequisite(s):* DSL 105, DSL 171 and DSL 205

DSL-235 Heavy Duty Drives

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course develops each student's occupational competencies needed for operation and repair of heavy duty drive systems. The instruction will include classroom demonstration and practical exercises related to the Automotive Service Excellence (ASE) area of Heavy Duty Drives.

DSL-290 Capstone/Co-op/Internship

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier II

This course provides students the opportunity for supervised work experience in their major field with practical application of the knowledge and skills attained through coursework. Students will also apply critical thinking, analytical reading, decision making and valuing skills to issues across the diesel technology curriculum. An assessment will give students the opportunity to demonstrate their level of application and learning in the diesel technology program. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. Please see the Chair of the specific program area for application. *Prerequisite(s):* Completion of at least 30 credit hours in Diesel Technology courses and a minimum GPA of 2.0, or advisor's approval.

Early Childhood Development

ECD-101 Foundations of Early Childhood

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course offers students a practical study of early childhood development based upon theory, developmentally appropriate practice within the learning environment, and the development of supportive community relationships. *Prerequisite(s):* Concurrent enrollment in ECD 135

ECD-110 Early Childhood Growth and Development

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

A foundational lecture course which provides a sequenced study of typical growth and development from infancy to 8 years of age. Emphasis is placed on the whole child principle and its importance in early childhood. *Prerequisite(s):* ECD 101, ECD 135, concurrent enrollment in ECD 185

ECD-115 Observe & Assess Young Child

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This elective course offers students an overview of various observational techniques and assessment methods utilized in early childhood. Emphasis is placed on components necessary for strong observation skills, how to choose the best instrument for specific situations and tools for assessing environments and developmental milestones.

ECD-120 Language and Literature in Early Childhood

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is an introductory course that offers students a practical study of the emergent use of language and literacy development in young children. A study of children's literature and the role it plays in the development of literacy will be examined.

ECD-135 Practicum I

Credits: 3

Contact Hours: Lec 2 Practicum 3

Tier Rate: Tier I

This practicum course provides students with an introductory experience into the field of early childhood development for ages birth through eight. Students will be introduced to different types of career options as an early childhood professional and become acquainted with classroom structure and procedure through observations and interactions with children. Students will complete 50 practicum hours in an approved high quality early learning setting. Students will pay for and provide current FCSR background check and TB test or Risk Assessment. *Prerequisite(s):* Concurrent enrollment in ECD 101.

ECD-165 Family and Community in ECD

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

A foundational lecture course which focuses on young children's relationships from a sociological and ecological approach. The influences of society, family, schools, communities, and relationships in the young years will be explored.

ECD-170 Health, Safety & Nutrition

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This introductory course focuses on the basic health, safety and nutritional requirements of young children and its applications in early childhood settings. This course concentrates on the interrelationships of health, safety, and nutrition and their influence on the development of young children.

ECD-185 Practicum II

Credits: 3

Contact Hours: Lec 2 Lab 0 Practicum 3

Tier Rate: Tier I

This practicum course provides students with the opportunity to observe, participate, plan, and implement developmentally appropriate lessons and activities in an early learning setting among children ages birth to eight. Students will complete 50 practicum hours in an approved high quality early learning classroom. A background check and TB test or Risk Assessment are required. *Prerequisite(s):* ECD 101, ECD 135. Course must be taken within the first 20 credit hours and cannot be taken with other practicum courses.

ECD-205 History & Phil Trends In ECD

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

An elective course that examines historical and philosophical influences in the field of early childhood with an emphasis on major events and theorists having an impact on early childhood education. Students will explore historical figures and past issues in a current, contemporary perspective.

ECD-215 S.T.E.A.M. in ECD

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course emphasizes the development of an integrated math, science, arts, technology, and engineering curriculum for young children in the early childhood setting. Appropriate content, processes, environment and materials and childcentered choices will be examined. Topics of special consideration are developing thinking and problemsolving skills in children and using observation as a basis for planning discovery experiences for the individual child. *Prerequisite(s):* ECD 101, ECD 135.

ECD-225 Abuse & Neglect in ECD

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an advanced lecture course which provides an in-depth study on child maltreatment. Identification of signs and symptoms of child abuse and neglect will be studied. Emphasis is placed on the role of the early childhood professional as a mandated reporter and the prescribed policies and procedures required when reporting child abuse and neglect.

ECD-230 Intro to Children Spec Needs

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This introductory course in the education of children with special needs provides an overview of laws, definitions, methodologies, trends and issues, and current research in early childhood special education and development. Often called exceptionalities, categories include learning and physical disabilities, autism, mental retardation, behavioral disorders, communication disorders, visual and/or hearing impairments, attention deficit disorders and giftedness. Topics will provide basic knowledge and will be from research based, culturally aware and family-focused perspectives for this area of child development. *Prerequisite(s):* ECD 101, ECD 135.

ECD-235 Multicultural Perspective-ECD

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This advanced elective course offers students an exploration of the concept of cultural diversity including ethnicity, social class, customs, heritage, gender roles, values and morals. Emphasis is placed on how multiple perspectives affect young children and how educators can provide an anti-bias environment.

ECD-240 Creativity and the Young Child

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

Students will be introduced to the concept of fostering creativity in preschool children and developing a creative attitude in teachers. Topics include selecting and developing creative experiences in music, art, movement and drama as well as developing self-expression and creativity in young children.

Prerequisite(s): ECD 101, ECD 135.

ECD-245 Leadership & Ethics in ECD

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This advanced elective course offers students an overview of collaborative and motivational leadership. It is designed to promote creative, innovative leadership among emerging leaders in the early childhood profession. Through interactive, team building experiences, students will explore various leadership roles and the National Association for the Education of Young Children (NAEYC) Code of Ethical Conduct and Standards.

ECD-255 Practicum III

Credits: 3

Contact Hours: Lec 2 Lab 0 Practicum 3

Tier Rate: Tier I

This practicum course provides students with the opportunity to observe, participate, plan, and implement developmentally appropriate lessons and activities in an early learning setting among children ages birth to eight, to observe and assist classroom teacher with different types of assessment methods. Students will complete 50 practicum hours in an approved high quality early learning classroom. A background check and TB test or Risk Assessment are required. *Prerequisite(s):* Grade of "C" or better in ECD 135, ECD 185.

ECD-260 Curriculum and Assessment in ECD

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This is an advanced lecture course which offers a practical study of the teacher's role in child screening and assessment as well as planning curriculum to support the development of young children birth to 8 years of age. Technology and anti -bias perspectives and diversity in materials and teaching is also explored. *Prerequisite(s):* ECD 101 and ECD 135 .

ECD-265 Special Needs Practicum V

Credits: 3

Contact Hours: Lec 2 Lab 0 Practicum 3

Tier Rate: Tier I

This online and field experience course focuses on the theories, research, and practical applications from the field of early intervention. Students will complete 50 clock hours in the field on site at an approved early learning special needs program under the supervision of a Cooperating Teacher. Special education topics covered include curriculum modification strategies to facilitate the development of cognitive, motor, social, emotional and language skills in infants, toddlers, and young children with special needs. Specific attention will be aimed at developing behavior management plans, collaborative teaching, lesson planning strategies, and methods for working with parents of young children with

special needs. An FCSR background check and evidence of a TB test or Risk Assessment are required.

Prerequisite(s): Grade of C or better in ECD 135, ECD 185.

ECD-269 Sensory and Autism Spectrum

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course will examine the neurological underpinnings and behavioral characteristics of children from birth through age 8 with sensory autism spectrum disorders. It will focus on an overview of the strengths and challenges of child-centered, developmental, research-based interventions to be used in natural environments. Family and learning environments will be emphasized and explored. *Prerequisite(s):* ECD 101, ECD 110, ECD 135, ECD 185, ECD 230 or Department Chair permission.

ECD-270 Classroom and Behavioral Mgmt

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides an in-depth study of the best practices for teachers to effectively manage an early learning classroom. Schedules, routines, transitions, arrangement, activity zones and principles of child development and appropriate methods of guiding children's behavior in an inclusive classroom environment. *Prerequisite(s):* ECD 101, ECD 135.

ECD-279 Specialized Teaching Methods

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will examine the specific characteristics of each disability and the influence of each disability on development, learning, behavior, and family systems. Students will learn how to assess the skills of individual children to develop curriculum modifications which lead to educational interventions in natural environments. Faculty offer instruction to students as they explore the characteristics of responsive child-centered emergent curriculum projects. *Prerequisite(s):* ECD 101, ECD 110, ECD 135, ECD 185, ECD 230.

ECD-280 Program Administration and Leadership

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an elective course that examines the management and supervision of early childhood programs. Topics of special consideration include legal issues and regulations, administrative responsibilities, budget planning, record keeping, personnel policies, parent involvement and public relations.

ECD-289 Special Needs Practicum VI

Credits: 4

Contact Hours: Lec 2 Lab 0 Practicum 6

Tier Rate: Tier I

This online and field experience course has 100 clock hours in the field. Students will be in the field in an approved early learning special needs classroom under the supervision of Cooperating Teachers. Students will conduct conceptual case study observations, screenings, and assessments of preschoolers with special needs using a variety of tools during the 70 clock hours they spend at their practicum site. Skills regarding special needs data collection, assessment and interventions will be taught and experienced first-hand by participating in IEP meetings, and make intervention suggestions while working with children with exceptionalities on site. An FCSR background check and evidence of a TB test or Risk Assessment are required. *Prerequisite(s):* Grade of "C" or better in ECD 265 and a minimum of 33 credit hours in ECD or Department Chair permission.

ECD-290 Internship/Field Exp in ECD

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier I

This elective course provides supervised work experience in the major field and the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan determines goals to be accomplished. One hundred, eighty (180) hours of work in an early childhood program is required as well as the ability to work independently to exhibit competencies learned in previous early childhood courses. The laboratory component of this course requires students to obtain (at their own expense) a tuberculin (TB) skin test and a background screening from the Family Care Safety Registry (FCSR) within the first two weeks of class. See Department Chair for course application. *Prerequisite(s):* Completion of 30 credit hours in ECD courses and 2.0 GPA or program permission.

ECD-299 Capstone Practicum IV

Credits: 4

Contact Hours: Lec 2 Practicum 6

Tier Rate: Tier I

This practicum course provides students with the opportunity to experience being the lead teacher in an early learning setting; implementing concepts and strategies gained from course instruction and modeling best practices within an early childhood environment. Students will review different curriculum models and plan and implement lessons and activities as they lead the classroom. Students will complete 70 practicum hours in an approved high quality early learning setting. A background check and TB test or Risk Assessment are required. *Prerequisite(s):* Grade of "C" or better in ECD 255 and a minimum of 33 ECD credit hours, or permission from the Department Chair.

Economics

ECO-270 Principles of Macroeconomics

MOTR Equivalent: MOTR ECON 101 Introduction to Macroeconomics

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides an introduction to the origin and derivation of economic systems. This course includes a look at the structure, organization, operation, and the goals of the United States economic system. A study in basic economic principles, including the role of the government in conducting economic policies (spending and taxes), the role of the Federal Reserve in managing the supply of money, and the role of others (including households and businesses) in determining economic outcomes is included. This course prepares students for further study in economics.

ECO-275 Principles of Microeconomics

MOTR Equivalent: MOTR ECON 102 Introduction to Microeconomics

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is an introduction to microeconomic analysis. It is an in-depth look at the behavior of the individual and businesses as it relates to the determination of the price structure, distribution of income, and trade. This course is an examination of the participants and structures of the marketplace.

Prerequisite(s): ECO 270.

Education

EDU-150 Intro to Teacher Education

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This course is for students interested in pursuing the Associate of Arts in Teaching (AAT) or in the career of teaching. EDU 150 is an introductory course to the field of education, and introduces students to degree and certification requirements in Missouri. To successfully complete EDU 150, students must pay for and pass a criminal background screening, and may complete a disposition assessment required for completion in a teacher education program of study. Other topics covered in the course include state standards for teachers and for PK-12 students, advisement for transfer, and educational policy in Missouri. A grade of "B" or better in this course is required to take additional Education courses at OTC.

Prerequisite(s): 2.25 OTC GPA required.

EDU-220 School and Society

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed to examine the historical, philosophical, sociological, political, economic and legal foundations of the American public education system. Students explore the nature of school environments, design and organization of school curricula and characteristics of effective schools and instruction in grades P12. Educational structures, practices and projections for the future are also studied. *Prerequisite(s):* Grade of "C" or better in ENG 101, Grade of "B" or better in EDU 150, and a 2.75 minimum GPA.

EDU-222 Fdns of Educ in Diverse Scty

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed to examine educational practice from diverse historical, philosophical, sociological, economic, and legal perspectives. The course will address issues of educational equity, sociocultural influences on teaching and learning, and how teachers and schools can contribute to interpersonal and intercultural understanding and respect, social justice, and democratic citizenship. Students will explore the nature of school environments, the fundamental goals of education in the American public school, English Language Learners, the relationship between school and a diverse society, the organization of school curricula, and characteristics of effective schools and instruction in grades P-12. *Prerequisite(s):* Grade of "C" or better in ENG 101, Grade of "B" or better in EDU 150, and a 2.75 minimum GPA.

EDU-225 Technology for Teachers

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

In this course students will learn how to integrate instructional technology into P-12 classrooms. Students will study a variety of software programs, presentation technology, telecommunication tools, and assistive technology. The focus will also be on social, ethical, legal, and human issues surrounding the use of technology. *Prerequisite(s):* Grade of "C" or better in ENG 101, Grade of "B" or better in EDU 150, and a 2.75 minimum GPA.

EDU-250 Educational Psychology

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed to help students relate theories and principles of educational psychology to teaching, learning, and assessment. This course focuses on the diversity of learners and learning processes, as well as teacher characteristics, classroom strategies, and data analysis in P-12 classrooms. Appropriate strategies for increasing motivation, multi-dimensional development, and academic achievement for all learners are introduced. *Prerequisite(s):* Grade of "C" or better in ENG 100 or ENG 101,

Grade of "B" or better in EDU 150; PSY 130 or concurrent enrollment, and a 2.75 minimum GPA.
Maximum Credit Hours 3

EDU-260 Education Exceptional Learner

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an introduction to exceptional learners and their education in grades P-12. Students attain knowledge, skills and dispositions that enable them to work effectively with exceptional learners in general education or special education. *Prerequisite(s):* Grade of "C" or better in ENG 101 and a 2.75 minimum GPA.

EDU-270 Teaching Prof w/ Field Exp

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course includes an introductory, minimum 30 hours of school field experience in accredited P-12 classroom(s) that provide opportunities to observe and contribute to teaching and learning. This course allows preservice teachers to connect firsthand school experience with an emerging professional knowledge base. The course develops professional knowledge of diverse educational settings through observation, instruction, experience, and reflection. This course is designed to assist students in determining if a career in teaching is an appropriate goal. Requirements for teacher preparation and certification are reviewed. *Prerequisite(s):* Grade of "C" or better in ENG 101, grade of "B" or better in EDU 150, minimum GPA 2.75; MoGEA attempted.

EDU-290 Co-Operative Ed/Internship

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier I

This course is a supervised work experience in the major discipline, providing the student with the opportunity to make practical application of the skills and knowledge attained through coursework. An individual application and instructional management plan determine the student's goals. *Prerequisite(s):* Completion of 30 credit hours or more and permission of department chair.

Engineering

EGR-100 Study and Careers in Engineering

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This course provides an examination of fields of engineering and career opportunities in engineering. The profession expectations for engineers will be studied. Students will be introduced to the campus resources for assisting student success.

EGR-201 Engineering Statics

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

In this engineering statics course, students gain practical experience in techniques for analyzing in detail the forces and moments that act on structures in equilibrium. *Prerequisite(s):* Grade of "C" or better in PHY 220, MTH 240 or concurrent enrollment.

EGR-204 Statics and Dynamics

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an engineering statics and dynamics course for electrical engineering majors. This course focuses primarily on the two dimensional analysis of statics and dynamics, including equilibrium, trusses, frames, particle motion, conservation of energy and momentum, and rigid body dynamics. *Prerequisite(s):* Grade of "C" or better in PHY 220, MTH 240.

EGR-205 Engineering Dynamics

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an engineering dynamics course focusing on the application of the principles of mechanics to engineering problems of motion and acceleration. Topics include plane motion; force, mass, and acceleration; work and energy; and impulse and momentum. *Prerequisite(s):* Grade of "C" or better in EGR 201, MTH 240.

EGR-250 Engineering Design with Computer Applications

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier I

This course provides an introduction to software tools (computer aided design drafting, computer mathematics, word processing, spread sheets) with application to professional engineering practice. Principles of engineering design are studied. A semester long group design project is an integral part of the course. *Prerequisite(s):* CIS 101; PHY 220 or PHY 222 or concurrent enrollment

Electrical

ELC-100 Intro Elect Theory & Safety

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course will provide fundamental instruction in safety methods and procedures and basic electrical theory. Course topics will focus on electrical safety, an introduction to the National Electrical Code (NEC), physics of matter, insulators and conductors, theories of electricity, usage of electrical meters, conduit bending and house wiring methods.

ELC-110 Elect Formulas & Circuitry

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will provide fundamental instruction in electrical equipment, codes, and theories of electricity. Course topics will focus on the National Electrical Code (NEC), safe installation of electrical equipment, color coding, branch circuits, voltage and current, electrical mathematical formulas, power loss and electrical circuits. *Prerequisite(s):* Grade of "C" or better in ELC 100 or concurrent enrollment.

ELC-115 Print Reading for Electrical Trades

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will provide instruction to read, understand, interpret and apply information from the various types of blueprints, shop prints and schematics used in an electrical environment. This course includes instruction on the different types of standard symbols and abbreviations found on electrical construction drawings, schematics, and wiring diagrams. *Prerequisite(s):* Grade of "C" or better in ELC 100 or HRA 103 or concurrent enrollment.

ELC-120 Wiring Method & Pwr Dist App

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will provide fundamental instruction in wiring methods, codes, power distribution, and circuit protection. Course topics will focus on wiring methods, National Electrical Code (NEC) application to insulators and conductors, box fill, power distribution, circuit protection and power quality.

Prerequisite(s): Grade of "C" or better in ELC 100 or concurrent enrollment.

ELC-130 Basic Power Gen & Code Req

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will provide fundamental instruction in how electricity is generated. Course topics will focus on capacitors, induction, power factor and power loss in an AC circuit, motor theory, transformers, conductors, overcurrent protection and ground and bonding of electrical systems. *Prerequisite(s):* Grade of "C" or better in ELC 100 or concurrent enrollment.

ELC-135 Alt and Renewable Energy

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course is designed to educate individuals and technicians in the various forms of alternative and renewable energies including how to maintain and trouble shoot these systems. Emphasis is placed on wind and solar power but all types of alternative and renewable energy sources will be considered including bioenergy, hydroelectricity, tidal power, wave energy and geothermal energy. Laboratory work concentrates on building and operating photovoltaic, wind and passive solar systems, then monitoring their performance.

ELC-200 Applic NEC To Elect Apparatus

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course will provide fundamental instruction in applying the National Electrical Code (NEC) to a variety of electrical systems, equipment, and hazardous locations. Course topics will focus on panelboards, lighting systems, appliances, motors and controllers, air-conditions, generators, transformers, capacitors, safety in hazardous locations, health care facilities and blueprint reading. *Prerequisite(s):* Grade of "C" or better in ELC 100.

ELC-210 Applic NEC To Unique Sys/Loc

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course will provide fundamental instruction in applying the National Electrical Code (NEC) to a variety of locations and systems. Course topics will focus on ground electrical systems, mobile and manufactured homes, marinas, elevators, swimming pools, emergency power systems, fire alarms, optical fiber communication, and motor controls and signaling circuits. *Prerequisite(s):* Grade of "C" or better in ELC 100.

ELC-220 VFD and PLC Operations and Maintenance

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course will provide basic fundamental instruction in variable frequency drive and programmable logic controller operations and maintenance. Course topics will focus on bonding and grounding, variable frequency drive motors, programmable logic controllers, fiber optics and fire alarm systems.

Prerequisite(s): Grade of "C" or better in ELC 100 or HRA 103.

ELC-230 Preparation for National Electric Certification

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course prepares students to apply collective knowledge of National Electric Code (NEC) and general electrical knowledge in order to take a certification examination. Course topics focus on electrical mathematics, circuits and alternating current, motor controllers, raceway and box fill calculations, and single family load calculations.

Electrical Distribution Systems

EDS-100 Intro to Elec. Distribution

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course will provide an overview and fundamental instructions on electrical power generation, distribution, and transmission systems. The course will also focus on operations, power conversion, quality issues, structures, and equipment used across multiple utilities.

EDS-120 Safety & Prevention Methods

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course will provide a solid foundation for practicing safe work practices and identifying risks for the purposes of prevention. Students will learn Occupational Safety and Health Administration (OSHA) rules and regulations associated with this industry and safe work practices from the American Public Power Association Safety Manual. Students will also gain an awareness of hazards associated with electrical distribution systems, environmental safety, and health issues. This course will give students preparation for the exams and certifications associated with OSHA 10, CPR/First Aid, and Flagger. These are required certifications within the utility industry.

EDS-150 Equipment Operation

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will allow students to learn operation of industry related equipment used in the construction and maintenance of electrical distribution systems. Students will utilize auger/digger and bucket trucks, backhoe, trenching equipment, and hydraulic systems. Students will also learn equipment inspection and maintenance schedules, grounding practices, equipment capacity, and hands-on operation of each item.

EDS-151 Commercial Driver License

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course will give students preparation for the written exam to obtain a valid Class A Commercial Driver's License (CDL) with specified endorsements. Students must be able to maintain a driving record that is eligible for Missouri Class A CDL, 2; obtain a complete and current medical examination and, successfully pass drug screen(s). *Corequisite(s):* EDS 152

EDS-152 Commercial Driver License Lab

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier II

This course will give students preparation for the driving exam to obtain a valid Class A Commercial Driver's License (CDL) with specified endorsements. Students must be able to maintain a driving record that is eligible for Missouri Class A CDL, 2; obtain a complete and current medical examination and, successfully pass drug screen(s). *Corequisite(s):* EDS 151

EDS-160 Pole Climbing Skills

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course introduces students to the proper and safe methods of wood pole climbing. Students must master climbing wood pole structures safely and conduct work practices associated with the electrical utility industry. Upon completion of this course, students will successfully demonstrate two methods of climbing and be able to identify hazards of climbing.

EDS-170 Overhead Power Distribution

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will give students a working knowledge of utility service line construction including pole framing, types of construction by sight and definition, and materials used in overhead power distribution. Students will demonstrate knowledge in ground and aerial situations including installation,

repair, and removal of poles and related electrical utility equipment through aspects of 12,500; 14,400; and 34,500 volt construction. *Prerequisite(s)*: EDS 100, EDS 120.

EDS-200 Electrical Distribution II

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course continues an overview of electrical distribution systems in use. The course will focus on operations, power conversion, quality issues, structures, and equipment used across multiple utilities.

Prerequisite(s): Grade of "C" or better in EDS 100.

EDS-237 Transformer Theory

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will allow students to gain an in-depth knowledge of transformer theory and installation. Single-phase and three-phase configurations with different types of connections will be included. Other topics include: over voltage and over current protection, equipment grounding, cutout protection, proper cover-up techniques, lightning arrestor application and installation, basic troubleshooting practices, and current and potential transformers use and safety. *Prerequisite(s)*: Grade of "C" or better in EDS 100, EDS 160.

EDS-246 Service Installation & Metering

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course will allow students to gain extensive knowledge of single and three-phase watt-hour meters, meter locations, and the different types of copper and aluminum conductors. Students will also gain practical experience in the sizing, proper connection types, installation, stringing, sagging, dead-ending, and splicing of overhead and underground service conductors. Students will be exposed to meter loops and poles, instrument metering, temporary metering, compression sleeves, and related connectors and tools. Students will also deepen focus on theft deterrent measures, identification of safe work practices including proper grounding techniques, and prevention of hazards. *Prerequisite(s)*: Grade of "C" or better in EDS 100, EDS 160.

EDS-250 Gloving & Live Line Procedure

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

The student will obtain basic discipline in the methods of working on energized lines with rubber gloves and rubber sleeves from an insulated aerial platform in a safe and efficient manner. The student will be

exposed to the care and well-being of soft and hard shell rubber goods and their application. The student will also receive instruction on personal protective equipment, hot-line tools, liveline maintenance and will also review the safe operation of aerial platforms and grounding practices. Additionally, the student will gain working knowledge of URD systems. The student will receive practical experience in primary and secondary cables, installation of 200 and 600 amp elbows, splices, lightening arrestors and overhead terminations. The installation of single- and three-phase padmount transformers will also be covered. The requirements of shoring and sloping of trenches required by the safe work practices will be discussed. Troubleshooting of primary and secondary cable fault locating and associated safe work practices and procedures may be covered. *Prerequisite(s)*: Grade of "C" or better in EDS 170 and EDS 200.

EDS-260 Distribution Systems Maint.

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will give students a working knowledge of systems maintenance including commonly used equipment, poles, overhead and underground distribution lines; meter, transformer, and conductor maintenance, preventative and predictive maintenance; expected life cycle and failure points; shop maintenance; work order resolution; inventory and system logging. *Prerequisite(s)*: Grade of "C" or better in EDS 170, EDS 200, EDS 237, EDS 246, EDS 270.

EDS-270 Underground Power Dist.

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course will give students a working knowledge of the different types of underground distribution systems, able to identify the types of cable used in underground distribution, describe proper cable installation procedures, demonstrate proper cable preparation techniques using manufacturers specifications for splicing and terminating cable, list safe work procedures and demonstrate the proper techniques for isolation and grounding underground cable sections. *Prerequisite(s)*: Grade of "C" or better in EDS 100, EDS 120.

EDS-272 Fusing, Substations & Voltage

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course will familiarize students with the different types and methods of system coordination, substations, capacitors, voltage regulators, and auto-transformers. Upon completion of this course, students will be able to demonstrate a working knowledge of oil reclosures, sectionalizers and the application/coordination of fuses. Students will also be introduced with installation and operation of single and three-phase regulators, gang operated air break and load break switches, and substation

fuses and reclosures. Practical experience in the grounding, inspection, maintenance and operation of basic substations will also be gained. *Prerequisite(s)*: Grade of "C" or better in EDS 237.

EDS-290 Co-Op Ed/Intern

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course entails a supervised work experience in the major field, which provides the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan determines goals to be accomplished. Seminars may also be required. *Prerequisite(s)*: Completion of 30 credit hours of program specific courses and 2.0 GPA and approval of department chair.

Electronic Media Production

EMP-100 Still Video Production

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides intensive hands-on instruction in state of the art image editing, compositing and special effects. Students will complete a variety of projects using backgrounds, image layering and effects.

EMP-101 Video Effects

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course provides intensive hands-on instruction in state of the art video effects, compositing and special effects. Students will complete a variety of projects using backgrounds, image layering and effects.

EMP-102 Intro Electronic Media Prod

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Students will study the history of electronic media from radio broadcast through television to present day media delivery. This course will include an associated lab designed to introduce students to electronic media editing systems available today.

EMP-103 Podcasting

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Note: Course only offered in the fall semester. This is a fast-moving hands-on course which will prepare the student to record, edit and store information in the proper format for web publication in the form of podcasts. Each class will produce a scheduled series of podcasts for dissemination on the web.

EMP-104 Lighting Fundamentals

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course provides intensive hands-on instruction focusing on the basic principles of lighting for video. Students will complete a variety of projects using different lighting setups and techniques.

EMP-110 Sound Design

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. Explore microphone usage and multi-layered audio post production software. Students will perform and produce commercial messaging, news delivery, and focus on varied audio elements of video production.

EMP-115 Studio Television Production

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides an introduction to multi-camera studio production. Students will practice camera operation, audio recording and switching in teams while producing various television formats including news, interviews, and other live atmospheres.

EMP-117 Video Systems

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This is a basic video course and focuses on the principles of design and operation of basic video systems. This includes live and studio camera operation and lighting techniques. This course supports voice, video, images incorporated in stage and video, recording and editing production technology.

EMP-127 Audio Engineering

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course explores the aesthetic and practical considerations employed in effective audio design in both studio and live production mixing. Students will study and operate multitrack recorders, digital editors, sound processing equipment and microphone placement. Emphasis will be on developing audio content, producing varied audio and editing the sources into a professional presentation. *Prerequisite(s):* Grade of "C" or better in EMP 110.

EMP-208 Digital Video Production

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. Digital Video Production concentrates on advanced video production and nonlinear editing techniques. This includes field and studio television production and editing employing current digital production suites. Students will produce and post-produce several productions of increasing complexity including commercial messages, documentaries and music videos.

EMP-210 Photojournalism

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. Principles and practice of videography, still photography, news delivery, image processing, camera operation, and foundations of journalism are covered. Students will gather and process still images, video and audio in a newsroom simulated environment.

EMP-216 3-D Animation

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course focuses on the principles of design and operation of 3D animation. This includes camera placement, lighting, designing and rendering virtual scenes. This course supports 3D animation for commercial as well as full length productions.

EMP-218 Video Game Design

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course provides hands on experience in creating interactive video games as well as offering a historical and critical approach to the evolution of computer and video game design from its beginnings to the present. It brings together cultural, business, and technical perspectives. This will lead to an

understanding of the history of this medium, as well as insights into design, production, marketing, and sociocultural impacts of interactive entertainment and communication.

EMP-250 Digital Special Effects

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course provides intensive hands-on instruction in state of the art video effects editing and video compositing and special effects. Students will complete a variety of video projects using animated backgrounds, video layering and after effects. These will include commercial messages, video trailers and music videos. *Prerequisite(s):* EMP 102, EMP 117.

EMP-263 Production and Directing Television

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. Students will produce and direct several broadcast quality videos, as well as serve as crew on other student productions. This will include extensive use of skills from prerequisite courses in addition to production scheduling, scripting, casting, set design and crew management. The final project will be a personal demo reel suitable for submission to potential employers. *Prerequisite(s):* EMP 102, EMP 110, EMP 117, and EMP 208 (or concurrent enrollment in EMP 208).

EMP-290 Co-Operative Ed/Intern/Related Elective

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course entails a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required.

Prerequisite(s): Completion of 30 credit hours and 2.0 GPA or advisor's approval. Please see the department chair of the specific program area for application

Emergency Medical Services

EMS-101 Emergency Medical Technician - Basic

Credits: 7

Contact Hours: Lec 4 Lab 4 Practicum 3

Tier Rate: Tier III

This course educates the student in aspects of emergency care required to qualify the student to write

the certification examination offered by the Missouri Department of Health, Bureau of Emergency Medical Services. The course consists of three components: classroom, clinical experiences and an internship. Incorporated in these areas are the pre-hospital environment, systems assessment, trauma intervention, medical intervention and obstetrics/pediatrics. *Prerequisite(s)*: Selective Admission. Students must be 18 years of age or older, have a valid drivers license, and have a BLS CPR certification from American Heart Association.

EMS-150 EMS Essentials

Credits: 3

Contact Hours: Lec 2

Tier Rate: Tier III

This course prepares prehospital care providers to perform in an advanced operational role within the EMS system as a paramedic. Students will gain a more in depth understanding of EMS systems, Safety and Wellness, Public health, medical legal considerations, communications, documentation, medical terminology, transport operations, incident management and mass-casualty incidents, rescue operations, terrorism response, disaster response, crime scene awareness, and career development for the paramedic. Additionally students will be introduced to advanced patient assessment, ALS scene management, crew resource management, and critical thinking processes for the advanced provider. Successful completion of this course is required prior to students entering the technical phase of the paramedic program. *Prerequisite(s)*: EMS 101 course completion is strongly recommended.

EMS-201 Paramedic I

Credits: 12

Contact Hours: Lec 8 Lab 8

Tier Rate: Tier III

This course will present the student with a review of anatomy and physiology, an overview of pathophysiology, clinical assessment and treatment of patients presenting with specific illness. Critical thinking and clinical decision making, airway management, and assessment of respiratory, cardiac, and neurology patients will be included in this section with an emphasis on assessment and management of present illness for effective field treatment. Students will be presented with EKG (ECG) monitoring of leads I, II, and III with an emphasis on the study of arrhythmia etiologies and irregular waveforms. An overview of 12-lead techniques will also be discussed. Additionally students will gain a comprehensive understanding of pre-hospital pharmacology and medication administration. The lab section will include performance of both basic and advanced prehospital airway management techniques, medication administration via various methods, comprehensive use of cardiac monitors, capnography, various other diagnostic tools, skill practice, scenario development, and high fidelity simulations in a lab environment. Students must successfully demonstrate each skill through a pass/fail scenario for successful course completion. Application of these skills will be reassessed in the clinical setting. *Prerequisite(s)*: Admission to the EMS Paramedic program. *Corequisite(s)*: EMS 211

EMS-202 Paramedic II

Credits: 5

Contact Hours: Lec 2 Lab 6

Tier Rate: Tier III

This course is designed to train students to understand the pathophysiology, assessment and management of various types of patients. Life Span development, Gynecology, Obstetrics, Neonates, and Pediatrics are the topics covered for this course. Emphasis will be placed on assessment management of present illness and focused patient complaints. Students will also be introduced to the practical application of pathophysiology, assessment and management of cardiac patients to include pharmacological and electrical interventions. The American Heart Association (AHA) Advanced Cardiac Life Support (ACLS) will be administered during this course. ACLS is designed to offer health care professionals a high-density course of advanced cardiac knowledge and treatment. Critical thinking skills will be examined through case based scenarios as well as a written test. In addition to the regular coursework, students must successfully complete ACLS practical (Pass/Fail) and written exam (84%). The American Heart Association (AHA) Pediatric Advanced Life Support (PALS) course will also be presented during this course. PALS is designed to provide health care professionals a greater knowledge of emergency care for the pediatric patient. The PALS course stresses critical thinking skills and the student will be examined through case based scenarios as well as a written test. In addition to the regular coursework, students must successfully complete the PALS course to pass this class. *Prerequisite(s):* Grade if "C" or better in EMS 201. *Corequisite(s):* EMS 212

EMS-203 Paramedic III

Credits: 9

Contact Hours: Lec 6 Lab 6

Tier Rate: Tier III

This course will present the student with clinical assessment and treatment of patients presenting with specific illness. Diseases of the eyes, ears, nose and throat, endocrine emergencies, hematologic, immunologic, infectious disease, abdominal and gastrointestinal, genitourinary, geriatric, and special challenge patients will be included in this section, with an emphasis on assessment and management of present illness for effective field treatment. Additionally students will be presented with a comprehensive insight into traumatic injury. Pathophysiology, assessment, and management of trauma to include blunt, penetrating, soft-tissue, burn, musculoskeletal, head, face, neck, spinal, thoracic, and abdominal trauma, the epidemiology of trauma, as well as hemorrhage and shock will be analyzed. Comprehensive management of all types of patients with various medical illnesses and traumatic injuries will be covered using scenarios and simulations. This course will serve as a final analysis of the student's ability to analyze patient information and provide the treatment necessary for the best outcome of the patient's condition. This course will include a computerized capstone exam, a final simulation, and an oral interview by the program medical director. Upon successful completion of this course, the student will be authorized to take the NREMT written exam. *Prerequisite(s):* Grade of "C" or better in EMS 202.

EMS-211 Clinical I

Credits: 3

Contact Hours: Practicum 9

Tier Rate: Tier III

This course encompasses a clinical experience in which students utilize the skills learned in the didactic portion of the program in the hospital, where those skills can be refined. *Prerequisite(s):* Admission to the EMS Paramedic program. *Corequisite(s):* EMS 201

EMS-212 Clinical II

Credits: 2

Contact Hours: Lec 0 Lab 0 Practicum 6

Tier Rate: Tier III

This course is a continuing clinical experience in which students utilize the skills learned in the didactic portion of the program in the hospital, where those skills can be refined. *Prerequisite(s):* Grade of "C" or better in EMS 201.

EMS-213 Clinical III

Credits: 2

Contact Hours: Lec 0 Lab 0 Practicum 6

Tier Rate: Tier III

This course is a continuing clinical experience in which students utilize the skills learned in the didactic portion of the program in the hospital, where those skills can be refined. *Prerequisite(s):* Grade of "C" or better in EMS 203.

EMS-214 Paramedic Internship

Credits: 8

Contact Hours: Lec 0 Lab 0 Practicum 24

Tier Rate: Tier III

This course entails a field experience in which students utilize the skills learned in the didactic and clinical portions of the program under the supervision of an experienced paramedic preceptor.

Corequisite(s): EMS 203

EMS-231 Clinical II

Credits: 2

Contact Hours: Lec 0 Lab 0 Practicum 6

Tier Rate: Tier III

None This course is a continuing clinical experience in which students utilize the skills learned in the didactic portion of the program in the hospital, where those skills can be refined. *Prerequisite(s):* Grade of "C" or better in EMS 201.

EMS-299 Community Paramedic

Credits: 8

Contact Hours: Lec 4 Lab 2 Practicum 9

This course is designed to educate the student in aspects of community based care required to qualify the student to write the CP-C certification examination offered by the International Board of Specialty Certification. The course consists of two components: classroom and clinical experiences. Incorporated in these areas are the pre-hospital environment, community and personal needs assessment, chronic disease monitoring and interventions, utilization and coordination of community health and social services. *Prerequisite(s):* Paramedic license

English

ENG-050 Foundations of College Writing

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

English 050 prepares the student to enter ENG 101 by developing skills necessary for college-level writing including adapting texts to affect an audience and accomplish a purpose, developing essays, and introducing beginning concepts of research and documentation. Students will progress from multi - paragraph writing assignments to more complex compositions. Students will be required to participate in coursework, the Writing Proficiency, and a standardized final exam.

ENG-051 Introductory Composition II for ESL

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

English 051 for ESL students prepares the student to enter English speaking college-level classes by focusing on skills necessary for college-level comprehension and composition, including knowledge of audience and purpose, paragraph and essay development, and beginning concepts of research and documentation. This course includes an integrated study of English grammar, comprehension, communication and composition. Students will progress from multiparagraph writing assignments to larger compositions. English 051 classes will require at least four major assignments, including three writing assignments (ranging in lengths from 15 pages per assignment) and a course final. Students enrolled in English 051 must successfully complete the course with a grade of NC or higher and an appropriate score on the COMPASS in order to take ENG 101.

ENG-100 Composition I With Support

MOTR Equivalent: MOTR ENGL 100 Composition I

Credits: 5

Contact Hours: Lec 5 Lab 0 Practicum 0

Tier Rate: Tier I

English 100 introduces students to college-level writing and thinking through personal narrative, analytical, and research-supported writing. The processes of critical thinking, composing, revising, and editing are emphasized. Students will learn basic research skills and documentation techniques. English 100 will be driven by the same course objectives as English 101, and satisfy the same requirement. This course is linked to ENG 100A, which is a course designed to provide students with more time, support, and individualized instruction to accomplish the objectives of ENG 100. *Prerequisite(s): None Corequisite(s): None*

ENG-101 Composition I

MOTR Equivalent: MOTR ENGL 100 Composition I

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

English 101 introduces students to college-level writing and thinking through personal narrative, analytical, and research-supported writing. The processes of critical thinking, composing, revising, and editing are emphasized. Students will learn basic research skills and documentation techniques. *Prerequisite(s): None Corequisite(s): None*

ENG-102 Composition II

MOTR Equivalent: MOTR ENGL 200 Composition II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course continues developing students' abilities to use research and writing to make informed conclusions. In addition, the course develops students' skills to communicate these conclusions to professional and expert audiences. Emphasis is placed on honing skills of audience analysis, analytical reading, critical thinking, research methods, and persuasive writing. Also, this course will introduce students to patterns and conventions of multiple disciplinary communities. *Prerequisite(s): ENG 101.*

ENG-150 Technical Writing

MOTR Equivalent: MOTR ENGL 110 Technical Writing

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course emphasizes developing the student's ability to write clearly, concisely and accurately. Students practice collecting, analyzing, interpreting and presenting information in a variety of technical documents used in professional settings while using proper research and documentation techniques, sound visual design principles and effective writing styles suitable for a specific communicative context. Throughout, emphasis will be placed on honing skills in audience analysis, analytical reading, critical thinking, research methods and clear writing. *Prerequisite(s): ENG 101.*

ENG-180 Introduction to Literature

MOTR Equivalent: MOTR LITR 100 Introduction to Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

In this course, students read a wide selection of literary works from a variety of cultures and times. The primary characteristics of fiction, poetry and drama will be introduced, as students analyze the impact of social, cultural, linguistic and historical circumstances upon the literary imagination. *Prerequisite(s):* ENG 101

ENG-195 Selected Topics in Literature

Credits: 1

Contact Hours: Lec 1 Lab 0 Practicum 0

Tier Rate: Tier I

In this course, students read a narrow selection of literary works from a specific author, culture, era or region. The emphasis is on reading for understanding and enjoyment. Course can be repeated up to three times for credit, provided the topic is different each time.

ENG-210 Creative Writing - Short Story

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an introduction to the theory, technique, and terminology of short story writing and practical experience in writing in the form. *Prerequisite(s):* ENG 101.

ENG-215 Creative Writing - Poetry

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to the theory, technique, and terminology of poetry writing and practical experience in writing in the form. *Prerequisite(s):* ENG 101.

ENG-250 Children's Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an examination of literature suitable for preschool through elementary grades, including its development, its writing and publication, storytelling methods and criteria for selection and evaluation. *Prerequisite(s):* ENG 101.

ENG-260 Survey of World Literature I

MOTR Equivalent: MOTR LITR 200 World Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students in English 260 read and discuss a wide selection of the greatest literary works ever written, from the beginnings to 1600. The impact of the historic and cultural environment upon the literature are considered as students read for both critical analysis and appreciation. *Prerequisite(s):* ENG 101.

ENG-265 Survey of World Literature II

MOTR Equivalent: MOTR LITR 200 World Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students in English 265 read and discuss a wide selection of the greatest literary works ever written, from 1600 to the present. The impact of the historic and cultural environment upon the literature are considered as students read for both critical analysis and appreciation. *Prerequisite(s):* ENG 101.

ENG-340 Survey English Literature I

MOTR Equivalent: MOTR LITR 102 British Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students read and discuss major works of English nonfiction, fiction, poetry and drama written before 1790. The impact of the historic and cultural environment upon the literature is considered as students read for both critical analysis and appreciation. *Prerequisite(s):* ENG 101.

ENG-341 Survey English Literature II

MOTR Equivalent: MOTR LITR 102 British Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students read and discuss major works of English nonfiction, fiction, poetry and drama written since 1790. The impact of the historic and cultural environment upon the literature are considered as students read for both critical analysis and appreciation. *Prerequisite(s):* ENG 101.

ENG-350 Survey American Literature I

MOTR Equivalent: MOTR LITR 101 American Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students in English 350 read and discuss major works of American nonfiction, fiction, poetry and drama written before 1870. The impact of the historic and cultural environment upon the literature is considered as students read for both critical analysis and appreciation. *Prerequisite(s):* ENG 101.

ENG-351 Survey American Literature II

MOTR Equivalent: MOTR LITR 101 American Literature

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students in English 351 read and discuss major works of American nonfiction, fiction, poetry and drama written since 1840. The impact of the historic and cultural environment upon the literature is considered as students read for both critical analysis and appreciation. *Prerequisite(s):* ENG 101.

English as a Second Language

ESL-050 English as a Second Language/ TOEFL® Test Preparation

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students taking this course are exposed to situations and materials supporting comprehension, listening, speaking, writing and reading of the academic English language. Completion of this course demonstrates increased ability to use English language in both fundamental and philosophical concepts important in college interaction and studying. Students are familiarized with the format and instructions of the computerized TOEFL® test (required for international student admissions to all colleges and universities in North America) and the types of questions in each section (listening comprehension, grammar, and reading comprehension).

French

FRN-101 Beginning French I

MOTR Equivalent: MOTR LANG 101 French I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course introduces students to the basic structures and vocabulary of the French language as well as French-speaking cultures. All four skills are addressed: listening, speaking, reading and writing.

FRN-102 Beginning French II

MOTR Equivalent: MOTR LANG 102 French II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course broadens the basic communication skills of French. Using a four-skills approach that emphasizes meaningful communication in cultural context, students will build upon existing knowledge to interact effectively with course members to accomplish a variety of everyday tasks in culturally astute ways.

Fire Science Technology

FST-040 Beginning Firefighter 1 & 2

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

The course is a combination of classroom instruction and practical skill evolutions. Several of the Fire Fighter I practical skills are included in this course. These skill sheets are based on the Job Performance Requirements of NFPA 1001, Standard for Fire Fighter Professional Qualifications. These skills are a step-by-step process to allow the students to practice these methods & techniques. Should the student desire to pursue further certification, the skills will demonstrate completion of the skills.

FST-101 Principles Emergency Services

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

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 private and public protection services; fire departments as a part of local governments; 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.

FST-102 Building Construction

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

Firefighters must understand building construction to understand the behavior of buildings under fire conditions. The student is introduced to the principles, methods, techniques and terminology used in building construction and how building construction relates to fire protection and fire safety. The elements of construction and engineering design of structures relating to fire protection is emphasized. Structural components and structural collapse are studied. The different classifications of buildings and

how building construction and codes affect fire and life safety are discussed. This course is written to the National Fire Academy (NFA) FESHE curriculum *Prerequisite(s): None Corequisite(s): None*

FST-103 Emergency Medical Responder

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier II

This course focuses on the role of the Emergency Medical First Responder to initiate immediate lifesaving care to critical patients who access the emergency medical system through 911.

FST-104 Basic Firefighting

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier II

This course is designed to provide students some of the very basic knowledge and skills necessary to help them have limited functionality and function as members of a fire department. It will serve as a primer for the Firefighter certification courses. Much of the information contained in this program comes from the Fire Fighter I and II curriculum to provide continuity in training materials. The program is to coincide with the latest NFPA Fire Fighter Professional Qualifications. It is not the intent of the FST Program to imply that individuals completing this course are qualified to take part in an interior fire attack situation.

FST-105 Introduction to Firefighter 1&2

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course is based on the National Fire Protection Association 1001, Standard for Firefighter Professional Qualifications (current edition). The performance requirements and practical skills necessary to perform the duties of a firefighter are introduced. Topics include fire service organization, safety, fire behavior, self-contained breathing apparatus, ropes, hose, ladders, rescue, ventilation, salvage, overhaul, portable fire extinguishers, emergency medical care, fire control, water supply and fire prevention. Individuals successfully completing this course and meeting the requirements of Missouri Division of Fire Safety will be eligible for certification as Firefighter I and II by the Division of Fire Safety. This course serves as the initial step for Firefighter 172 certification. *Prerequisite(s):* FST 120 or concurrent enrollment.

FST-106 Firefighter I and II

Credits: 6

Contact Hours: Lec 4 Lab 4

Tier Rate: Tier II

This course is based on the National Fire Protection Association 1001, "Standard for Fire Fighter

Professional Qualifications," current edition. The performance requirements and practical skills necessary to perform the duties of a firefighter are thoroughly covered. Topics include fire service orientation, safety, fire behavior, selfcontained breathing apparatus, ropes, hoses, ladders, rescue, ventilation, salvage, overhaul, portable fire extinguishers, emergency medical care, fire control, water supply and fire prevention. Individuals successfully completing this course and meeting the requirements of Missouri Division of Fire Safety will be eligible for certification as Firefighter I and II by the Division of Safety. *Prerequisite(s)*: Grade of "C" or better in FST 105 and FST 120. *Corequisite(s)*: FST 120 can be taken concurrently.

FST-107 Fire Prevention

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course provides fundamental knowledge relating to the field of fire prevention. Topics include history and philosophy of fire prevention, organization and operation of the fire prevention bureau, use and application of fire codes and standards, plans review, fire inspection, fire and life safety education, and fire investigation. This course is written to the National Fire Academy (NFA) FESHE curriculum.

Prerequisite(s): None *Corequisite(s)*: None

FST-108 Fire Behavior & Combustion

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier II

This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled. *Prerequisite(s)*: None *Corequisite(s)*: None

FST-109 Fire Hydraulics

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection & to apply hydraulic principles to analyze and to solve water supply problems. *Prerequisite(s)*: None *Corequisite(s)*: None

FST-110 Principle of Firefighter & Emergency Services Safety & Survival

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This Course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change throughout the emergency services.

Prerequisite(s): None *Corequisite(s)*: None

FST-111 Strategy and Tactics

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.

FST-113 Health Care First Responder

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course trains healthcare and industry first responders to deal with a wide array of potential medical emergencies as they provide care until a higher level of care arrives.

FST-117 Fire Protection Systems

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course provides information relating to the features of design & operation of fire alarm systems, water based fire suppression systems, special hazard fire suppression systems, water supplies for fire protection, and portable fire extinguishers. *Prerequisite(s):* None *Corequisite(s):* None

FST-120 Hazardous Materials

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course is based on NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents (current edition). This course focuses on chemical characteristics and reactions related to the storage, transportation and handling of hazardous materials. Emphasis is placed on the handling of hazardous materials emergencies, fire control and containment. Individuals successfully completing this course and meeting the requirements of the Missouri Division of Fire Safety will be eligible for state certification to the Hazardous Materials Operations level by the Division of Fire Safety.

FST-201 Firefighter 2

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier II

This course is based on the National Fire Protection Association 1001, Standard for Firefighter Professional Qualifications, current edition. The performance requirements & practical skills necessary to perform the duties of a firefighter are thoroughly covered. Topics include fire service orientation,

firefighter safety, communications, building construction, scene lighting, extrication, hoses, ladders, ventilation, ventilation, fire control, water supply, water streams, cause and origin, fire & life safety initiatives. Individual successfully completing this course and meeting the requirements of the Missouri Division of Fire Safety will be eligible for certification as Firefighter by the Division of Fire Safety.

Prerequisite(s): Permission of Program Director/Instructor required.

FST-207 Community Risk Reduction

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course provides a theoretical framework for the understanding of the ethical, sociological, organizational, political, and legal components of community risk reduction, and a methodology for the development of a comprehensive community risk reduction plan. *Prerequisite(s):* Grade of "C" or better in FST 107, FST 211, FST 215.

FST-210 Fire Department Officer

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course addresses NFPA 1021, Standard for Fire Officer Professional Qualifications (current edition). The role of a Company Officer is discussed, along with how that role relates to the department, the community, liability and legal responsibilities attached to this position. Discussion of labor relations, budgeting, information management and fire department communications are included. Company level inspections, investigations and training are discussed along with emergency service delivery. The Company Officers' responsibilities relating to firefighter safety and health are also discussed. Students successfully completing this course and meeting the requirements of Missouri Division of Fire Safety will be eligible for certification as Fire Officer I by the Division of Safety. (Students must have a minimum of three years experience in the fire service or a letter of recommendation from the executive fire officer of the department in order to apply for state certification) *Prerequisite(s):* FST 215 or concurrent enrollment.

FST-211 Fire Officer II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course addresses NFPA 1021, Standard for Fire Officer Professional Qualifications (current edition). The role of a Company Officer is discussed, along with how that role relates to the department, the community, liability and legal responsibilities attached to this position. Discussion of labor relations, budgeting, information management and fire department communications are included. Company level inspections, investigations and training are discussed along with emergency service delivery. The Company Officers' responsibilities relating to firefighter

safety and health are also discussed. Students successfully completing this course and meeting the requirements of Missouri Division of Fire Safety will be eligible for certification as Fire Officer I by the Division of Safety. *Prerequisite(s)*: Grade of "C" or better in FST 210 and FST 215.

FST-212 Administrative Fire Officer (III)

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course addresses NFPA 1021, Standard for Fire Officer Professional Qualifications (current edition). A course specialized for the chief officer who is ready to advance into the upper management level of his/her department. This course consists of subjects designed to give the officer more knowledge of management and administration so that he/she can make basic evaluations of employee relations and assume a more proactive role in their department. This is a projects-based class. *Prerequisite(s)*: Grade of "C" or better in FST 210 and FST 211.

FST-215 Fire Service Instructor I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course is based on NFPA 1041, Standard for Fire Service Instructor Professional Qualifications (current edition). This course will provide basic instructional knowledge that is necessary to develop skills for preparing and presenting training for fire and emergency service organization personnel. Topics covered in this course include dealing with outline and course development, using visual aids and testing procedures. Individuals successfully completing this course and meeting the requirements of Missouri Division of Fire Safety will be eligible for certification as Fire Service Instructor I by the Division of Fire Safety.

FST-216 Fire Instructor II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course is based on NFPA 1041, Standard for Fire Service Instructor Professional Qualifications (current edition). This course will provide basic lesson plan development and course evaluation that is necessary to develop skills for preparing and presenting training for fire and emergency service organization personnel. Topics covered in this course include dealing with outline and course evaluation and testing procedures. Individuals successfully completing this course and meeting the requirements of Missouri Division of Fire Safety will be eligible for certification as Fire Service Instructor II by the Division of Fire Safety. *Prerequisite(s)*: FST Grade of "C" or better in FST 215 and FST 210.

FST-230 Fire Investigation I

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

Note: It is recommended students complete Firefighter 1&2 in preparation for this course. This course is intended to provide the students with the fundamentals & technical knowledge needed for proper fire scene interpretations, including recognizing & conducting origin & cause, preservation of evidence & documentation, scene security, motives of the fire setter, and types of fire causes. This course is based on NFPA 1033, Standard for Professional Qualifications for Fire Investigator (current edition).

Prerequisite(s): None *Corequisite(s):* None

FST-231 Fire Investigation II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course is based on NFPA 1033, Standard for Professional Qualifications for Fire Investigator (current edition). This course is intended to provide the student with the fundamental and technical knowledge on the applicable laws needed for proper fire scene investigation and an understanding of the dynamics of fire behavior, as well as the preparation and presentation of a court case. *Prerequisite(s):* Grade of "C" or better in FST 210 and FST 230.

FST-240 Occupational Safety & Health for Emergency Responders

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Includes risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. *Prerequisite(s):* Grade of "C" or better in FST 210 or concurrent enrollment.

FST-250 Fire Service Reports & Comm

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

With an emphasis on providing tools, not rules; students will focus on the types of communication required by jobs in fire department operations. Designed for those who need to polish skills used in their current positions, students, in this course will analyze and write a variety of reports, memos, proposals and other communications used everyday in the fire service.

FST-260 Technical Rescue Core

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course will involve both classroom lecture and practical skills training followed by scenario evolutions. Class participation is expected from all students.. This course is based on Chapter 5, NFPA 1006 - 2013 Standard for Rescue Technician Professional Qualifications, and facilitates ProBoard and/or IFSAC certifications in one or more of the technician level rescue specialties identified in Chapters 6 through 19. Designed for both fire department and emergency service personnel and private industry, this course provides responders with a basic understanding of technical rescue incidents and their hazards. The course is a combination of theory and practical demonstrations touching on the topics of: Rescue scene site operations Rescue incident victim management Rescue equipment maintenance Rescue ropes and rigging Practical and classroom sessions focus on stabilizing the incident, accessing and stabilizing the patient. Realistic training evolutions using effective equipment and techniques ensure student retention of this material.

FST-275 Legal/Contemp Issues-FST/EMS

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course will address the federal, state, and local laws that regulate emergency services and include a review of national standards, regulations, and consensus standards and examine the broad spectrum of change confronting the fire service. Emphasis will be placed upon the identification of crucial issues that will affect the future of the fire service over the next decade. Areas of discussion include regionalization, privatization, alternative forms of special delivery, paradigm shifts, environmental scanning and the need to be a proactive agent of community-based change. *Prerequisite(s):* FST 215, FST 230, ENG 101 or ENG 100 and 100A, ENG/COM elective, PLS 101 or HST 120 or concurrent enrollment, PSY 110 or concurrent enrollment.

FST-280 Capstone Assessment

Credits: 3

Contact Hours: Lec 1 Practicum 6

Tier Rate: Tier II

Note: Course only offered in the spring semester. The purpose of this course is to allow the student to apply the knowledge acquired from their educational experience in the Fire Science Technology Program toward an internship with a fire department to include the completion of a project, goals, and a reflection paper. A student must earn a Grade of "C" or better in this course to meet the FST graduation requirements. *Prerequisite(s):* 45 credit hours completed.

Fire Service Administration

FSA-209 Emergency Management

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

This course provides an overview of Emergency Management and the role of Emergency Managers in dealing with man-made and natural disasters. This course will also examine the role of fire departments and fire department personnel within the Emergency Management system, as well as their roles during disaster management and mitigation.

Graphic Design Technology

GDT-105 Graphic Design I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This is an introductory course that focuses on development of visual concepts and basic design principles and elements of visual communication. Emphasis is on the creative process, typography, color systems and imagery through different forms of communication. Labs provide industry standard software for hands-on application.

GDT-115 Typography

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course addresses the language of type and its effective use. Emphasis is on exploration of typographic structures, terminology and methods for visual communication.

GDT-122 Page Layout Design

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course is a study of the art of organizing typography, graphics and imagery. Using industry standard software the student will build publication designs with a specific message for a defined audience.

Prerequisite(s): Grade of "C" or better in GDT 105, GDT 115.

GDT-125 Digital Illustration

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This is a course that focuses on the art of illustration. The emphasis will be creating visual illustrations that communicate a specific message to a defined audience. *Prerequisite(s):* Grade of "C" or better in GDT 105.

GDT-137 Photo Illustration

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier II

This course is an exploration of various methodologies, techniques and tools used to create engaging, self-expressive art by combining various software painting and drawing tools with photographic imagery.

GDT-138 Comic Book Art and Design

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

This course is a study and exploration of the various methodologies, techniques, and tools used to create sequential graphic art in support of clear storytelling and communication. The student will apply these elements to create comic book pages, focusing on clear and concise layouts/designs. .

GDT-143 Animation

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

This course introduces the principles of drawing and the creation of characters to convey movement and emotions. *Prerequisite(s):* Grade of "C" or better in GDT 105.

GDT-144 T-shirt Design

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

This course focuses on creating color concepts for color processing to various mediums. *Prerequisite(s):* Grade of "C" or better in GDT 105.

GDT-146 Surface Decal Design

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier II

In this elective course, students will conceptualize and design vinyl decals for visual communication using vector and cutting software to apply on walls or other smooth surfaces. *Prerequisite(s):* GDT 105.

GDT-160 Digital Photography

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course provides an introduction to the tools, procedures, concepts and application of photographic imaging. Students use digital cameras to make images to meet the requirements of a series of assignments designed to develop specific skills, competencies and points of view and to stimulate the students' creative capacities for communication, basic design and composition theory, image preparation and enhancement for publication.

GDT-161 Lighting

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course covers both artificial, natural lighting as well as the combination of both. Students will photograph a variety of subjects to learn common lighting issues and powerful solutions needed to capture professional imagery. Instruction covers the use of light meters, reflectors, fill flash, soft boxes, and the safe operation of studio strobe equipment.

GDT-162 Studio Photography

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

In this course, students will be introduced to traditional and contemporary portrait and product aesthetics, tools and methodologies. Students will gain an understanding of composition, cosmetic considerations and posing techniques within a controlled studio environment. *Prerequisite(s):* Grade of "C" or better in GDT 105 and GDT 160.

GDT-163 Digital Image Editing

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Students will learn to organize, manipulate, color correct, and prepare photo imagery for print and/or Web design. Applications would be advertising, portrait/wedding photography, and editorial photography. Students will learn to effectively communicate through imagery for specific parameters.

Prerequisite(s): Concurrent enrollment in GDT 115 and GDT 162.

GDT-165 Advertising Design

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course is a study and exploration of technical methods and manipulation of imagery to create visual

solutions to communicate and support advertising goals. The student will apply principles of advertising to create holistic solutions, focusing on visual components for advertising scenarios. *Prerequisite(s)*: Grade of "C" or better in GDT 105 and GDT 115.

GDT-218 Graphic Production

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will explore brand identify and promotional design through color, resolutions and size ratios through designing creative product packaging, signage and social media. *Prerequisite(s)*: Grade of "C" or better in GDT 105, GDT 115, GDT 122 and GDT 165.

GDT-222 Production Practicum

Credits: 4

Contact Hours: Lec 0 Lab 0 Practicum 12

Tier Rate: Tier II

This course is designed to broaden students overall print production experience and knowledge beyond what can be learned in the classroom.

GDT-225 Motion Graphic Design

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course develops the basic skills and processes of creating motion graphics necessary to produce titles and 2D animation. It combines animation; special effects, images, video and text logos. Students learn and experience story telling and animation for current venues. *Prerequisite(s)*: Grade of "C" or better in GDT 105, GDT 115, GDT 125 and GDT 160.

GDT-248 Publication Design

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This advanced course will focus on planning and exploring page layouts in creative ways for various publications that will engage the target audience. Students will develop concepts to generate designs that will spark curiosity and creatively organize content to support the visual message. *Prerequisite(s)*: Grade of "C" or better in GDT 105, GDT 115, GDT 122, GDT 125 , GDT 165.

GDT-250 Web Page Design

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

The course will focus on the application of graphic design principles to Web page/site development, emphasizing UX (user experience) and UI (user interface) aspects of Web page construction. The student will use an HTML/CSS editor to create and maintain a portfolio website. SEO (Search Engine Optimization) and other marketing considerations will be discussed. *Prerequisite(s):* Grade of "C" or better in GDT 105, GDT 115, GDT 122 and GDT 160.

GDT-258 Graphic Design II

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Students taking this course will demonstrate their thorough knowledge of design theory, file preparation for output and advanced software skills in Adobe Illustrator, Photoshop, InDesign, and After Effects. Students will conceptualize and create projects that include, but are not limited to, brand identity, publication, motion graphic and package designs. *Prerequisite(s):* Grade of "C" or better in GDT 122, GDT 125, GDT 160, GDT 165, GDT 218 and GDT 225 .

GDT-264 Creative Concepts

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

In this course, students will use lights, cameras and various digital technologies to create, interpret and produce imagery for conceptual ideas. Students will gain a better understanding of photography as a creative skill in visual communication. *Prerequisite(s):* Grade of "C" or better in GDT 163

GDT-265 Location Photography

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course demonstrates how a carefully chosen environment becomes an integral component of the final image. Students will scout and choose locations, solve logistics and take advantage of unique lighting and compositional opportunities. *Prerequisite(s):* Grade of "C" or better in GDT 163.

GDT-266 Video for Photography

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This course introduces the student to planning, storyboards, non-linear editing, directing, scheduling, aesthetic issues, composition and story development. *Prerequisite(s):* Grade of "C" or better in GDT 163.

GDT-273 Photo Markets and Business

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

In this course students will brand and market their business, apply copyright to photographs, explore overhead costs, tax considerations and implement pricing techniques. *Prerequisite(s):* Grade of "C" or better in GDT 264, GDT 265, and GDT 266.

GDT-275 Portfolio Design and Professional Practices

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Developing and choosing the right pieces to include in the portfolio and presenting art work are crucial skills for a Graphic Designer. In this course, the student will learn to set career goals, write a creative resume, select and prepare pieces for a portfolio, develop self-promotional materials and practice communication skills to prepare for the job interview. *Prerequisite(s):* Grade of "C" or better in GDT 160 and GDT 258, GDT 248, GDT 250, GDT 225 or concurrent enrollment.

GDT-290 Co-Operative Ed/Intern

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course entails supervised work experience in the major field, which provides the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. *Prerequisite(s):* Completion of 30 credit hours and 2.0 GPA, or advisor's approval. Please see the Department Chair of the specific program area for application.

German

GRM-101 Beginning German I

MOTR Equivalent: MOTR LANG 105 Foreign Language I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to pronunciation, syntax, vocabulary and speech patterns through aural-oral practice of the German language. The course is conducted in German as far as is practical.

GRM-102 Beginning German II

MOTR Equivalent: MOTR LANG 106 Foreign Language II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course presents the essentials of German grammar through aural practice, reading and writing, with the emphasis on learning to use German in a variety of situations for a specific purpose. *Prerequisite(s):* GRM 101.

Geography

GRY-101 World Geography

MOTR Equivalent: MOTR GEOG 101 World Regional Geography

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students in this course learn the role of geography in the economic, political and social development of each of the regions studied and how the various world regions interact with one another.

GRY-230 World Economic Geography

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides students with an in-depth introduction to economic geography. It also examines how people earn a living and how the goods and services they produce are geographically organized.

Prerequisite(s): Grade of "C" or better in GRY 101

Hearing Instrument Science

HIS-100 Intro to Hearing Science

Credits: 1

Contact Hours: Lec 1 Lab 0 Practicum 0

Intro to Hearing Science is a course required for all students interested in entering the Hearing Instrument Science program. Students will learn about the degree and certificate programs. Students will gain an overview of the hearing healthcare field. Students will learn skills crucial to their success in the Hearing Instrument Science program.

HIS-110 Bioacoustics

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course defines, describes and identifies the physical processes of sound, sound transmission, sound measurement, and sound amplification as related to hearing and hearing instruments. Psychoacoustic principles and methods and their applications to the measurement of a variety of auditory phenomena are also presented.

HIS-120 Anatomy and Physiology of the Auditory System

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course provides a detailed coverage of the anatomy and physiology of the normal outer, middle, and inner ears, including the balance (vestibular) system. Basic concepts relating to the peripheral and central nervous systems are also included, so that the roles of the auditory or VIII cranial nerve and central auditory nervous systems can be appreciated. The various pathologies of the abnormal ear and vestibular system, as they relate to those of the normal ear, will also be introduced in this course. More specific coverage of ear pathology is to be found in HIS 125 Hearing and Auditory Disorders. Successful completion of this course relies heavily on absorbing concepts; course delivery consists of classroom lectures.

HIS-125 Hearing and Auditory Disorders

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course covers in further detail the various types of ear pathology that were introduced in HIS 110 Anatomy and Physiology. The various pathologies of the abnormal ear and vestibular system, as they relate to those of the normal ear, will be specifically described in this course. The types of hearing loss that result from various hearing pathology will also be described here.

HIS-130 Introduction to Audiometry

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course introduces the theory and practice of auditory assessment through the use of patient history information, otoscopy, and audiometry. Calibration requirements and otologic considerations and understanding of infection control are also covered.

HIS-140 Introduction to Hearing Instrument Components

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course introduces the student to hearing aid components and styles, as well as electro-acoustic measurements of hearing aid function according to the American National Specifications Institute (ANSI). The course begins with coverage of basic hearing aid styles as well as their electronic components such as microphone types, amplifiers, and receivers. The course also introduces methods whereby to troubleshoot and repair hearing aids. Students learn the specifics of ANSI tests that are routinely performed, in order to determine if a hearing aid is functioning normally or not. Students are introduced to linear versus compression signal processing, input/output functions, and concepts of programmability and multi-channel amplification. Students will also learn to take earmold impressions of the outer ear, which are normally done in the clinic for subsequent hearing aid fittings. A hands-on lab forms an integral part of this course.

HIS-150 Hearing Inst Fitting Methods

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

An integral part of hearing health care is to determine how much amplification to provide for clients with specific amounts and types of hearing loss, and how to verify that these goals have indeed been achieved. The hearing aid recommendation process is specifically addressed in this course. This course discusses the historical development of hearing aid fitting methods leading up to the most commonly used fitting methods used today. Discussion includes objective means of Real Ear or Probe Tube Measures whereby to assess how much amplification is being provided, and to verify that the fitting is optimal for the client. Successful completion of this course relies heavily on absorbing concepts; course delivery consists of classroom lectures. This course is intended to complement the laboratory oriented course on Real Ear Measures (HIS 250)

HIS-160 Professional Ethics

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course presets a summary of the basic functions of the immune system, and basic principles of microbiology. The student is exposed to the regulatory agencies involved in infection control and will learn the federally mandated requirements that must be contained in a written infection control plan. A second section of the course presents the issues surrounding the HIPAA and the principles for compliance within a clinic environment. A final section addresses the ethical and legislative issues impacting the profession of hearing health care. Here, the student will acquire knowledge regarding the Hearing Instrument Specialist (HIS) scope of practice, especially as it relates to those of the Audiologist, and Physician. Legal concepts of controlled acts and protected titles. This includes careful study of the statutes and rules of various states, the relevant Federal Guidelines, and aspects of practice that lead to compliance with those fundamentals.

HIS-170 Clinical Practicum I

Credits: 1

Contact Hours: Lec 0 Lab 0 Practicum 3

Tier Rate: Tier III

This course provides students with an opportunity to observe and gain practical experience in assessment, fitting and troubleshooting, either in a hearing instrument practitioner's office or in the OTC Simulation Center. Students perform duties under the supervision of a licensed hearing instrument specialist or other appropriate hearing professional. Background check, drug screening and immunizations will be completed in this course. *Prerequisite(s):* Grade of "C" or better in HIS 110, HIS 120, HIS 130, HIS 140. *Corequisite(s):* Concurrent enrollment in HIS 125 and HIS 150.

HIS-230 Advanced Audiometry

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course reviews concepts learned in the introductory course on audiometry, and expands on them considerably. Specifically, it covers not only the topic of when to use masking, but also how to perform masking. We will examine various types of advanced speech testing materials, such as speech-in-noise testing procedures. We will also look much further into the topic of the Acoustic Reflex. The course also introduces concepts of specialized audiometric tests performed by Audiologists, and important for the HIS to recognize, such as: Acoustic Reflex Decay, Oto-acoustic Emissions, Auditory Brainstem Response. A hand-on lab forms part of this course. *Prerequisite(s):* Grade of "C" or better in HIS 125 and HIS 130.

HIS-240 Compression & Digital Feature

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

Types of signal processing that are used in digital hearing aids are covered in detail in this course. These types range from linear amplification to the myriad types of compression, such as: output limiting, wide dynamic range compression, and expansion. Electro-acoustic testing measures (ANSI testing) will be briefly covered again in this course. Additionally the adaptive features such as Digital Noise Reduction, Adaptive Directionality, and Adaptive Feedback Cancellation as incorporated in today's digital hearing aids will be explored. Successful completion of this course relies heavily on absorbing concepts, as well as listening to examples of commonly prescribed hearing aids. Course delivery consists of classroom lectures. *Prerequisite(s):* Grade of "C" or better in HIS 140 and HIS 150.

HIS-250 Real Ear Measurements

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course begins with a review of the fitting methods discussed in the previous fitting methods course (HIS 150). It then continues to describe how to apply these fitting methods. Specifically, this refers to

how to measure and verify the respective aided outcomes that were predicted by the fitting methods utilized on the hearing aid manufacturers' fitting software. Verification includes objective procedures of sound field measurement and/or real ear measurement (REM). Early fitting methods relied upon sound field measurement for verification. Today's fitting methods rely upon REM. This course will follow the course of REM development, as it evolved along with fitting methods from yesterday until today. Students will determine how much amplification to provide for the client's hearing loss. They will enter a hearing loss, select a fitting method on the manufacturer fitting software, and proceed to verify the fitting by means of REM. Hearing instrument selection is specifically addressed within this course. Each student will discuss and verify performance features of today's digital hearing aid algorithms. These include digital noise reduction, feedback suppression and directional microphone performance which were covered in HIS 240. A lab forms part of this course. *Prerequisite(s)*: Grade of "C" or better in HIS 230 and HIS 240.

HIS-260 Aural Rehabilitation

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course presents the skills and competencies necessary for the management of a typical hearing healthcare office's business operations. Essential elements of an effective marketing campaign for a successful hearing instrument office are discussed. Students practice and demonstrate skills necessary to increase patient compliance with suggested purchase recommendations. *Prerequisite(s)*: Grade of "C" or better in HIS 160.

HIS-270 Clinical Practicum II

Credits: 3

Contact Hours: Lec 1 Lab 0 Practicum 6

Tier Rate: Tier III

This course provides students with continuing practice in assessing hearing impaired adults, along with the selection, fitting and troubleshooting of hearing instruments in a hearing professional's clinic and office. Students assume increasing responsibility in the assessment and care of clients under the supervision of a hearing instrument specialist or other hearing health care professional such as an audiologist. *Prerequisite(s)*: Grade of "C" or better in HIS 170, HIS 230, HIS 240, or concurrent enrollment.

HIS-280 Clinical Practicum III

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier III

The purpose here is to expose the student to all previously covered aspects of testing, fitting, and counselling. These additional aspects include further testing and interpretation of more advanced audiometric, such as: masking procedures for air & bone conduction, speech-in-noise testing, as well as tympanometry and acoustic reflexes. The practicum must be completed at sites where the full scope of

HIS practice is implemented on a routine basis. During this experience, students will participate as contributing team members in private practice settings, and will be observed and supervised by practicing HIS's or Audiologists who are members of their Associations in their States. Note: Practicum sites will be approved by the college. *Prerequisite(s)*: Grade of "C" or better in HIS 230, HIS 240, HIS 270.

HIS-285 Clinical Practicum IV

Credits: 1

Contact Hours: Lec 0 Lab 0 Practicum 3

Tier Rate: Tier III

This practicum will prepare students to take their State licensing exams. *Prerequisite(s)*: Grade of "C" or better in HIS 280 or Program Director approval.

Health Information Technology

HIT-110 Introduction to Health Information Technology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course provides an introduction to health data management and healthcare delivery in the acute care setting. Focus will be on the health data structure, content, and standards, in conjunction with the healthcare information requirements and standards. Topics will include type and content of the health record, documentation requirements, structure and use of health information, health record data collection tools, data sources, data storage and retrieval, and healthcare data sets. Emphasis will be on data quality and integrity.

HIT-120 Medical Coding I

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier II

This course provides an introduction to the historical development of medical coding and current clinical classification systems. Focus will be on ICD-10-CM/PCS and the role of medical coding in billing, reimbursement, and research. Topics will include concepts, principles, nomenclature, and application of the ICD-10-CM/PCS classification systems, as well as the coding guidelines and conventions. Emphasis will be on the accurate assignment of codes with the ICD-10-CM diagnosis and ICD-10-PCS inpatient procedure classification systems. *Prerequisite(s)*: Grade of "C" or better in HIT 110, HIT 191, BCS 115 and CIS 101.

HIT-130 Health Information Technology Applications I

Credits: 3

Contact Hours: Lec 3 Lab No Practicum 0

Tier Rate: Tier II

This course provides an introduction to common health information software applications. Focus will be on health data management, medical terminology, pathophysiology and pharmacology. Topics will include introduction to simulation software applications related to Master Patient Index, reporting mechanisms, custom form revision, duplicate management, data management, Uniform Hospital Discharge Data Set elements, encoder reference tools. Emphasis will be on data quality and data integrity. *Prerequisite(s):* Grade of "C" or better in HIT 120 or concurrent enrollment.

HIT-191 Medical Terminology for HIT

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course provides an introduction to basic word structure in medical terminology using a body systems approach. Focus will be on word roots, prefixes, suffixes, and combining forms. Topics will include conventional pathology, pharmacology, diagnostic and therapeutic procedures, and abbreviations related to each body system, along with an examination of root operations and approaches associated with the ICD10CM/PCS clinical classification systems. Emphasis will be on word building, pronunciation, spelling, and medical terminology commonly used in health record documentation.

HIT-200 Comparative Health Records & Reimbursement Systems

Credits: 3

Contact Hours: Lec 3 Lab No Practicum 0

Tier Rate: Tier II

This course is an inspection of non-acute healthcare settings with the United States healthcare delivery system. Focus will be on hospital-based and freestanding ambulatory care facilities, behavioral health facilities, longterm care facilities, rehabilitation facilities, home health care, and hospice. Topics will include the organizational structures, accreditation and licensing requirements, documentation requirements, and the financing of healthcare services, including the influence of managed care. Emphasis will be on various payment and reimbursement methodologies and data sets, as well as the responsibilities of the health information professional. *Prerequisite(s):* Grade of "C" or better in HIT 220, HIT 230, CIS 201 and MTH 128 or higher.

HIT-201 Healthcare Quality Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course is a survey of the principles of quality management and performance improvement in healthcare. Focus will be on continuous quality improvement, utilization management, case management, and risk management in healthcare. Topics will include certification, licensing, and accreditation of healthcare organizations, compilation, presentation, and analysis of healthcare data

using graphic tools, screening criteria, quality initiatives, and patient safety implementation. Emphasis will be on abstracting and analysis skills, along with reporting clinical data skills. *Prerequisite(s)*: Grade of "C" or better in HIT 110 and CIS 201.

HIT-215 Health Information Systems

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course explores information systems in healthcare. Focus will be on the role, evolution, security, and selection of appropriate communication technologies and software applications. Topics will include database management, systems development life cycle, telecommunications, networks, exchange and compatibility standards, personal health records, and the electronic health record, along with an in depth examination of current legislation, and meaningful use. Emphasis will be on accurate data collection, storage, analysis, and reporting using electronic health record software. *Prerequisite(s)*: Grade of "C" or better in HIT 110 and CIS 201.

HIT-220 Medical Coding II

Credits: 4

Contact Hours: Lec 3 Lab Yes Practicum 0

Tier Rate: Tier II

This course is a continuation of HIT 120 with an emphasis on advanced coding theory. Focus will be on ICD-10-CM/PCS and the role of medical coding in inpatient billing and reimbursement. Topics will include the sequencing of codes, validating code assignments, and resolving discrepancies between coded data and documentation. Emphasis will be on the quality of specific coding, MS-DRG reimbursement methodology, including coding compliance with federal reimbursement and reporting requirements. *Prerequisite(s)*: Grade of "C" or better in HIT 120.

HIT-230 Medical Coding III

Credits: 4

Contact Hours: Lec 3 Lab Yes Practicum 0

Tier Rate: Tier II

This course provides an introduction to the latest versions of Current Procedural Terminology (CPT) and Healthcare Common Procedure Coding System (HCPCS) Level II. Focus will be on the role of procedure, service, and supply codes in billing and reimbursement, as well as the process and management of the revenue cycle of health insurance claims. Topics will include concepts, principles, nomenclature, and application of the CPT/HCPCS Level II classification systems. Emphasis will be on locating, applying, and understanding the reporting of medical services and procedures performed by physicians and outpatient facilities according to CPT/HCPCS and federal regulatory guidelines. *Prerequisite(s)*: Grade of "C" or better in HIT 120.

HIT-260 Legal Aspects of Healthcare

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course is an overview of legal and ethical issues affecting the healthcare industry, healthcare providers, and health information management professionals. Focus is on federal regulations, state laws, professional practice and ethical standards. Topics will include medical staff credentialing, tort law, judicial procedure, negligence and medical malpractice, corporate liability, contracts, access and disclosure of personal health information, informed consent, patient rights, and ethics. Emphasis will be on knowledge-based research skills and the procedures for safeguarding the privacy and confidentiality of health information. *Prerequisite(s):* Grade of "C" or better in HIT 110 and CIS 201.

HIT-265 Health Information Technology Applications II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course is a continuation of Health Information Technology Applications I with advanced practice using common health information software applications. Focus will be on the quality and accuracy of coding, statistical data, health data security, electronic health record, and privacy of health data. Topics will include MS-DRG, encoders, groupers, physician query, data display and release of information. Emphasis will be in data quality and data integrity *Prerequisite(s):* Grade of "C" or better in HIT 130, HIT 215, HIT 220, HIT 230, HIT 260, and HIT 270. *Corequisite(s):* HIT 215, HIT 260, HIT 270 can be taken concurrently.

HIT-270 Healthcare Statistics

Credits: 3

Contact Hours: Lec 3 Lab No Practicum 0

Tier Rate: Tier II

This course is a study of the basic descriptive, institutional, and clinical statistics in healthcare. Focus will be on transforming data into meaningful information for use in clinical and financial decision making. Topics will include commonly computed rates and percentages, clinical indices, databases and registries, vital statistics, and knowledge-based research techniques. Emphasis will be on data selection and interpretation skills, together with presentation skills. *Prerequisite(s):* Grade of "C" or better in CIS 201, HIT 110 and MTH 128 or higher.

HIT-280 Organization and Supervision in Healthcare

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course is an examination of the principles of organization of a Health Information Management Department and the supervision of human resources. Focus will be on the application of the management functions of planning, organizing, directing, and controlling. Topics will include policies and

procedures, budgets, organization charts, job descriptions, performance standards, orientation and training programs, teams and committees, motivation techniques, performance evaluations, productivity and workflow monitors, and labor regulations. Emphasis will be on critical thinking skills, as well as communication and interpersonal skills. *Prerequisite(s)*: Grade of "C" or better in HIT 120, HIT 215, HIT 260, HIT 270 and ENG 150.

HIT-290 Prof Practice Experience

Credits: 3

Contact Hours: Lec 0 Practicum 9

Tier Rate: Tier II

This course facilitates supervised field-based learning in affiliate healthcare and healthcare-related agencies. It is designed to provide the student with an opportunity to integrate classroom and clinical experience within the Health Information Management Department and other associated departments. Students are expected to complete a defined number of hours of nonpaid practical experience at the designated practice site. Students are responsible for transportation and other expenses related to this course. Students are required to pass a comprehensive program exit examination. *Prerequisite(s)*: Grade of "C" or better in HIT 200, HIT 201, HIT 265, and HIT 280, or concurrent enrollment, a minimum overall cumulative GPA of 2.50 and permission of program director.

Health & Wellness

HLT-100 Introduction to Health Professions

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This course provides an exploration of various health professions. This course covers strategies for success in a health profession including career planning, self-assessment and prerequisites for admission to health care career programs. Cultural diversity, patient confidentiality, medical ethics, legal issues and professionalism are discussed.

HLT-101 Lifetime Wellness

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier I

This course is designed to encourage students to make intelligent decisions concerning overall wellness through fitness. This course will teach students the principles of wellness, fitness, nutrition, weight control and community health issues.

Heating, Refrigeration and A/C

HRA-102 Basic Refrigeration Theory and Application

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This introductory course provides students through lecture and lab the basic knowledge and skills required to comprehend the refrigeration cycle and service the refrigeration system. *Prerequisite(s):* Grade of "C" or better in HRA 103. *Corequisite(s):* HRA 103 can be taken concurrently.

HRA-103 Electricity for Heating, Refrigerant and A/C

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

This is a lecture/laboratory course focused on AC electrical theory, troubleshooting and schematic reading as applied to refrigeration and air conditioning systems. *Prerequisite(s):* Grade of "C" or better in HRA 102. *Corequisite(s):* HRA 102 can be taken concurrently.

HRA-125 Refrigerants and Refrigerant Handling

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course offers Lecture/Lab experiences that familiarize the students with the characteristics of the most commonly used refrigerants and retrofitting CFC systems. Refrigerant recovery and evacuation procedures are emphasized and practiced during this course. The course includes administration of the EPA Exam. *Prerequisite(s):* HRA 102.

HRA-135 Refrigeration Motors and Controls

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course offers Lecture/Lab experiences that familiarize the students with the characteristics of electrical controls and motors in refrigeration, heating and air conditioning systems. The students will learn and wire electrical circuits that are commonly used in refrigeration, heating and air conditioning. Students will learn the fundamentals of electronic control boards used on central air conditioners. *Prerequisite(s):* HRA 103.

HRA-140 Math for HVACR

Credits: 3

Contact Hours: Lec 3 Lab 0

Tier Rate: Tier II

Course content includes the fundamental processes of mathematics with emphasis on problem-solving techniques. This course covers mathematical principles and concepts applicable to the HVACR trades utilizing introductory algebra, geometry, and elementary trigonometry.

HRA-180 Air Distribution Systems

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier II

Note: Course offered in the spring semester. This course offers the knowledge & skill necessary to design, size and fabricate duct systems used in heating and air conditioning. Emphasis will also be given to air quality management and humidification.

HRA-225 Programmable Control

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This lecture/lab course introduces the basic hardware and programming language of common programmable logic controllers (PLCs) used in industrial process control systems. The student learns the proper syntax of PLC code, basic commands and the functioning of the program cycle. Programs will be written around discreet control elements. Students learn how to use basic programming commands to perform typical industrial processes. *Prerequisite(s):* HRA 102, HRA 103, HRA 135.

HRA-245 Commercial Refrigeration Systems

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course offers lecture/laboratory experiences that provide the student with knowledge of commercial refrigeration systems. Refrigeration & electrical knowledge that has been gained from previous courses will be applied specifically to commercial applications. The student will have the opportunity to work on varied types of commercial equipment. Skills that are needed to troubleshoot a variety of commercial equipment will be acquired. *Prerequisite(s):* HRA 102, HRA 103, HRA 135

HRA-250 Advanced Commercial Refrigeration

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This is a lecture/laboratory course that will allow the student to understand the operation of larger commercial refrigeration systems that are used in wholesale, warehouses and industrial settings. Refrigeration and electrical knowledge that has previously been gained will be applied to understand the unique refrigeration components used on these systems. Skills and knowledge needed to size equipment and refrigerant lines will be covered in this course.

Prerequisite(s): HRA 102, HRA 103, HRA 135

HRA-265 Residential Heating and Air Conditioning

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This course offers lecture/laboratory experiences that provide the student with the knowledge and skills needed to install and troubleshoot residential air conditioners and furnaces. *Prerequisite(s):* HRA 102, HRA 103.

HRA-270 Advanced Heating and Air Conditioning

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course offers lecture/lab experiences that provide the students additional opportunities to apply heating and air conditioning knowledge acquired in previous courses or from actual experience. Topics are oriented toward applications of specialized systems such as heat pumps, hydronics and packaged systems. *Prerequisite(s):* HRA 102, HRA 103, HRA 265

HRA-281 Heating, Refrigeration and A/C Capstone Assessment

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This comprehensive course, using concepts and skills learned from previous HRA courses, will be used to evaluate the students' knowledge and skills in HVAC. The students will acquire an HVAC competency certification during this course to increase their employment opportunities. Emphasis will be placed on troubleshooting different types of HVAC equipment through the semester. *Prerequisite(s):* HRA 102, HRA 103, HRA 125, HRA 135, HRA 245, HRA 265 or permission from the instructor or department chair. *Corequisite(s):* HRA 250, HRA 270.

HRA-290 Co-Operative Ed/Intern/Related Elective

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier II

This course encompasses a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. *Prerequisite(s):* Completion of 30 credit hours and 2.0 GPA; or advisor's approval. Please see the Department Chair of the specific program area for application.

Health Sciences

HSC-100 Service Learning Health Care

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier II

Students will broaden their educational experiences by being actively involved in the following student organization: SkillsUSA. In addition to meeting once a week as a class, students will also be required to attend the regularly scheduled meetings of their student organization. *Prerequisite(s):* Admission into the first year Health Sciences program and high school GPA of 2.0 or above.

HSC-110 Introduction to Health Professions

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier II

This course provides an exploration of various health professions. This course will cover strategies for success in a health profession including career planning, self-assessment and prerequisites for admission to health care career programs. Cultural diversity, patient confidentiality, medical ethics, legal issues and professionalism will be discussed.

HSC-120 Medical Terminology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier II

This course provides an introduction to the basic word structure in medical terminology with an emphasis on the word roots, prefixes and suffixes. A body systems approach forms the basis for class discussion. Spelling, pronunciation, definitions, medical abbreviations, pharmacology, laboratory and diagnostic values are highlighted. Hands-on learning activities are provided to reinforce lecture and emphasize applications of medical terminology in the health record.

HSC-190 Co-Operative Ed/Internship

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course encompasses a supervised work experience in the major field, which provides the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. Please see the Division Chair of specific program area for application. *Prerequisite(s):* Admission into the second year Health Sciences program and high school GPA of 2.5 or above, or advisor's approval

Hospitality Management

HSM-101 Introduction to Hospitality

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides a global look at hospitality from a management viewpoint with career opportunities in hospitality lodging, food service and related businesses such as clubs, casinos and spas. The course pays special attention to current management issues, including diversity, retention, harassment, leadership and ethics. Please note: Grade of "C" or higher is required for this course for advancement into upper level courses. *Prerequisite(s):* No prerequisites required.

HSM-115 Safety and Sanitation

Credits: 1

Contact Hours: Lec 1 Lab 0 Practicum 0

Tier Rate: Tier I

Proper safety and sanitation practice directly impacts business operations and is an integral part of providing a quality guest experience. This required course provides students with the knowledge of proper safety and sanitation procedures required by state and local regulatory agencies in foodservice facilities. The course uses the ServSafe Certification curriculum from the National Restaurant Association which is an industry recognized certification in the foodservice industry. Please note: Grade of "C" or higher is required for this course for advancement into upper level courses. Attainment of ServSafe certification offered in this course is required before graduation. *Prerequisite(s):* No prerequisites required.

HSM-125 Purchasing

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

Purchasing and procurement is an integral part of the successful operation of businesses in the hospitality industry. Understanding the selection and procurement process is key to controlling costs and maximizing profits. Topics covered in this course will include: channels of distribution and forces effecting distribution systems, proper receiving procedures and storage management. Individual business considerations for quantity purchased, price paid, payment terms and supplier selection will also be explored. Individual product categories will be discussed based on the intended use, receiving, storage and issuance of products and other management considerations. *Prerequisite(s):* No prerequisites required.

HSM-215 Dining Room Management

Credits: 4

Contact Hours: Lec 1

Tier Rate: Tier I

The Dining Room Management course is the focus of our departmental on campus restaurant. Students

are charged with the task of managing the customer experience through exceptional service and food quality. Students will learn to work in front of the house hourly position; while being responsible for the overall management of the operation. Students are accountable for increasing sales through reservation management, marketing and customer service; while controlling costs to maximize profits. Please note: Students participating in lab courses should be prepared to stand for long periods of time on a hard surface and must be able to lift and carry up to 30 pounds. *Prerequisite(s)*: HSM 125, and Grade of "C" or better in CUL 101 and HSM 101.

HSM-225 Hospitality Marketing

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed to give students an understanding of the specific marketing needs of the hospitality industry. Students will analyze the needs of the consumer, study the segmentation of identified markets and select the best marketing tools to reach individual consumers. Students will further learn how to apply key marketing methodologies through research, sales, customer service, advertising, public relations, promotions, electronic marketing, packaging, rates, pricing strategies and revenue maximization. *Prerequisite(s)*: Grade of "C" or better in HSM 101.

HSM-233 Front Office Procedures

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides a step by step approach of front office procedures. The objectives of the course ensure an understanding of the importance of front office interactions in each hotel department. The course also examines the various elements of effective front office management, paying particular attention to the planning and evaluation of front office operations. *Prerequisite(s)*: Grade of "C" or better in HSM 101, MTH 105 or higher.

HSM-248 Bar and Beverage Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is designed to provide students with the practical knowledge needed to responsibly manage a profitable bar or beverage operation. Course work will involve planning for business profitability, menu design, bar layout and equipment, hiring and staffing, budgeting, purchasing and an in-depth look at responsible alcohol service.

HSM-249 Wine & Food Pairings

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier I

Wise wine selection and correct wine pairing enhances the guest experience and increases revenue. This course provides students with the knowledge to select wines relevant to the needs of the establishment, as well as the means to expand wine sales by creating a wine list around the menu and utilizing tasting notes to upsell. Please Note: Participants in this course must be 21 years of age to enroll.

HSM-251 Menu Design & Management

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

Professionals in the industry feel that many, if not all aspects of a restaurant operation success is determined by the design, management and analysis of the menu. This course is dedicated to the understanding of proper design of the menu as the central influence of this success for a restaurant. This course focuses on various aspects of this design to include costing methods, pricing strategies, physical design of the menu, service styles, production of the menu, forecasting, purchasing and the marketing of the menu. *Prerequisite(s):* HSM 101, and grade of "C" or higher in CUL 101, HSM 125.

HSM-255 Hospitality Accounting

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier I

This course is designed to give students a basic understanding of accounting and its application in day today business operations. Students will learn basic bookkeeping principles and proper documentation of business transactions, types of business ownership, report generation and the use of this information in making management decisions. Students will learn to read and analyze financial statements and study the planning, preparation and implementation of a budget in business operations. *Prerequisite(s):* Grade of "C" or better in HSM 101, MTH 105 or higher.

HSM-270 Supervisory Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is designed to develop a basic understanding of the principles of management and the application of those principles in managing the resources of a lodging or foodservice operation. Study for this course will outline the framework for supervision, supervisory responsibilities, tools used in supervision and developing effectiveness as a supervisor. Specific topics covered including: effective communications, recruitment and selection procedures, orientation and training, managing productivity and controlling labor costs, evaluating and coaching, discipline, motivation through leadership, team building, conflict management and time management. *Prerequisite(s):* Grade of "C" or better in HSM 101

HSM-276 Catering and Event Management

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Catering and events is one of the fastest growing segments of the hospitality industry. Successful operators must need not only culinary expertise, but also business skills. This class explores the art of personal sales in delivering the ultimate guest experience through catering functions and events. Topics covered will include: marketing and sales, pricing for profit, event planning and management, menu design, decorative elements, site selection and inspection and contract considerations. Students receive instruction and practice in the basics of catering and banquet operations both on premise and off premise. This course covers menu making and food presentation, contract writing, function setup and supervision. Students learn how to successfully balance a catering operation that will both satisfy their customers and attain a profitable bottom line. *Prerequisite(s):* Grade of "C" or better in HSM 101, HSM 125 and HSM 251.

HSM-290 Culinary/Hospitality Intern

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier I

This course encompasses a supervised work experience in the major field which provides the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. This course will serve as the Capstone course for Hospitality majors. Students must receive a Grade of "C" or better to pass the Capstone exam. Please see the department chair of the specific program area for application. *Prerequisite(s):* Completion of 30 credit hours and 2.0 GPA or advisor's approval.

History

HST-105 World History I

MOTR Equivalent: MOTR HIST 201 World History I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a survey of human societies throughout the world from the first humans through the early Renaissance. Students will study the interaction of geography and technology with human societies, the impact of diverse religions, beliefs and cultures, the transformation of economic systems, and the formation of governments, states and empires.

HST-106 World History II

MOTR Equivalent: MOTR HIST 202 World History II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a survey of the increasing interconnection of human societies throughout the world from the late Renaissance through the 21st century. Students will study the changing worldwide impact of religions, science and technology, theories and ideologies in shaping societies, economies, nations and empires, global conflicts and connections.

HST-120 U.S. History I: to 1865

MOTR Equivalent: MOTR HIST 101 American History I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a survey of the history of the United States from pre-Columbian societies through the Civil War, including formative political, social, economic and cultural developments. It also introduces students to history as an academic discipline and requires analysis, synthesis and evaluation of primary and secondary materials in reading, discussion and writing. HST 120 will satisfy the Missouri state law requiring instruction in the United States and Missouri Constitutions.

HST-130 U.S. History II: 1865-Present

MOTR Equivalent: MOTR HIST 102 American History II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is a survey of the history of the United States from Reconstruction to the present, covering the political, economic, social and cultural developments that have shaped modern America. It introduces students to history as an academic discipline and requires analysis, synthesis and evaluation of primary and secondary materials in reading, discussion and writing. HST 130 will satisfy the Missouri state law requiring instruction in the United States and Missouri Constitutions.

HST-230 Twentieth Century America

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is for the student who desires a comprehensive view of contemporary America. Emphasis is on the Progressive Era, World War I, the Twenties, the Depression Era, United States and the World 1930-1941, World War II, the Cold War, the Korean War and the Vietnam War to the present.

Prerequisite(s): HST 105 or HST 106 or HST 120 or HST 130.

Humanities

HUM-101 Introduction to the Humanities

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to the Humanities, emphasizing the major periods, persons, stories and works that constitute Western Culture. Visual arts, music, literature, theatre and architecture from Egypt and Mesopotamia, Greece, Rome, The Middle Ages, the Renaissance and modern Europe and the Americas form the basis of the course.

HUM-102 Africa, Oceania, Americas Art

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course surveys indigenous, historical, and contemporary visual art and architecture from Africa, Oceania and the Americas.

Industrial Maintenance Technology

IST-120 Industrial Safety

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course offers experiences that provide the student a solid foundation for continued study of Industrial Maintenance. Topics include a wide variety of safety and regulatory compliance sessions such as: first aid, CPR, electrical safety, and lockout/tagout. OSHA and EPA regulations are also covered. Students will also gain an awareness of environmental safety and health issues.

IST-125 Fluid Power

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course provides fundamental instruction in the theory and application of pneumatics and hydraulics in industrial and institutional setting. Lecture and laboratory topics include circuit diagrams and symbols, OSHA safety including lockout/tagout, power sources, manual control and electrical control of basic hydraulic and pneumatics circuits, understand and identify cylinders, motors, solenoids, pressure switches, proximity switches and photoelectric control circuits.

IST-130 Industrial Electricity I

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course will provide fundamental instruction in the theory and application of electricity in industrial and institutional settings. Lecture and laboratory instruction will focus on renewable and alternative sources of energy, electrical formulas, symbols and terminology, use of basic test equipment and basic application of electrical theory, industrial and commercial circuits, AC and DC theory and application, industrial high voltage application and industrial code requirements. Basic math skills are strongly recommended for successful completion of this course.

IST-137 Alt and Renewable Energy

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course is designed to educate industrial maintenance technicians in the various forms of alternative and renewable energy including how to maintain and troubleshoot these systems. Emphasis is placed on wind and solar power but all types of alternative and renewable energy sources will be considered including bioenergy, hydroelectricity, tidal power, wave energy and geothermal energy. Laboratory work concentrates on building and operating photovoltaic, wind energy and passive solar systems, then monitoring their performance.

IST-140 Industrial Electricity II

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course provides fundamental instruction in the theory and application of electricity in industrial and institutional settings. Lecture topics and laboratory activities focus on electrical formulas, industrial and commercial circuits, AC and DC theory and application, industrial high voltage application, industrial code requirements, and implementation of advanced alternative and renewable energy concepts. *Prerequisite(s):* IST 130 or IST 283.

IST-170 Industrial Motors and Controls

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the spring semester. This lecture/lab course provides comprehensive instruction in the theory and application of single and three phase motors and the related control systems used in industrial environments. The focus of this course is on installing and maintaining electric motors, motor protection and motor control devices/functions. *Prerequisite(s):* IST 130.

IST-190 Manufacturing Processes and Materials

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This lecture/lab course provides a study of mechanical, chemical, physical properties and structure of engineering materials with heat treating of ferrous and non ferrous metals, and an investigation of methods used to process these materials.

IST-200 Mechanical Power Transmission

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This lecture/lab course demonstrates the basic operation and maintenance of components in mechanical power transmission systems including: gearboxes, belt/pulleys, conveyors, pumps, compressors, couplings, bearings and blowers.

IST-225 Programmable Control

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the spring semester. IST 130 or prior electrical experience recommended. This lecture/lab course introduces the basic hardware and programming language of common programmable logic controllers (PLCs) used in industrial process control systems. The student learns the proper syntax of PLC code, basic commands and the functioning of the program cycle. Programs will be written around discreet control elements. Students learn how to use basic programming commands to perform typical industrial processes.

IST-246 Advanced Programmable Control

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course will emphasize the advanced technologies and concepts of programmable logic controllers while teaching higher level language programming of automated systems under microprocessor control. Operation and wiring of the following industrial sensors is included in this course: optical, inductive, capacitive, encoders, resolvers, ultrasonic, and thermocouples. Digital bit functions, sequencers, PLC Matrix functions, PID control of processes, networking of PLCs are also examined. Use of the PLC for interfacing with robots, computer numerical control (CNC), flexible manufacturing systems (FMS) and computer integrated manufacturing (CIM) is introduced. *Prerequisite(s):* IST 225 or IST 283.

IST-260 Industrial Systems Maintenance

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Students in this course apply knowledge of mechanical, electromechanical, electricity, PLC

programming, motors, drives, blueprint reading and safety in an industrial work cell setting. Individual and team projects sharpen skills for work cell installation, alignment, maintenance, troubleshooting and disassembly as a series of work orders. *Prerequisite(s)*: Completion of 30 hours of program instruction.

IST-273 Industrial Robotics

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course provides an in-depth study of robotics with an emphasis on industrial robotic applications. Topics covered will be safety, components of the robot, various sensors, (EOAT) end of arm tooling, basic operation, programming, and preventative maintenance. Lab experiences will include robot operation, programming, and preventative maintenance.

IST-280 Robotic Vision

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course is designed as an entry level course for industrial vision systems. During this course, students will learn the parts of a vision system, how to set up communication paths, the effects of lighting, and common troubleshooting procedures. This course builds on the knowledge gained in the Industrial Robotics course. *Prerequisite(s)*: Grade of "C" or better in IST 273.

IST-290 Co-operative Education/Internship/Elective

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course entails a supervised work experience in the major field, which provides the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan determines goals to be accomplished. Seminars may also be required. *Prerequisite(s)*: Completion of 30 credit hours of program specific courses and 2.0 GPA and approval of department chair.

Journalism

JRN-160 Introduction to Journalism

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This course provides an introduction to journalistic writing, with an emphasis on the purposes and forms and practice in writing various types of stories. This course provides the opportunity to put objectives into practice while students participate in writing for the school newspaper. *Prerequisite(s)*: ENG 101.

JRN-161 Newspaper Practicum

Credits: 3

Contact Hours: Lec 1 Lab 4

Tier Rate: Tier I

This is a course in which students plan, design and produce the school newspaper. Students are able to work in any of the following areas: generating content, conducting interviews, writing and editing articles, taking photographs, creating layout and design or collecting advertisements. *Prerequisite(s)*: JRN 160.

JRN-211 Writing for Today's Media

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a study and practical application of essential journalism skills needed to write for the various media available today. *Prerequisite(s)*: Grade of "C" or better in ENG 102 and grade of "C" or better in JRN 160.

Manufacturing Technology

MFG-135 Print Reading & Welding Sybl

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier II

This course will teach students how to read the various prints they will encounter in industry. Students will learn how to read machining and welding prints, the various parts of a print, the common views used to convey information, and the weld symbols needed to complete most of the tasks found in industry. The focus of this course is to give the student a solid foundation for producing parts in industry.

MFG-145 Quality in Industry

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

This course will cover many of the different quality control methods utilized in industry and give the student a basic familiarity with how various quality methods work, their uses, and the benefits of the

each method. This course is designed to give those who work in industry a deeper understanding of how various safety tracking methods work and how they help the company and customer.

MFG-275 Manufacturing Capstone

Credits: Variable 3-4

Contact Hours:

Tier Rate: Tier II

This course provides the student the opportunity to apply skills, knowledge, and creativity to a variety of manufacturing related problems and scenarios. The specific course outline is tailored to the individual MFG degree student and may require participation in a capstone course from one of the programs that constitute the MFG degree or may involve a directed customized capstone experience. The student must consult with a department chair from one of the MFG programs to tailor the course content to the individual's needs prior to enrolling. *Prerequisite(s):* 30 hours completed or including concurrent enrollment in MFG program specific courses and department chair consultation.

MFG-290 Co-operative Education/Internship

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course provides supervised work experience in the major field, which provides the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan determines goals to be accomplished. Seminars may also be required. *Prerequisite(s):* 30 hours completed or including concurrent enrollment in MFG program specific courses and department chair consultation.

Medical Laboratory Technician

MLT-100 Introduction to the Medical Laboratory

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier III

This course introduces the field of medical laboratory science, including quality control, blood-borne pathogens, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, ethics and basic laboratory procedures in chemistry, hematology, immunology, urinalysis and microbiology.

MLT-200 Hematology

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier III

This course is a study of the blood that includes the function, identification and testing of cellular components. Skills are developed in the analysis of hemoglobin, hematocrit, blood cell counts and blood cell morphology. The mechanisms of coagulation are also explored and the function and analysis of platelets and proteins in blood coagulation are related to changes in normal and disease states.

Prerequisite(s): Grade of "C" or better in MLT 205.

MLT-205 MLT

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course relates the biology of the immune response to the clinical manifestations of selected diseases. Course content includes antigenantibody reactions, immunoglobulin structures and functions, and lymphocyte interactions. The clinical significance and laboratory procedures related to inflammatory conditions, bacterial and viral pathogens, autoimmune disorders, and immunogenetics will be introduced. *Prerequisite(s):* Acceptance to MLT Program

MLT-210 Clinical Chemistry

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier III

Students develop proficiency at performing and analyzing data on diagnostic procedures generated from clinical chemistry equipment and instrumentation. These proficiencies include knowledge of the appropriate sample, volume needed to execute the testing protocol and ability to recognize normal, therapeutic and critical values. The student studies metabolic pathways evaluated by the array of tests performed in the chemistry department of the clinical laboratory. *Prerequisite(s):* Grade of "C" or better in MLT 205.

MLT-215 Urinalysis and Body Fluids

Credits: 2

Contact Hours: Lec 1 Lab 2 Practicum 0

Tier Rate: Tier III

This course presents the normal and abnormal composition of urine and commonly collected body fluids for clinical evaluation. The student is introduced to testing procedures, sources of error, and clinical correlation as they relate to urine and body fluids. *Prerequisite(s):* Grade of "C" or better in MLT 205.

MLT-220 Immunohematology

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier III

This course covers the principles of immunology and blood banking procedures using the guidelines of the American Association of Blood Banks (AABB). Topics covered include antigenantibody reactions,

immunoglobulin structures and functions, complement interaction, clinically significant blood group systems, antibody detection and identification, immunologic disease of the newborn, compatibility testing and component therapy. *Prerequisite(s)*: Grade of "C" or better in MLT 200, MLT 210, MLT 215.

MLT-230 Clinical Microbiology

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier III

This course is designed to instruct the Medical Laboratory Technician on the proper identification and handling of microorganisms in a clinical setting. The student learns microorganism morphology, growth requirements and speciation. The student works with a variety of specimens and learns the intricacy for optimum isolation and identification on common clinical microorganisms that might be present.

Prerequisite(s): Grade of "C" or better in MLT 200, MLT 210, MLT 215.

MLT-240 Clinical Seminar and Review

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course covers professional development issues related to clinical laboratory science. Information covered includes resume preparation, job seeking skills, continuing education opportunities, professional ethics and regulatory agencies. The last half of the course includes a comprehensive review of knowledge and competencies required for career entry at the technician level of certification. Using information from the list of objectives for each previous course, components of competencies used for the certification examination are emphasized. A mock certification exam is given. *Prerequisite(s)*: Grade of "C" or better in MLT 200, MLT 210, MLT 215.

MLT-260 Clinical Practicum II

Credits: 8

Contact Hours: Practicum 24

Tier Rate: Tier III

This course offers supervised clinical practice in the laboratory of cooperating health agencies. The laboratory settings for this course are varied and may include physician's office laboratories, rural hospital laboratories or other specialized laboratory settings. Basic procedures are reviewed and advance methodologies are introduced within each assigned department and affiliate laboratory.

Prerequisite(s): MLT 200, MLT 210 and MLT 215.

MLT-270 Clinical Practicum III

Credits: 8

Contact Hours: Practicum 24

Tier Rate: Tier III

This is a continuing laboratory experience in which students apply the skills and techniques learned in the classroom to the clinical laboratory. *Prerequisite(s)*: MLT 220 and MLT 230

Mathematics

MTH-050 Basic Algebra

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed for students who have had no instruction in algebra or who need a review. Students learn to solve linear equations and inequalities; to graph linear equations in two variables; to evaluate and graph linear functions; and to solve systems of linear equations in two variables.

MTH-105 Business Math

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is designed to prepare students to apply mathematics to business situations. Topics include banking, purchasing, pricing, payroll and payroll taxes, interest, mortgages, depreciation, inventory and business statistics.

MTH-110 Intermediate Algebra

Credits: 4

Contact Hours: Lec 4 Lab 0 Practicum 0

Tier Rate: Tier I

This course is an extension of basic algebra and includes factoring, rational expressions, linear equations, quadratic equations, functions, graphs, radicals, complex numbers and applications.

MTH-128 Contemporary Mathematics

MOTR Equivalent: MOTR MATH 120 Mathematical Reasoning and Modeling

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides students with a basic survey of mathematics. Topics include problem solving, modeling, counting methods, probability, statistics and geometry.

MTH-128S Cont Mathematics with Support

MOTR Equivalent: MOTR MATH 120 MATHEMATICAL REASONING AND MODELING

Credits: 4

Contact Hours: Lec 4 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides students with a basic survey of mathematics. Topics include problem solving, modeling, counting methods, probability, statistics and geometry. MTH 128S will be driven by the same objectives as MTH 128, and satisfy the same requirement. The course design will provide students with more time, support, and individualized instruction to accomplish those objectives.

MTH-130 College Algebra

MOTR Equivalent: MOTR MATH 130 Pre-Calculus Algebra

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is a standard course in college level algebra. Topics include properties of functions; polynomial, rational, exponential, logarithmic functions and their graphs; and matrices.

MTH-130S College Algebra With Support

MOTR Equivalent: MOTR MATH 130 Pre-Calculus Algebra

Credits: 4

Contact Hours: Lec 4 Lab 0 Practicum 0

Tier Rate: Tier I

This course is a standard course in college level algebra. Topics include properties of functions; polynomial, rational, exponential, logarithmic functions and their graphs; and matrices. MTH 130S will be driven by the same objectives as MTH 130, and satisfy the same requirement. The course design will provide students with more time, support, and individualized instruction to accomplish those objectives.

MTH-131 Trigonometry

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is a study of trigonometric function and their graphs, identities, equations and applications. Topics include an introduction to polar coordinates, vectors, and solutions of right and oblique triangles.

Prerequisite(s): Grade of "C" or better in MTH 130 or satisfactory score on the ACT.

MTH-138 Pre-Calculus Mathematics

MOTR Equivalent: MOTR MATH 150 Pre-Calculus

Credits: 5

Contact Hours: Lec 5 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed to prepare students for calculus. Topics include polynomial, rational, radical, exponential, logarithmic and trigonometric functions, analytic trigonometry, vectors and limits.

Prerequisite(s): Grade of "B" or better in MTH 110 or satisfactory score on the ACT.

MTH-140 Analytic Geometry and Calculus I

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 5

Contact Hours: Lec 5

Tier Rate: Tier I

This is the first course in a three-semester sequence. Topics include an introduction to analytic geometry, limits and continuity, the derivative and differential, the definite integral and applications.

Prerequisite(s): Grade of "C" or better in MTH 131 or MTH 138 or satisfactory score on the ACT.

MTH-141 Analytic Geometry and Calculus II

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 5

Contact Hours: Lec 5

Tier Rate: Tier I

This is the second course in a three-semester sequence. Topics include techniques of formal integration, applications of definite integration, infinite sequences and series, parametrized curves and polar coordinates. *Prerequisite(s):* Grade of "C" or better in MTH 140.

MTH-210 Statistical Methods

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students study basic concepts of statistics and probability applicable to all disciplines. Topics include distributions, measures of central tendency and dispersion, elementary probability, sampling, estimation of parameters, hypothesis testing, regression and correlation. *Prerequisite(s):* Grade of "C" or better in MTH 128 or MTH 130 or satisfactory score on the ACT.

MTH-215 Algebraic Structures

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course provides an introduction to techniques of mathematical reasoning and patterns of mathematical thought. Topics include logic and methods of proof, set theory, relations and functions, counting and cardinality, permutations, combinations and recursion and algebraic structures.

Prerequisite(s): Grade of "C" or better in MTH 140.

MTH-230 Linear Algebra

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a study of vector spaces, matrices, linear transformations, determinants, quadratic forms, eigenvalues, eigenvectors, canonical forms and inner-product spaces. Emphasis is placed on rigorous proof and the development of mathematical maturity. *Prerequisite(s):* Grade of "C" or better in MTH 141.

MTH-240 Analytic Geometry and Calculus III

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is the third course in a three-semester sequence. Topics include vector-valued functions, solid analytic geometry, partial differentiation, multiple integration and line and surface integrals in vector fields. *Prerequisite(s):* Grade of "C" or better in MTH 141.

MTH-241 Differential Equations

MOTR Equivalent: Prerequisites for this course meet the CORE 42 requirement.

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This is an introduction to the techniques available for the solution of ordinary differential equations. Topics include first and second order equations, systems of differential equations, Laplace transforms, series solutions, numerical methods and applications. *Prerequisite(s):* Grade of "C" or better in MTH 240.

Music

MUS-101 Music of the World

MOTR Equivalent: MOTR MUSC 102 World Music

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course explores and practices the music listening skills that enable the student to listen to music of other cultures with understanding and enjoyment. Students will examine what it means to be human through the exploration of various world music. Students will also learn how the element of organized sound distinguishes humans from other species. Additionally, the elements of music, world music history, and the relationship of music and culture will be explored. Students are required to attend at

least one live musical performance during the semester culminating in a written review of the performance.

MUS-102 Music Therapy Orientation

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier I

Introduction to the current practice, philosophy, and history of Music Therapy. Students will also be introduced to field studies. Students will be required to participate in twelve hours of observational clinical experience.

MUS-105 Western Music Appreciation

MOTR Equivalent: MOTR MUSC 100 Music Appreciation

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Western Music Appreciation explores the development of music from the Medieval Period to the present. Through this class students gain skills to listen and understand different types of classical music. The elements of music, music history and the relation of music and culture are explored through recorded and live performances of music.

MUS-106 Jazz Appreciation

MOTR Equivalent: MOTR MUSC 100J Music Jazz Appreciation

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a look at the art form of Jazz and how it relates to the American experience. It is an introduction to basic terminology using the elements of music as well as terminology unique to Jazz. Students will not only learn about the instruments involved in Jazz; but will also develop a vocabulary and ability to listen, understand and discuss Jazz using proper terminology. This class will explore the evolution and transformation of Jazz from the 19th century to the present including social, political and cultural conditions in which this music grew.

MUS-110 Music Fundamentals

MOTR Equivalent: MOTR MUSC 101 Music Fundamentals

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Music Fundamentals is a general survey of basic music, including the rudiments of music such as notation, rhythmic understanding and chordal structures. The basic elements of music are taught and

explored through the use of a textbook, recordings and live performances. Students are expected to attend musical events during the semester.

MUS-115 Introduction to Songwriting

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This seminar-style course provides an introduction to the fundamentals of songwriting through analysis and practice, as well as a survey of songwriting history, contemporary music business and the educational and private uses of the art. As the students develop their skills in recognizing the major components of the craft, they employ these components by composing and performing their own songs.

MUS-120 Theory and Musicianship I

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This class is an in-depth examination of basic music theory including pitch and rhythm, diatonic scales, major and minor key signatures, functional harmony of diatonic chords in major and minor keys, voice leading through composition and analysis, and an introduction to counterpoint. This class also introduces sight singing major and minor diatonic scales and intervals and basic melodies and rhythms using solfege syllables, as well as training in basic interval, chord, and melody dictation. *Prerequisite(s):* Grade of "C" or better in MUS 110.

MUS-121 Theory and Musicianship II

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course expands on the basic skills learned in Music Theory I. Students continue with diatonic and chromatic harmony as well as voice-leading and part-writing. *Prerequisite(s):* Grade of "C" or better in MUS 120.

MUS-126 Sight Singing and Ear Training II

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

Students will continue developing skills begun in Sight Singing I. Through graded exercises and regular practice, the students' musical ear will be developed to hear, notate, and sing given rhythms, melodies and harmonies. *Prerequisite(s):* Grade of "C" or better in MUS 125 . Concurrent enrollment in MUS 121 required.

MUS-130 Piano I - For Music Major

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is an introduction to basic piano skills. No prior knowledge is required. Students are taught coordination skills as well as note reading and rhythm. Emphasis is on the application of basic piano techniques introduced in this course.

MUS-131 Piano Class II

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is a continuation of the basic piano skills taught in Piano Class I. Students build on previous techniques while learning intermediate skills. Emphasis is on the application of basic piano techniques introduced in this course. *Prerequisite(s):* Grade of "C" or better in MUS 130.

MUS-132 Piano I for Non-Music Majors

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is an introduction to basic piano skills. No prior knowledge is required. Students will be taught coordination skills, sight reading, rhythm, and basic theory knowledge. Emphasis will be on learning to play piano solos and duets.

MUS-134 Voice Class I

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course will give the student proper technical skills to become a better singer. Students will learn various techniques, technical skills and proper pronunciation of foreign languages in musical literature. Vocal exercises and appropriate literature will be used to develop singing technique.

MUS-135 Choir I

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

A choral ensemble open to any singer from within the college who is dedicated to performing to the highest standards possible. The students practice and perform choral works throughout the semester. Emphasis on vocal technique and performance practice is an integral part of the choral experience. This course may be repeated up to 6 times.

MUS-136 Voice Class II

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is a continuation of the basic vocal techniques taught in Voice Class I. Students will enhance their vocal skills through the application of vocal principles, style and diction. Students will also learn proper pronunciation of foreign languages in musical literature including German and French.

MUS-140 Small Ensemble

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

Instrumental ensembles may be arranged according to availability and student proficiency each semester to meet the needs of the participating students and the Fine Arts program. Ensembles will explore a higher degree of musicality and experience working as a group resulting in a performance of your instrument. The course will include at least one performance at the end of the semester. Students must be able to read musical notation for their instrument. This course may be repeated up to 6 times.

Prerequisite(s): Audition

MUS-150 Guitar Class I

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is a beginning guitar group class. Students are taught the fundamentals of guitar technique and performance practices. Appropriate guitar literature is performed as well. Students must provide their own guitar.

MUS-151 Guitar Class II

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course explores intermediate and advanced guitar techniques and repertoire. Intermediate and advanced chord progressions, strumming patterns and repertoire are also taught.

MUS-201 Latin-American Music

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course focuses on the interdisciplinary nature of music as a force shaped by society and shaping society, within the context of Latin-American countries. By applying critical thinking, analytical reading, valuing and information management skills, students link LatinAmerican musics with their territorial

history, geography and politics, understanding the multiple processes of acculturation and syncretism of Native aborigines, Africans and Europeans. *Prerequisite(s)*: COM 105 and ENG 101.

MUS-220 Theory and Musicianship III

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course is designed to provide students a more advanced study of music theory and aural skills. This course will build upon previous methods of analysis and introduce more in-depth applications of musicianship skills. *Prerequisite(s)*: Grade of "C" or better in MUS 121.

MUS-221 Theory and Musicianship IV

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier I

This course finishes the lower-level study of music theory and aural skills through the development of music of the late 19th and early 20th centuries. This course explores basic analytical techniques of music of the last 150 years, and builds upon the musician's ability to dictate rhythm, melody, and harmony; sight sing in a variety of keys, modes, and styles; improvise; and detect musical errors. *Prerequisite(s)*: Grade of "C" or better in MUS 220.

MUS-230 Piano Class III

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is the third of four piano class offerings. Emphasis will be on the application of intermediate piano techniques introduced in this course. *Prerequisite(s)*: Grade of "C" or better in MUS 131.

MUS-235 OTC Concert Choir

MOTR Equivalent: MOTR PERF 102C Music Performance Choir

Credits: 1

Contact Hours: Lab 3

Tier Rate: Tier I

Performance choir is a choral ensemble open to any singer from within the college who is dedicated to performing to the highest standards possible and passes the vocal audition. Students practice and perform choral works throughout the semester. Emphasis on vocal technique and performance practice is an integral part of the choral experience. A live performance is mandatory. This course may be repeated up to 6 times. *Prerequisite(s)*: Vocal Audition.

MUS-236 OTC Chamber Singers

Credits: 1

Contact Hours: Lab 3

Tier Rate: Tier I

Singers selected from an advanced audition will study chamber choral works. Emphasis on advanced vocal technique and performance practice will be an integral part of the choral experience, One formal concert each semester. Must be enrolled in MUS 235 concurrently. This course may be repeated up to 6 times.

Networking Technology

NET-104 Network Communications and Cabling

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course targets structured cabling and wireless systems. Students install a network infrastructure composed of fiber, copper, and wireless media. Students document, design and install network cabling in a group environment. At the conclusion of this course, students are able to identify and troubleshoot physical layer problems using appropriate tools and techniques.

NET-105 Fundamentals of IT

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Fundamentals of Information Technology covers the basics of mobile communications, digital security, Cloud technologies, network resources, devices, applications, Internet communications, etc., and the impact these have on today's lifestyles. Lab activities include application installation and configuration, wireless configuration and connectivity, accessing cloud services, etc..

NET-107 Computer and Network Hardware

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier II

This course helps prepare students to pass the hardware/networking component of the CompTIA A+ certification. The following areas are covered in both a lecture and hands-on-lab environment: mobile device configuration, networking and wireless configurations, hardware components, basic virtualization and cloud computing concepts, and network hardware troubleshooting. *Corequisite(s):* NET 108.

NET-108 Operating Systems and Software

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course helps prepare students to pass the software/operating systems component of the CompTIA A+ certification. The following areas are covered in both a lecture and hands-on lab environment: operating systems installation and configuration, basic device security, software configuration and troubleshooting, and basic IT operational procedures. *Corequisite(s):* NET 107.

NET-110 Windows Client-Server

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course builds on the knowledge and skills gained in NET 100 and targets the fundamentals of Microsoft Windows network operating systems. Students install and configure Windows network operating systems as domain controllers in a basic network security model. At the conclusion of this course, students are able to create user and group accounts, set up security policies, domain trust relationships and Active Directory Services (ADS) for network resource accessibility and administration.

Prerequisite(s): Grade of "C" or better in NET 107 and NET 108.

NET-112 The Linux Operating System

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course only offered in the spring semester. This course targets the Linux operating system. Students will install the Linux operating system and configure a basic Linux network including a server and workstation. At the conclusion of this course, students will be able to configure user and group accounts and use network resources including applications and printing. *Prerequisite(s):* Grade of "C" or better in NET 107 and NET 108.

NET-114 Introduction to Networking

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Introduction to Networking covers the essentials of hardware, software, and other elements that comprise today's data networking environment. Topics covered include network hardware, topologies, transmission media, operating systems, systems administration, security, and IT standards. Lab activities include basic diagnostic software use, network troubleshooting, and solo and team activities designed to build interpersonal communication skills. This course helps prepare students to pass the CompTIA Net certification exam. *Prerequisite(s):* Grade of "C" or better in NET 107 and NET 108.

NET-116 Cisco Routing and Switching - Introduction to Networks

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. *Prerequisite(s):* Grade of "C" or better in NET 107 and NET 108.

NET-202 Information Technology Security

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

Information Technology Security is a hands on course with an emphasis on practical experience to help students develop specialized security skills to advance their careers. The curriculum helps prepare students for entry-level security career opportunities. Course content is aligned with the CompTIA Security certification. *Prerequisite(s):* Grade of "C" or better in NET 112 and NET 114.

NET-205 Network Virtualization and Storage Concepts

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course only offered in the fall semester. This hands-on course provides students the opportunity to experience virtualization and network storage utilizing the following resources; VMware installation, configuration, and management (ICM) curriculum based on VMware vSphere ESXi and VMware vCenter Server will be used to provide an understanding of the components of enterprise level virtualization methods. EMC Information Storage and Management (ISM) will be used to provide an understanding of the varied components of modern information storage infrastructure, including virtual environments. Students will learn about the architectures, features, and benefits of Intelligent Storage Systems; business continuity solutions such as backup, replication, and archive; the increasingly critical area of information security; and the emerging field of cloud computing Citrix XenApp Administration will provide students the foundation necessary to effectively centralize and manage applications in the datacenter and instantly deliver them as a service to users anywhere. *Prerequisite(s):* Grade of "C" or better in NET 110 and NET 112.

NET-206 Cisco CCNA - Routing and Switching Essentials

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course describes 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. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common

issues with virtual LANs and inter-VLAN routing in both IPv4 and IPv6 networks. Students learn the basics of routing, switching, and advanced technologies to prepare for the Cisco CCENT and CCNA certification exams, networking related degree programs, and entry-level networking careers. The language used to describe networking concepts is designed to be easily understood by learners at all levels and embedded interactive activities help reinforce comprehension. Courses emphasize critical thinking, problem solving, collaboration, and the practical application of skills. Multimedia learning tools, including videos, games, and quizzes, address a variety of learning styles and help stimulate learning and promote increased knowledge retention. Hands-on labs and Cisco® Packet Tracer simulation-based learning activities help students develop critical thinking and complex problem solving skills. Embedded assessments provide immediate feedback to support the evaluation of knowledge and acquired skills. *Prerequisite(s)*: Grade of "C" or better in NET 116.

NET-216 Cisco CCNA - Scaling and Connecting Networks

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

The Scaling component of this course describes 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. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network. The Connecting component of this course focuses on the WAN technologies and network services required by converged applications in a complex network. By the end of this course, students will be able to configure PPPoE, GRE, single-homed eBGP, extended IPv4 and IPv6 ACLs. Students will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network. For LANs, students will be able to configure SNMP and Cisco SPAN. Students will also develop knowledge about QoS and the trends in networking including Cloud, virtualization, and SDN. *Prerequisite(s)*: Grade of "C" or better in NET 206.

NET-245 Home Automation Technology

Credits: 3

Contact Hours: Lec 1 Lab 4

Tier Rate: Tier II

This course covers home security, audio/home theatre, power and networking. Students receive hands-on experience through their configuration of lab panels for each of these different systems and then test them for proper functionality. Once the panels have been successfully configured, students "integrate" these panels into a single source controller. Students are also able to control and maintain home theatre, gaming, networking, lights/fans and security systems from any laptop or desktop computer.

Prerequisite(s): NET 114, NET 102 .

NET-260 Advanced Networking Systems

Credits: 4

Contact Hours: Lec 0 Lab 8

Tier Rate: Tier II

This course provides in-depth coverage of advanced network operating system administration topics. This will include, but not be limited to, tasks such as installation and configuration of image deployment servers, firewalls, network storage devices, IoT concepts and devices, any rapid prototyping through the use of 3D printers, CNC and other technologies.. *Prerequisite(s):* Grade of "C" or better in NET 112.

NET-280 Emerging Trends in IT

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier II

In recent years, there has been a surge of new ideas and concepts in the field of Information Technology. Existing technologies are becoming outdated over the course of a few years to a few months This course will expose students to emerging technologies and concepts in order to provide some insight as to new technologies that may be encountered when entering the IT workforce.

NET-290 Co-Operative Education/Internship

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course entails a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required.

Prerequisite(s): Completion of 30 credit hours and 2.0 GPA or advisor's approval. Please see the department chair of the specific program for application.

NET-291 Computer Clinic Internship I

Credits: Variable 1-3

Contact Hours:

Tier Rate: Tier II

This course involves supervised work experience in a computer repair facility that performs upgrades, maintenance and repair for customers. While polishing the technical skills learned in the NET program, students develop customer service, scheduling, troubleshooting, grooming, personal interaction and other soft skills necessary to succeed in today's competitive computer repair field. Seminars may also be required. Please see the department chair of specific program area for application. *Prerequisite(s):* Grade of "C" or better in NET 102 , minimum 2.5 GPA and approval of department chair

Nursing—Practical Nursing

NUR-101 Personal Vocational Concepts

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This nursing course serves as an introduction to nursing by covering the history of nursing, nursing roles and the health care delivery system. Emphasis is placed on how to be a self-directed learner by assisting the student with testing and comprehension of nursing concepts. Content area includes communication, legal, ethical and professional accountability, appreciation of cultural diversity and health education of the client. The nursing process and the role of the practical nurse in the development of a plan of care are emphasized. *Prerequisite(s):* Admission to the Practical Nursing program.

NUR-110 Fundamentals of Nursing I

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course introduces the fundamental principles, basic skills and attitudes necessary to care for clients who are experiencing alterations of health throughout the lifespan. This course prepares the student to perform skills in the nursing laboratory and at the beginning levels of nursing in the clinical area. It is the foundation of nursing education. *Prerequisite(s):* Admission to the Practical Nursing program.

NUR-120 Fundamentals of Nursing II

Credits: 3

Contact Hours: Lec 2 Lab 0 Practicum 3

Tier Rate: Tier III

This course introduces involved principles, skills, and attitudes necessary for clients who are experiencing alterations of health throughout the lifespan. This course prepares the student to perform more intensive skills in the nursing laboratory and at the beginning levels of nursing in the clinical area. *Prerequisite(s):* Grade of "C" or better in NUR 110.

NUR-205 Adult Medical-Surgical I

Credits: 7

Contact Hours: Lec 4 Lab 2 Practicum 6

Tier Rate: Tier III

This course presents information regarding disorders of the cardiac, respiratory, hematological, musculoskeletal, integument, renal systems and the surgical client. This course provides the student with the opportunity to apply nursing knowledge in the clinical setting. Geriatrics, nutrition, diet therapy, pharmacologic and psychosocial aspects are integrated. *Prerequisite(s):* Grade of "C" or better in NUR 101, NUR 120.

NUR-215 Adult Med Sur II-I.V. Therapy

Credits: 7

Contact Hours: Lec 4 Lab 2 Practicum 6

Tier Rate: Tier III

This course presents information regarding disorders of the gastrointestinal, endocrine, neurological, sensory, immune, reproductive systems and the client with an IV infusion. This course provides the student with the opportunity to apply nursing knowledge in the clinical setting. Geriatrics, nutrition, diet therapy, pharmacologic and psychosocial aspects are integrated. *Prerequisite(s):* Grade of "C" or better in NUR 205.

NUR-225 Maternal and Pediatric Nursing

Credits: 7

Contact Hours: Lec 4 Lab 2 Practicum 6

Tier Rate: Tier III

This course involves the study of nursing care of mother and infant during antepartal, intrapartal and postpartal periods. The pathophysiology of common diseases of children is included. Nutrition, pharmacology and the nursing process are integrated throughout the course. The clinical component gives the student opportunity to incorporate the theory into practice. *Prerequisite(s):* Grade of "C" or better in Nur 215.

NUR-230 Community/Mental Health Nur

Credits: 2

Contact Hours: Lec 2 Lab 1 Practicum 0

Tier Rate: Tier III

This course covers community nursing and emphasizes wellness, prevention and teaching of good health. It will also lead to a development of knowledge and skills necessary to provide basic mental health nursing care to patients who demonstrate common mental problems. Maintenance and restoration of health is included. Pharmacological aspects are integrated. *Prerequisite(s):* Grade of "C" or better in NUR 215.

NUR-240 Management

Credits: 1

Contact Hours: Lec 1 Lab 0 Practicum 0

Tier Rate: Tier III

This course involves the discussion of various leadership styles and techniques, not only as an individual, but as a team leader. It emphasizes the student's need for a variety of management skills, as the graduate prepares to work with the interdisciplinary needs of patient, family and staff. Guidelines for effective resumes, job interviews and the preparation for the NCLEX comprise the other areas of concern of this course. *Prerequisite(s):* Grade of "C" or better in NUR 101, NUR 120.

Occupational Therapy Assistant

OTA-100 Occupational Therapy Foundations

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course is an introduction to occupational therapy, its history, philosophies, values and ethics. The occupational therapy process and role delineation of various occupational therapy personnel are explained. The Occupational Therapy Practice Framework is introduced. Students will learn about the function and value of participating in professional organizations. *Prerequisite(s):* Admission to the OTA Program.

OTA-105 Document & Reimbursement OTA

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course is an introduction to occupational therapy documentation and reimbursement within various OT settings. Models of care will be examined including medical, community, education, and social models along with basic regulatory, reimbursement, and documentation guidelines for each. Students will receive an introduction to evidence-based practice and will learn how OT evidence influences the reimbursement process. *Prerequisite(s):* Admission to the OTA program.

OTA-110 Musculoskeletal Structure and Function

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier III

This course is a study of musculoskeletal structures and functions of the body, including a study of joint movements and biomechanical components of human movement as required for life roles. Students explore various conditions resulting from impairments in the musculoskeletal system. *Prerequisite(s):* Admission to the OTA program.

OTA-115 Neuromuscular Mvmt Analysis

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier III

This course is a hands-on study of biomechanical and neuromuscular components of human movement. Muscle palpation and identification, joint movements, and whole body movement analysis will be included. Students will learn the basic body mechanics necessary for assisting with transfer interventions and will practice the interventions through the use of problem solving activities and client cases. Concepts of safe patient handling will be stressed. *Prerequisite(s):* Admission to the OTA Program.

OTA-120 Therapeutic Media

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier III

The OT Practice Framework will be introduced. Various types of therapeutic media, as seen in occupational therapy service settings, will be utilized. Students will have the opportunity to enhance their activity analysis, communication and professional behavior skills. Opportunities to conduct simulated individual and group treatment sessions will be provided. *Prerequisite(s):* BCS 145 , BCS 146 , COM 100, ENG 101, MTH 110, PLS 101, PSY 130 and admission into the OTA program.

OTA-130 Neurological Structure and Function

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier III

This course focuses on the principles of neurological development as they relate to the occupational therapy assistant practice. Concepts of neurological structures and function, neurological development, motor learning, reflex development and integration and the impact of illness and disease related to neurological deficits are covered. *Prerequisite(s):* Admission to the OTA Program.

OTA-150 Human Development in Occupational Therapy

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course is the exploration of the typical physical, perceptual, cognitive, and psychosocial developmental phases as they occur from birth to late adulthood. Developmental theories will be addressed, along with theories of aging, as they relate to occupational therapy practice. The role of sociocultural, socioeconomic, diversity factors and lifestyle choices on development will be addressed.

Prerequisite(s): Admission to the OTA Program.

OTA-200 Therapeutic Design

Credits: 2

Contact Hours: Lec 1 Practicum 3

Tier Rate: Tier III

This course focuses on fundamental design and construction techniques for adaptation in areas of occupation. Students will use evidence to justify recommendations for adaptation. Design in the areas of basic splinting, orthotics and prosthetics, assistive technologies, wheelchair seating and positioning, and community mobility will be explored. Students will demonstrate the ability to assess and provide appropriate adaptive interventions through the use of case studies. *Prerequisite(s):* OTA 100, OTA 105, OTA 110, OTA 120, OTA 130, OTA 210, OTA 211, OTA 220, OTA 240 and OTA 250.

OTA-205 Task Analysis I

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier III

Students will learn to analyze and break down tasks using the Occupational Therapy Practice Framework in order to provide effective and safe interventions for OT clients across a variety of settings and conditions. *Prerequisite(s)*: Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 115, OTA 130, OTA 150.

OTA-210 Occupational Therapy in Early Development

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier III

This course is an exploration of the physical, perceptual, cognitive and psychosocial developmental sequence from birth through late adolescence. Normal and abnormal development are introduced along with occupational therapy evaluations and interventions. Family, social and legal issues and support services for this population are explored, as well as the occupational therapy process, role delineation and service provision in pediatric settings. *Prerequisite(s)*: OTA 100, OTA 105, OTA 110, OTA 120 and OTA 130.

OTA-211 Practicum I

Credits: 2

Contact Hours: Lec 1 Practicum 3

Tier Rate: Tier III

In this course, students will observe and participate in OT interventions within a controlled clinical environment. Students will be encouraged to use professional behaviors, professional knowledge and clinical reasoning skills gained during coursework as they interact with clients and other service providers. Students are responsible for transportation to and from clinical sites *Prerequisite(s)*: Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 115, OTA 130, OTA 150.

OTA-215 Therapeutic Intervent&Adapt I

Credits: 5

Contact Hours: Lec 1 Lab 8

Tier Rate: Tier III

Students will receive hands-on training in intervention planning, implementation, grading, and adaptation for conditions commonly seen in OT practice. Interventions will focus on occupation-based, purposeful, enabling, and adjunctive activities. Students in this course will learn interventions for Activities of Daily Living, Instrumental Activities of Daily Living, Play and Education areas of occupation. *Prerequisite(s)*: Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 115, OTA 130, OTA 150.

OTA-220 Group Dynamics

Credits: 2

Contact Hours: Lec 1 Lab 1

Tier Rate: Tier III

This course focuses on psychosocial issues related to the practice of occupational therapy. OT

assessment and intervention for groups is the focus. Students will learn about group process and group dynamics in this course. *Prerequisite(s)*: Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 115, OTA 130, OTA 150.

OTA-222 Evidence-Based Practice for the OTA I

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier III

This course teaches students how to use evidence to make practice decisions in occupational therapy.

Prerequisite(s): Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 115, OTA 130, OTA 150.

OTA-225 Conditions in Occupational Therapy I

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course presents the study of common conditions seen in the practice of occupational therapy in various settings. Disease etiology, progression, signs and symptoms related to occupational therapy valuation and treatment will be discussed. This course will focus on developmental disorders, cognitive/perceptual, mental, and sensory disorders, with a review of neuromuscular disorders as they relate to reduction in occupational performance. Students will have the opportunity to use case-based methods of learning in this course.

OTA-235 Screen And Assessment OTA I

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier III

Students will learn how to administer standardized assessments commonly used in OT practice. The role of the OTA in screening and evaluation will be discussed. Students will learn how to document assessment data, as well as how to communicate with the Registered Occupational Therapist when supervision is needed in such activities. *Prerequisite(s)*: Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 115, OTA 130, OTA 150.

OTA-240 Occupational Therapy in Physical Dysfunction

Credits: 5

Contact Hours: Lec 3 Lab 4

Tier Rate: Tier III

This course presents the study of physical dysfunction as it relates to occupational therapy in a medical setting. Disease etiology, progression and prognosis as related to occupational therapy practice are studied. Theories of assessments and interventions are demonstrated. Students have the opportunity to utilize various types of adaptive equipment, assistive technology and strategies to adapt, compensate or restore function. *Prerequisite(s)*: OTA 100, OTA 105, OTA 110, OTA 120 and OTA 130.

OTA-241 Practicum II

Credits: 3

Contact Hours: Lec 1 Practicum 6

Tier Rate: Tier III

This course is a clinical course. Students will be assigned to a clinic, hospital, skilled nursing facility, school, or home health provider. The student will provide OT interventions and assessments under the supervision of a licensed OT or OTA. Students are responsible for transportation to and from the clinical site. *Prerequisite(s):* Grade of "C" or better in OTA 205, OTA 211, OTA 215, OTA 220, OTA 222, OTA 225, OTA 235.

OTA-245 Task Analysis II

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier III

Students will learn to analyze and break down tasks using the Occupational Therapy Practice Framework in order to provide effective and safe interventions for OT clients across a variety of settings and conditions. *Prerequisite(s):* Grade of "C" or better in OTA 205, OTA 211, OTA 215, OTA 220, OTA 222, OTA 225, OTA 235.

OTA-250 Occupational Therapy in Adult Development

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier III

This course focuses on occupational therapy assessment and interventions related to human growth and development from early adulthood to death. Normal and pathological conditions associated with aging are discussed. Students have opportunities for direct observation and interaction. *Prerequisite(s):* Grade of "C" or better in OTA 100, OTA 105, OTA 110, OTA 120, OTA 130.

OTA-255 Therapeutic Interventions and Adaptations II

Credits: 5

Contact Hours: Lec 1 Lab 8

Tier Rate: Tier III

Students will receive hands-on training in intervention planning, implementation, grading, and adaptation for conditions commonly seen in OT practice. Interventions will focus on occupation-based, purposeful, enabling, and adjunctive activities. Students in this course will learn interventions for Leisure, Work, Social Participation, and Sleep/Rest areas of occupation.

OTA-260 OT in Outpatient Settings

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier III

This course presents the occupational therapy process in outpatient settings. Theory, assessment, and treatment of clients in outpatient settings will be emphasized. Students will learn how to adapt and restore function with a focus on the development of interventions for a variety of diagnoses and problems. Concepts of work hardening, ergonomics, and physical agent modalities will be introduced.

Prerequisite(s): Grade of "C" or better in OTA 210, OTA 211, OTA 220, OTA 240, OTA 250.

OTA-265 Screening and Assessment for the OTA II

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier III

Students will learn how to administer standardized assessments commonly used in OT practice. The role of the OTA in screening and evaluation will be discussed. Students will learn how to document assessment data, as well as how to communicate with the Registered Occupational Therapist when supervision is needed in such activities. This course continues from Assessment I in the second semester. *Prerequisite(s):* Grade of "C" or better in OTA 205, OTA 211, OTA 215, OTA 220, OTA 222, OTA 225, OTA 235.

OTA-270 Prof Development Seminar

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier III

This course prepares the OTA student for professional responsibilities and opportunities in practice that go beyond clinical skills. Knowledge of management, marketing, and professional development help prepare the student for additional opportunities as a program manager. Knowledge of certification, licensure, and ethical procedures is necessary for a successful career as an OTA. *Prerequisite(s):* Grade of "C" or better in OTA 210, OTA 211, OTA 220, OTA 240, OTA 260.

OTA-275 Conditions in Occupational Therapy II

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course presents the study of common conditions seen in the practice of occupational therapy in various settings. Disease etiology, progression, signs and symptoms related to occupational therapy evaluation and treatment will be discussed. This course will focus on cardiopulmonary disorders, injuries, systemic, immunologic, and skin disorders, as well as infectious diseases as they relate to reduction in occupational performance. Students will have the opportunity to use case-based methods of learning in this course. *Prerequisite(s):* Grade of "C" or better in OTA 205, OTA 211, OTA 215, OTA 220, OTA 222, OTA 225, OTA 235.

OTA-276 Emerging Practice and Special Issues in OT

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course will introduce students to emerging practice areas of OT, not always seen in traditional settings of practice. Special issues related to legislation, practice standards, technology, or changes in the profession itself will be presented here. Current issues and trends will be the focus, as noted by the American Occupational Therapy Association. *Prerequisite(s):* Grade of "C" or better in OTA 205, OTA 211, OTA 215, OTA 220, OTA 222, OTA 225, OTA 235.

OTA-280 Evidence-Based Practice for the OTA II

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course teaches students how to use evidence-based knowledge in practice. Students will learn how to determine Best Practice strategies for clinic work, by learning critical appraisal of research literature and professional writing. *Prerequisite(s):* Grade of "C" or better in OTA 205, OTA 211, OTA 215, OTA 220, OTA 222, OTA 225, OTA 235.

OTA-285 Practicum III

Credits: 6

Contact Hours: Lec 1 Practicum 16

Tier Rate: Tier III

This course is comprised of a supervised clinical practice experience in a setting assigned by the instructor. The equivalent of full time clinical practice will be assigned. Students are provided with specific placement prior to registration for this course. Students are responsible for their own housing, transportation and other expenses related to this course. *Prerequisite(s):* Grade of "C" or better in OTA 241, OTA 245, OTA 255, OTA 265, OTA 275, OTA 276, OTA 280.

OTA-286 Practicum IV

Credits: 6

Contact Hours: Lec 1 Practicum 16

Tier Rate: Tier III

This course is comprised of a supervised clinical practice experience in a setting assigned by the instructor. The equivalent of full time clinical practice will be assigned. Students will be provided with specific placement prior to registration for this course. Students will be responsible for their own housing, transportation and other expenses related to this course. *Prerequisite(s):* Grade of "C" or better in OTA 241, OTA 245, OTA 255, OTA 265, OTA 275, OTA 276, OTA 280.

Orientation to College

OTC-101 Navigating College

Credits: 2

Contact Hours: Lec 2 Lab No Practicum 0

Tier Rate: Tier I

This course is designed to help students create greater success in college and in life. Students will learn strategies to set and achieve their academic, professional and personal goals. With a focus on the empowerment of wise choices, students will explore possible barriers to success and experience greater self-awareness, self-management, creative and critical thinking skills, emotional intelligence and lifelong learning skills.

Philosophy

PHL-101 Introduction to Philosophy

MOTR Equivalent: MOTR PHIL 100 Introduction to Philosophy

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course examines some of the questions and arguments which have influenced the western tradition of philosophical inquiry. Among the areas of philosophy we will explore are epistemology (What can I know?), metaphysics (What is real?), ethics (What makes a right action right?), philosophy of religion, and social and political philosophy.

PHL-105 Introduction to Ethics

MOTR Equivalent: MOTR PHIL 102 Introduction to Ethics

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an investigation of the morals and values confronting the individual and society and an examination of the major systems, both traditional and modern, of ethical thought. An analysis of current topics will include the nature of morality and ethics and the criteria for evaluating actions.

REL-100 Intro Religions Of The World

MOTR Equivalent: MOTR RELG 100 World Religion

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course explores religion as a significant part of human experience and introduces the student to the historical development and the current beliefs and practices of diverse religious traditions in the United States and around the globe.

REL-101 Intro to Old Testament

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This introductory course to the Old Testament emphasizes its literary structure and development, the philosophical themes which run through it and the larger historical world from which it emerged. No previous familiarity with the Old Testament is expected.

REL-102 Intro to New Testament

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This introductory course to the New Testament emphasizes its literary structure and development, the philosophical themes which run through it and the larger historical world from which it emerged. No previous familiarity with the New Testament is expected.

Physics

PHY-101 Survey of the Physical Sciences

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This physical science survey course is designed for elementary education majors. This course does not satisfy the General Education physical science requirement for an A.A. degree. This course provides the tools and experiences necessary for the elementary education teacher to be better equipped to develop and teach science curricula that supports both state and national science standards. Students work with the scientific method and its applications in the physical sciences: earth science, astronomy, chemistry, meteorology and physics. Previous college level math course recommended.

PHY-105 Introduction to Physics

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This course provides an introduction to basic physics. Students will apply the principles of mechanics, energy, waves, matter and atomic theory. Laboratory activities will give students the opportunity to demonstrate physics principles presented in lecture. A previous college level math course is recommended.

PHY-110 Introduction to Geology

MOTR Equivalent: MOTR GEOL 100L Geology with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This course is an introduction to basic geology. Students learn about the principles and applications of mineralogy, petrology, structural geology, geomorphology and historical geology. Laboratory skills necessary for the study of geology are introduced. A previous college level course is recommended.

PHY-115 Introduction to Astronomy

MOTR Equivalent: MOTR ASTR 100L Astronomy with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This course provides an introduction to basic astronomy. Students will learn about the composition, dynamics, evolution of planets, stars, and the universe. Laboratory activities will give students the opportunity to demonstrate physics principles presented in lecture. One evening field trip is required. A previous college level math course is recommended.

PHY-120 General Physics I

MOTR Equivalent: MOTR PHYS 150L Physics I with Lab

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This is an algebra based physics course. Students learn about the principles and applications of mechanics, wave motion and heat. Laboratory activities give students an opportunity to demonstrate physics principles presented in lecture. This course is designed for earth science, biology, chemistry, health and medical majors. *Prerequisite(s):* Grade of "C" or better in MTH 130 or equivalent (MTH 131 recommended).

PHY-130 General Physics II

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier I

This is an algebra based physics course. Students learn about the principles and applications of electromagnetism and optics. Laboratory activities give students the opportunity to demonstrate physics principles presented in lecture. This course is designed for earth science, biology, chemistry, health and medical majors. *Prerequisite(s):* Grade of "C" or better in PHY 120 and grade of "C" or better in MTH 130 or equivalent (MTH 131 recommended).

PHY-220 Physics Engrs & Scientists I

MOTR Equivalent: MOTR PHYS 200L Advanced Physics I with Lab

Credits: 5

Contact Hours: Lec 4 Lab 2

Tier Rate: Tier I

This is a calculus based physics course. Students learn about the principles and applications of mechanics, wave motion and heat. Laboratory activities give students the opportunity to develop the basic skills in data collection and analysis required in physics. This course is designed for pre-engineering, physics, chemistry and pre-med majors. *Prerequisite(s):* Grade of "C" or better in MTH 140.

PHY-222 Physics Engrs & Scientists II

Credits: 5

Contact Hours: Lec 4 Lab 2

Tier Rate: Tier I

This course is a continuation of the calculus based physics course, PHY 220. Students learn about the principles and applications of electromagnetism and optics. *Prerequisite(s):* Grade of "C" or better in MTH 140 and PHY 220.

Phlebotomy

PLB-100 Introduction to Phlebotomy

Credits: 2

Contact Hours: Lec 1 Lab 2

Tier Rate: Tier III

Students develop knowledge and skills in phlebotomy. Skill development includes performing common blood collection methods using proper techniques and universal precautions. Collection covers vacuum collection devices, syringes, capillary skin puncture, butterfly needles, blood cultures and specimen collection on adults, children and infants. The course also emphasizes infection prevention, proper patient identification, quality assurance, specimen handling, order of draw and processing. *Prerequisite(s):* Selective admission into the course.

PLB-101 Phlebotomy Clinical

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier III

Students are assigned to various clinical facilities to develop knowledge and skills in a phlebotomy clinical environment. Skill development includes performing common blood collection methods using proper techniques and universal precautions. Collection covers vacuum collection devices, syringes, capillary skin puncture, butterfly needles, blood cultures, and specimen collection on adults, children and infants. The course also emphasizes infection prevention, proper patient identification, quality assurance, specimen handling, order of draw and processing. *Prerequisite(s):* Grade of "C" or better in PLB 100.

Political Science

PLS-101 American Government and Politics

MOTR Equivalent: MOTR POSC 101 American Government

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an introduction to the origin, organization and policy of the United States and state government. The course fulfills Missouri state law requiring instruction in the Constitutions of the United States and Missouri.

PLS-103 Intro American Public Policy

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course deals with the process of policy formulation and with the historical development of specific public policies in such fields as economics, foreign affairs, education, business and labor, social welfare, criminal justice, health and environment. *Prerequisite(s):* PLS 101.

PLS-201 International Relations

MOTR Equivalent: MOTR POSC 201 International Relations

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a study of international relations, international behavior, and the role of the nation-state within the international system. Areas of concentration include foreign policy, major social and political forces at work in the contemporary world, theories of international relations, nationalism and conflict/cooperation. *Prerequisite(s):* PLS 101 or GRY 101.

PLS-250 The Politics of the Environment

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Environmental politics provides an in-depth analysis of the domestic and global dimensions of environmental issues, including air and water pollution, hazardous waste, stratospheric ozone depletion, global warming, the greenhouse effect, population policy and alternative energy systems. This course will focus on the political interactions within and across nation-states in dealing with environmental problems. *Prerequisite(s):* PLS 101.

PLS-255 Environmental Laws and Regulations

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to hazardous waste regulations, solid waste management programs, the Clean Air Act, OSHA regulations, the Clean Water Act, environmental audits, remediation technology and issues relating to the impact of environmental laws on society.

Precision Machining Technology

PMT-125 Machining Fundamentals I

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Note: Course is offered in the fall semester. This is a fundamental course designed to introduce students to precision machining. Students will utilize manual and CNC equipment to produce parts from blueprints.

PMT-135 CNC Programming - G & M Code

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Note: Course is offered in the fall semester. Computer Numerical Control (CNC) is a technology that is used widely in modern manufacturing to produce precise parts using computer-controlled machine tools. This course is designed to introduce students to the fundamentals of reading and writing the G and M code that controls these machines.

PMT-145 CAD/CAM Essentials

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Note: Course is offered in the fall semester. Computer Aided Drafting (CAD) refers to using computer software to create a design. Computer Aided Manufacturing (CAM) refers to using computer software to create CNC machine code from a CAD design. In this course, students will learn how to use CAD/CAM software to create 3D models and program CNC machine tools.

PMT-150 Adv. Blueprint Reading & QC

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course is designed to teach advanced blueprint interpretation skills as well as the proper use of dimensional inspection equipment. These skills are essential for machinists and quality inspectors.

PMT-225 Machining Fundamentals II

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course is designed to expand on the equipment and skills used in Machining Fundamentals I. Practical laboratory assignments will expand a students' knowledge and ability to produce precise parts from blueprints using conventional and CNC machine tools. *Prerequisite(s)*: A grade of "C" or better in PMT 125.

PMT-235 CNC Setup and Operation

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course is designed to teach the fundamental skills needed to safely and efficiently setup and operate a variety of computer-controlled (CNC) machine tools.

PMT-245 Advanced CAD/CAM

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course will expand on the concepts used in CAD/CAM Essentials by teaching additional CAD/CAM strategies and techniques for programming components of increasing complexity. Tooling design will also be introduced. *Prerequisite(s)*: A grade of "C" or higher in PMT 145.

PMT-250 Adv. Machining Processes I

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course builds on knowledge gained in prior courses and teaches advanced machining and work-holding techniques. *Prerequisite(s)*: A grade of "C" or better in PMT 145 and PMT 235.

PMT-255 Advanced Machining Processes Capstone

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

This course is designed to build on the practices used in Advanced Machining Processes I in an individual and collaborative learning environment. Multi-axis machining, automation, and other productivity increasing technologies will be explored. *Prerequisite(s)*: PMT 250 or concurrent enrollment.

PMT-290 Co-operative Education/Internship/Related Elective

Credits: Variable 2-3

Contact Hours: Practicum 6-9

This course entails a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may

also be required. *Prerequisite(s)*: Completion of 30 credit hours and 2.0 GPA, or advisor's approval. Please see the department chair of the specific program area for application.

Psychology

PSY-100 Psychology of Personal Adjustment

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course introduces the psychological principles that contribute to the well-adjusted personality. It explores how to integrate these principles into an explanation of human adjustment and apply them to stress and mood management, human relationships, self-esteem and personal adjustment.

PSY-110 Introduction to Psychology

MOTR Equivalent: MOTR PSYC 100 General Psychology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to psychology including history and systems, physiology, human growth and development, sensation and perception, learning, memory, emotion, motivation, personality, adjustment, psychopathology, industrial and social psychology.

PSY-130 Life Span Development Psychology

MOTR Equivalent: MOTR PSYC 200 Life Span Human Development

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a study of human life span development, including the physical, emotional, cognitive and social developments and changes from conception through death.

PSY-210 Research Methods Behav Sci

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will explore the basic principles underlying the design of empirical studies and the relationship between research design and statistical analysis. It will familiarize students with a variety of basic research methods and the mechanics and structure of empirical journal articles. Students will design and conduct a research project. *Prerequisite(s)*: PSY 110, ENG 101, MTH 105 or higher.

PSY-220 Statistics for Behav Science

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

In this course you will learn about statistics that allow researchers to describe and summarize data and distinguish between chance and systematic effects in typical experimental contexts. The lab portion involves applications of the concepts and procedures utilizing the Excel statistical package. Offered seated in Spring and online in Fall. *Prerequisite(s):* Grade of "C" or better In ENG 101 , MTH 128 or higher, and PSY 110 or SOC 101.

PSY-255 Psychology of Work Behavior

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to the concepts used in industrial and organizational psychology. Specifically, employee selection, performance appraisal, training, motivation, workplace health and consumer behavior are included. *Prerequisite(s):* PSY 110.

PSY-260 Child Psychology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is the study of developmental psychology as it relates to the child from conception to middle childhood. It will cover the biological, behavioral, cognitive, emotional and cultural development of the child as well as family and social influences such as discipline and abuse. *Prerequisite(s):* PSY 110

PSY-265 Psychology of Adolescents

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is the study of developmental psychology as it relates to the adolescent and the transition from childhood to adulthood. It will cover the biological, behavioral, cognitive, emotional, and cultural development of the adolescent and issues such as attitudes, interest, and socialization specific to the adolescent. *Prerequisite(s):* PSY 110.

PSY-270 Psychology of Aging

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course explores the mental, biological, physical, emotional, social and personality development of aging as well as mental health and coping mechanisms. It considers psychological and physiological changes throughout adulthood including death, dying and grief. *Prerequisite(s):* PSY 110.

PSY-275 Consumer Psychology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to the psychology's application in consumer buying behavior including how consumers notice, remember, learn, and are motivated to buy goods and services based on the advertisements, salespeople, friends, and other consumers around them. *Prerequisite(s):* PSY 110.

PSY-280 Social Psychology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an introduction to the scientific study of how we think about, influence, and relate to other people. Topics of study include: social cognition, social perception, attitude, prejudice and discrimination, social and group influence, aggression and prosocial behavior, interpersonal attraction and intimate relationships. *Prerequisite(s):* PSY 110.

PSY-285 Abnormal Psychology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course provides an examination of psychological disorders as well as the theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on the terminology, classification, etiology, assessment, and treatment of the major disorders. *Prerequisite(s):* PSY 110.

Physical Therapy Assistant

PTA-100 Introduction to Physical Therapist Assistant

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course is offered to Physical Therapist Assistant students in the A Block of the 1st Spring Semester of the Technical Education component of PTA program. PTA 100 Introduction to PTA provides an introduction to the role and scope of practice of the Physical Therapist Assistant. Emphasis will be on educational preparation, historical overview of physical therapy in the healthcare system, professional affiliations, structure and function of physical therapy services, ethical and legal issues in healthcare, the demographics of disability and an introduction to a self-study program in medical terminology. Additionally, the course will provide an introduction to the concept of individual differences, communication skills, psychology of disability, and professional behavior within the healthcare delivery system. *Prerequisite(s):* Admission to the PTA program. *Corequisite(s):* PTA 155

PTA-155 Anatomy for the PTA

Credits: 3

Contact Hours: Lec 2 Lab 2 Practicum 0

Tier Rate: Tier III

This course will utilize the text used for A&P I and II, expanding on the material regarding the musculoskeletal and nervous systems. This course will be offered to Physical Therapist Assistant students in the A Block of the 1st Spring Semester of the Technical Education component of the PTA program. This course will focus on the systems that are required for human movement: skeletal system, articulations, muscular system, surface anatomy, nervous system, central nervous system, peripheral nervous system, and autonomic nervous system. *Prerequisite(s):* Acceptance into the PTA Program *Corequisite(s):* PTA 100

PTA-200 Therapeutic Procedures

Credits: 6

Contact Hours: Lec 3 Lab 9 Practicum 0

Tier Rate: Tier III

This course is an introduction to patient care activities, fundamentals of patient handling, data collection, infection control procedures, wound management and environmental safety as related to physical therapy. *Prerequisite(s):* Grade of "C" or better in PTA 100, PTA 155, PTA 225.

PTA-220 Physical Agents and Therapeutic Massage

Credits: 4

Contact Hours: Lec 3 Lab 2 Practicum 0

Tier Rate: Tier III

This course is a study of the use of physical agents and massage in the practice of physical therapy for the relief of pain and inflammation and the facilitation of motor function. The course includes techniques of application, indications, contraindications, precautions and conditions for which treatment is provided. *Prerequisite(s):* Grade of "C" or better in PTA 200.

PTA-225 Clinical Kinesiology

Credits: 5

Contact Hours: Lec 3 Lab 6

Tier Rate: Tier III

The focus of this course includes principles of motion, body movements, muscle actions, and joint mechanics in relation to human movement. Principles of anatomical and biomechanical analysis as related to normal movement and modified by pathological conditions are included. *Prerequisite(s):* Admission to the PTA program.

PTA-230 Therapeutic Exercise I / Orthopedic and Cardiopulmonary Conditions

Credits: 4

Contact Hours: Lec 3 Lab 3 Practicum 0

Tier Rate: Tier III

This course provides an introduction of basic exercise principles and the application to musculoskeletal and cardiopulmonary conditions commonly encountered in physical therapy practice with discussion, demonstration and practice of therapeutic exercise interventions designed to improve musculoskeletal or cardiopulmonary function. *Prerequisite(s):* Grade of "C" or better in PTA 200.

PTA-240 Therapeutic Exercise II / Neurologic Conditions

Credits: 3

Contact Hours: Lec 2 Lab 3 Practicum 0

Tier Rate: Tier III

This course provides an introduction of basic therapeutic intervention strategies for patients with neurologic conditions commonly encountered in physical therapy practice. Discussion, demonstration and practice of therapeutic interventions and compensatory strategies for impaired function are included. *Prerequisite(s):* Grade of "C" or better in PTA 200.

PTA-250 Clinical Education I

Credits: 3

Contact Hours: Lec 0 Lab 0 Practicum 9

Tier Rate: Tier III

This course entails a two-week, full-time, supervised clinical experience at each of two healthcare facilities in which there will be active student participation in patient care consistent with the completed academic coursework. *Prerequisite(s):* Grade of "C" or better in PTA 200.

PTA-270 Selected Topics

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is comprised of selected topics in physical therapy to complement prior course work and to respond to student and faculty (academic and clinical) identified requests for additional information. Clinical topics may include: advanced wound topics, chronic pain, orthotics, prosthetics and other contemporary issues encountered in physical therapy delivery systems. *Prerequisite(s):* Grade of "C" or better in PTA 220, PTA 230, PTA 240, PTA 250.

PTA-280 Clinical Education II

Credits: 10

Contact Hours: Lec 0 Lab 0 Practicum 30

Tier Rate: Tier III

This course is comprised of a six-week, full-time, supervised clinical experience at each of two healthcare facilities. One facility must be an acute general hospital setting. Prior completion of academic coursework will allow integration of classroom and clinical experiences with refinement of assessment,

communication and treatment skills. *Prerequisite(s)*: Grade of "C" or better in PTA 220, PTA 230, PTA 240, PTA 250.

Reading

RDG-070 Intro to College Reading

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Students will be actively engaged with a reading specialist in an individualized program that will build vocabulary, increase comprehension, improve study habits, and develop critical reading strategies and critical thinking skills. Reading will become more efficient and enjoyable. Progress will be measured through pre and post assessments, completion of coursework, and by reading specialist observation.

RDG-100 College Vocabulary

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is designed for students who want to expand their college level vocabulary skills through the study of word origins and word parts including prefixes, roots, suffixes and word families. Students will be introduced to vocabulary essential to understanding basic concepts required in general education courses.

RDG-106 Academic and Analytic Reading

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course emphasizes critical, analytical reading of college-level materials, particularly college textbooks, academic articles, and scholarly books. Students will experience regular close reading and examination of college-level materials related to their particular area of academic emphasis. Students will acquire and effectively apply study skills, scholarly research strategies, and appropriate use of citation for their field.

Respiratory Therapy

RST-105 Cardiopulmonary Anatomy and Physiology

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course is a study of the gross anatomy and microscopic anatomy of the pulmonary and cardiac

systems. Electrophysiology of the heart, mechanics of ventilation, gas transport and neurochemical control of ventilation are presented. *Prerequisite(s)*: BCS 165 or BCS 205.

RST-210 Respiratory Equipment and Therapeutics

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier III

This course focuses on gas laws, aerosol, humidity, chest physiotherapy, IPPB and medical gas therapy.

Prerequisite(s): Acceptance into the Respiratory Therapy program.

RST-215 Respiratory Pharmacology

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

Concepts of basic drug science and their application to respiratory drugs, including bronchodilators, corticosteroids, mucokinetic agents and antibiotics are covered. The student is also introduced to other drugs commonly used by pulmonary patients. *Prerequisite(s)*: Acceptance into the Respiratory Therapy program.

RST-223 Mechanical Ventilation

Credits: 4

Contact Hours: Lec 4 Lab 0 Practicum 0

Tier Rate: Tier III

This course focuses on the management of ventilatory failure, including ventilator commitment, blood gas management and weaning. Operation of common ventilators and various techniques of mechanical ventilation are presented. *Prerequisite(s)*: Grade of "C" or better in RST 210, RST 215, RST 281.

RST-226 Cardiopulmonary Diagnostics

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course focuses on the performance and analysis of pulmonary function studies arterial blood gases.

Prerequisite(s): Grade of "C" or better in RST 210, RST 215, RST 281.

RST-227 Cardiopulmonary Diagnostics II

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course focuses on patient assessment techniques, chest x-ray interpretation, and EKG interpretation. *Prerequisite(s)*: Grade of "C" or better in RST 226.

RST-228 Pulmonary Diseases

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course is a survey of pathological disorders of the lungs. Etiology, pathophysiology, clinical manifestations and treatment are covered for each disease. *Prerequisite(s):* Grade of "C" or better in RST 210, RST 215, RST 281.

RST-240 Pediatric Respiratory Therapy

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course includes fetal development, high risk anticipation, newborn assessment and care, neonatal and pediatric respiratory diseases and therapies, monitoring, airway care, mechanical ventilation and home care. *Prerequisite(s):* A grade of "C" or better in RST 223, RST 226, RST 227, RST 228, RST 282.

RST-242 Applied Cardiopulmonary Pathology

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier III

This course is a study of techniques used to monitor and treat the pathophysiological processes encountered in respiratory care. The course includes the evaluation of cardiac output, intravascular pressures and tissue oxygenation. *Prerequisite(s):* Grade of "C" or better in RST 223, RST 226, RST 227, RST 228, RST 282.

RST-251 Special Procedures in Respiratory Care

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

The focus of this course will be on assisting the physician with bronchoscopy, thoracentesis, tracheotomy, chest tube insertion, invasive cardiac monitoring, pulmonary rehabilitation, quality control procedures and equipment evaluation. *Prerequisite(s):* Grade of "C" or better in RST 223, RST 226, RST 227, RST 228, RST 282.

RST-253 Advanced Respiratory Therapy Theory

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier III

This course is an analysis of therapeutic procedures to achieve and maintain a patent airway, adequate

ventilation and oxygenation and removal of broncho-pulmonary secretions. *Prerequisite(s)*: Grade of "C" or better in RST 223, RST 226, RST 227, RST 228, RST 282.

RST-281 Clinical Practicum I

Credits: 4

Contact Hours:

Tier Rate: Tier III

This course provides practical experience in the hospital setting, medical gas therapy, chest physiotherapy and IPPB therapy. *Prerequisite(s)*: Acceptance into the Respiratory Therapy Program.

RST-282 Clinical Practicum II

Credits: 8

Contact Hours: Lec 0 Lab 0 Practicum 24

Tier Rate: Tier III

This course focuses on critical care, mechanical ventilation, arterial blood gases and departmental specialty areas. *Prerequisite(s)*: Grade of "C" or better in RST 210, RST 215, RST 281.

RST-283 Clinical Practicum III

Credits: 8

Contact Hours: Lec 0 Lab 0 Practicum 24

Tier Rate: Tier III

This course provides practical experience in critical care, neonatal, medical, pediatric and surgical intensive care patients. Practical experience in special procedures and department management skills is also included. *Prerequisite(s)*: Grade of "C" or better in RST 223, RST 226, RST 227, RST 228, RST 282.

Social Work

SWK-200 Introduction to Social Work

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an introduction to the values, knowledge and skills that guide the practice of social work. It emphasizes the values of self-determination, individualization and respect for diversity *Prerequisite(s)*: SOC 101.

SWK-213 Social Welfare Policy and Services

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course examines the historical development and philosophical orientation of social welfare policy and services in the United States as well as introduces students to the development of social work as a profession. The course focuses on selected major social welfare policies and programs and the programs and the philosophical, economic, social and political forces that shape their development. *Prerequisite(s):* Grade of "C" or better in SOC 101.

SWK-300 Social Work Service Learning

Credits: 1

Contact Hours: Lec 0 Lab 2 Practicum 0

Tier Rate: Tier I

This service component incorporates community service with classroom instruction to provide an integrative learning experience that addresses the practice of citizenship and promotes an awareness of and participation in public affairs. Includes 40 hours of service that benefits an external community organization or human/social service agency. Approved settings will focus on populations-at-risk, diverse populations and groups that have experienced social and economic injustice. A list of approved placements and assignments is available from the instructor and the Citizenship and Service Learning Office. May be repeated. *Prerequisite(s):* SOC-101 *Corequisite(s):* SWK-200, SWK-213, or SOC-219

Sociology

SOC-101 Introduction to Sociology

MOTR Equivalent: MOTR SOCI 101 General Sociology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an inquiry into the nature of society, the foundation of group life, institutions, structure of society and the role of the individual as a group member. Emphasis on implications for social change is encouraged.

SOC-210 Urban Sociology

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an inquiry into the origin and practice of urban sociology. The course explores theories of urbanization, urbanization of the United States, contemporary urban problems, and global urban development. This course partially fulfills Social/Behavioral Science requirement. *Prerequisite(s):* SOC 101.

SOC-215 Deconstructing Social Problems

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a critical examination of social problems that exist in modern societies. Social problems will be addressed through an analysis of how they are constructed, the sociological approach to problems, and an exploration of why problems persist. Policies related to reducing social problems will be discussed with an emphasis on what we can do in our community to decrease the negative consequences of social problems. *Prerequisite(s):* SOC 101

SOC-219 Cultural Diversity

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is designed to broaden the student's awareness of the cognitive knowledge and skill necessary to effectively interact with and/or serve a culturally diverse population. This course focuses on contemporary issues of gender, class, race, sexual orientation, religious and ethnic experiences in American life. The course develops skills in recognizing diversity within social systems from a tridimensional perspective: individual, group and organizational. This course requires students to understand the organizational and managerial aspects of cultural diversity in order to compete within the workplace and within our global world. *Prerequisite(s):* SOC 101.

SOC-225 Sociology of Family

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is an exploration into the structural diversity of family including social construction and historical change, social location, current issues in marriage and family, and the family as a primary group of interpersonal relationships structured by gender roles. *Prerequisite(s):* SOC 101.

SOC-250 Service Learning In Community

Credits: 3

Contact Hours: Lec 1 Lab 4

Tier Rate: Tier I

This course combines community service with classroom instruction to develop the student's critical and reflective thinking skills. Students are involved in a process of volunteering, journaling and reflecting that is meaningful for advancing sociological understanding as well as making a difference in the community and the student's personal life. *Prerequisite(s):* SOC 101.

Spanish

SPN-101 Beginning Spanish I

MOTR Equivalent: MOTR LANG 103 Spanish I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course covers the essentials of pronunciation, verb construction, vocabulary, and speech patterns through aural-oral practice. This course serves as introduction to Spanish speaking cultures. Class will be conducted in Spanish to the extent that is practical.

SPN-102 Beginning Spanish II

MOTR Equivalent: MOTR LANG 104 Spanish II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a continuation of Beginning Spanish I. Pronunciation, verb construction, vocabulary and speech patterns will be emphasized. This course serves as introduction to Spanish-speaking cultures. Class will be conducted entirely in Spanish. *Prerequisite(s):* Grade of "C" or better in SPN 101.

SPN-201 Intermediate Spanish I

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course will emphasize improving pronunciation, verb construction, vocabulary and speech patterns. It introduces students to Spanish composition and Spanish literary forms. The class will be conducted entirely in Spanish. *Prerequisite(s):* Grade of "C" or better in SPN 102.

SPN-202 Intermediate Spanish II

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This course is a continuation of Intermediate Spanish I. Students to improve pronunciation, verb construction, vocabulary and speech patterns. Students start spontaneous conversation, write more compositions and read short stories and poetry. The class is conducted entirely in Spanish. *Prerequisite(s):* Grade of "C" or better in SPN 201.

SPN-205 Conversational Spanish

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

The primary objective of the course is to develop the student's competency in communicating through the spoken medium. Students engage in conversation and role playing at a formality level appropriate to their language knowledge. Class may also meet in real settings: such as, a restaurant, a hospital or Hispanic neighborhood. Emphasis is on idiomatic expressions used in daily speech, pronunciation, and vocabulary building. *Prerequisite(s):* Grade of "C" or better in SPN 202 or concurrent enrollment.

Sophomore Seminar

SSM-201 Sophomore Seminar (Subtitled with the focus of the particular section)

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

(Subtitled with the focus of the particular section) In this course, students apply critical thinking, analytical reading, valuing, and information management skills to topics across the general education curriculum. Each section of this course focuses upon a different and specific topic, as indicated in the title for that course section. A seminar format requiring independent work, intellectual creativity and academic rigor is used to enhance the students' transition to upper level college work. *Prerequisite(s):* Minimum of 28 hours in the General Education Transfer block must include ENG 102 or ENG 150 (or concurrent enrollment), CIS 101 and MTH 110 (or higher). Additional prerequisites may be required for certain sections.

Surgical Technology

SUR-105 Operating Room Technique I

Credits: 6

Contact Hours: Lec 5 Lab 3 Practicum 0

Tier Rate: Tier III

This course introduces students to surgical asepsis, communication, surgical instrumentation and basic lab skills. *Prerequisite(s):* Admission to Surgical Technology program; Grade of "C" or better in BCS 165, BCS 205, BCS 200 and HIT 191 or HSC 120

SUR-106 Operating Room Technique II

Credits: 6

Contact Hours: Lec 5 Lab 3

Tier Rate: Tier III

This course introduces students to anesthesia concepts, hemostasis, positioning, wound closure

materials, potential complications, infection, wound healing, and death and dying. This includes more advanced lab skill procedures. *Prerequisite(s)*: Grade of "C" or better in SUR 105.

SUR-110 Pharmacology for Surgical Technologists

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier III

This course introduces basic pharmacology including mathematics, drug regulation and administration. The student is introduced to medications commonly used in surgery and learns how to safely prepare drugs for administration. Anesthetic agents and concepts are taught to give the student a more complete picture of surgical patient care. *Prerequisite(s)*: Admission to the Surgical Technology program.

SUR-120 Surgical Procedures I

Credits: 8

Contact Hours: Lec 5 Practicum 9

Tier Rate: Tier III

This course is designed to instruct the learner to identify the operative sequence for surgical procedures. Emphasis is placed on surgical anatomy, equipment, and supplies needed for each procedure and surgical sequence. Areas studied include general surgery, gastrointestinal surgery, obstetrics and gynecology, genitourinary, ophthalmic, ear and nose, and laser surgeries. Students will be assigned to cases in the operating room where they will learn to become proficient in their skills. Sterile technique will be practiced. *Prerequisite(s)*: Grade of "C" or better in SUR 106 and SUR 110.

SUR-121 Surgical Procedures II

Credits: 8

Contact Hours: Lec 5 Lab 0 Practicum 9

Tier Rate: Tier III

This course is designed to instruct the learner to identify the operative sequence for surgical procedures. Emphasis is placed on surgical anatomy, equipment, and supplies needed for each procedure and surgical sequence. Areas studied include thoracic, orthopedics, plastic, vascular, cardiac, throat, neurosurgery, pediatric, geriatric, and trauma surgeries. Students will be assigned to cases in the operating room where they will learn to become proficient in their skills. Sterile technique will be practiced. Students will be assigned to more advanced cases. *Prerequisite(s)*: Grade of "C" or better in SUR 120.

Technical Education Curriculum

TEC-108 Applied Technical Mathematics

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Course content includes the fundamental processes of mathematics with emphasis on problem-solving techniques. This course covers mathematical principles and concepts applicable to the technical trades utilizing introductory algebra, geometry, elementary trigonometry, and basic statistical methods.

TEC-192 Tech Education Internship

Credits: 4

Contact Hours: Lec 1 Lab 6

Tier Rate: Tier I

The technical education internship experience will provide students the opportunity to be mentored by a college instructor and workplace supervisor with selected employer partners. The instructor will be instrumental in helping the student find paid or unpaid internships in his or her career pathway. Successful students will meet on a weekly basis with their college instructor to coordinate an individualized internship plan which may include job shadowing, multiple job applications, interviews, employability skills coaching, and securing an internship location consistent with their career pathway and program related occupations. This course will allow students to apply their classroom knowledge and skills in the workplace while gaining meaningful job experience that cannot be duplicated in the classroom/lab. Students are required to complete 90 hours of work with assigned employer partner.

TEC-285 Occupational Seminar

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

Instruction for this course includes career identification, self-assessment, resume' development, preparation of cover letters, completion of applications for local jobs, learning the online employment application process, research of local companies, jobs available, and current salary ranges, job searching techniques and tools, interviewing skills, follow-up steps after the job interview and on-the-job performance expectations. *Prerequisite(s):* Minimum of 30 hours toward degree program or advisor's approval.

Technical Education Science

TES-140 Technical Physics

Credits: 4

Contact Hours: Lec 3 Lab 2

Tier Rate: Tier II

This course entails a survey of basic physics for students majoring in technical fields. Students will learn how the concepts of force, work, rate, resistance, energy, power, and force transformation are related to mechanical, fluid, thermal, and electrical systems. Laboratory activities will give the students an opportunity to demonstrate the principles of physics, as presented in lecture. *Prerequisite(s):* Grade of "C" or better in TEC 108 or higher

Theater

THR-101 Introduction to Theater

MOTR Equivalent: MOTR THEA 100A Theatre Appreciation

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

This interactive course is a study of the collaboration and contributions that various theatre artists make to the process of transforming drama to the stage. Combining lecture, creative projects, and reflection on live theatre events, students will develop their ability to think critically about the artistic experience. Purchasing tickets and attending local productions required.

THR-110 Acting Fundamentals

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

This highly interactive course focuses on stage techniques, basics of characterization and scene study, making the student a more informed observer of the acting process. Students will practice the fundamental rehearsal process culminating in the performance of selected scenes. Buying tickets to and attendance at local performances required.

THR-115 Script Analysis

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

In this course, students will read and analyze plays as theatre artists in early stages of production. Students will examine the relationships of directors, designers, and actors in creating production concepts. Buying tickets and attending local productions is required. Maximum Credit Hours 3

THR-116 Introduction to Performance Studies

Credits: 3

Contact Hours: Lec 3

Tier Rate: Tier I

Performance Studies is essentially a study of culture through its cultural performances its rituals, ceremonies, and everyday life. In this highly interactive, performance-based course, students will explore the social, cultural, and aesthetic aspects of performance through an examination of self and society. This course combines lecture, readings, and original student performances of oral and literary texts.

THR-118 Costume Design and Production

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

Students explore the design process, costume silhouette and detail, and scripts and character analysis within the context of historical theatrical costuming connected to the concurrent Fine Arts production.

THR-120 Acting I

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This course is an introduction to the fundamental tools and techniques of acting. Through scene study and performance, students will learn physical awareness, vocal awareness, and ensemble collaboration. Buying tickets to and attendance at local performances may be required.

THR-121 Acting II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

This highly interactive course is an extension of Acting I, offering a more intensive practice of stage techniques, characterization and scene study. Students will study various styles and theories of acting technique. A strong emphasis will be on developing a personal process and theory of acting. Purchasing tickets to and attending local performances required. *Prerequisite(s):* Grade of "C" or better in THR 120 or instructor permission.

THR-125 Playwriting

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier I

In this course, students practice specific techniques, practical exercises, and methods of playwriting. Working with the basic building blocks of dramatic structure, students will explore character development, analyze the elements of good dialogue, and research how to get plays produced and published. Students will also participate in readings of original work from the class. Maximum Credit Hours 3

THR-130 Theatrical Design and Production

Credits: 3

Contact Hours: Lec 1 Lab 4 Practicum 0

Tier Rate: Tier I

In this hands-on course students gain an understanding of the duties of the scenic, costume, lighting and sound designers and all related production members. Students learn about the working relationships between designers and other members of the production and how the theatrical product moves from

concept to realization onstage. Students learn about physical theatre spaces, as well as design fundamentals that are applicable to each of the design areas. Maximum Credit Hours 3

THR-215 Introduction to Stage Directing

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier I

In this course, students will apply principles of script analysis, acting technique, and fundamentals of design in the direction of a one-act play for an audience. Students will learn basic procedures of selecting, analyzing, casting and producing a play. *Prerequisite(s):* Grade of "C" or better in THR 110, THR 115 and THR 130.

Speckman Tutoring and Learning Center

TLC-021 Critical Thinking

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This course will assist students in developing critical thinking skills. Students will learn to make logical decisions through thoughtful text analysis, self-examination, and problem-solving strategies. In-class interactive critical thinking groups will read, answer questions, and collaborate (through discussions of logic and reasoning) in order to arrive at the best possible conclusions. Other activities include examinations of primary sources (from various dates and a variety of subjects) and how authors' perspectives and language shape documents and how readers' emotions and experiences affect perception of information. Critical thinking skills will be beneficial in taking tests and can be applied to all subjects encountered by students, as well as improve career and citizenship opportunities.

TLC-022 Study Strategies for College

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course is designed as a brief overview of study strategies that college students need in order to succeed in college course work. Topics covered in this course include time management, note taking, textbook reading, test taking, critical thinking, memory strategies and health issues that affect college success. Students should report to the Speckman Tutoring & Learning Center to develop a course completion plan.

TLC-023 Mathematics Study Strategies

Credits: 1

Contact Hours: Lab 2

Tier Rate: Tier I

This course will assist students in developing the study skills necessary for success in any mathematics course. Some of the topics include: note taking, reading a math textbook, test taking and reducing math anxiety. This course is open to any student currently enrolled in any OTC mathematics course.

TLC-030 Algebra Essentials

Credits: 2

Contact Hours: Lec 2

Tier Rate: Tier I

This B-Block course is designed for the student who drops a math course. The student will be assessed on current math knowledge then guided through a self-paced learning of math concepts. This should help the student be more successful the next time that math course is taken. It can also benefit the student who wants to strengthen math skills prior to entering a new math course. It is recommended that the student also take a B-Block TLC 023 class. This course does not replace any required math course. The student should report to ICE 212 to begin. The student may begin prior to the posted start date of B-Block classes.

TLC-041 Basic English Grammar

Credits: 1

Contact Hours: Lec 1

Tier Rate: Tier I

This course provides students an opportunity to review basic English language skills in preparation for college-level courses and employs a functional approach to grammar. Students learn the basics of punctuation, grammar and sentence structure, and then apply what they have learned to their writing. Students enrolled in 100-level courses who need to review language skills are encouraged to enroll in this course as well. The class meets one time per week for 50 minutes, and additional outside work will be required. Students should report to the Speckman Tutoring & Learning Center during the first week of their enrollment. Enrollment is open until midterm, but it is suggested that students enroll by the fourth week of the semester.

Welding Technology

WLD-101 Welding Fundamentals

Credits: 3

Contact Hours: Lec 2 Lab 2

Tier Rate: Tier II

This course provides study and practice of fundamental welding processes that include oxyacetylene, metallic arc, MIG and TIG. This does not satisfy any OTC requirements within the A.A. or A.A.S. degree programs. This course should be taken as general elective only.

WLD-111 Shielded Metal Arc Welding I

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course is an application of entry level skills and knowledge of shielded metal arc welding, oxy-fuel cutting, plasma arc cutting, and carbon arc cutting and gouging are taught in this course. Standards set by the American Welding Society (AWS) are utilized in both classroom study and laboratory work.

WLD-112 Shielded Metal Arc Welding II

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course follows WLD 111 and introduces the student to the entry level skills and knowledge of welding the various joint designs in various welding positions with the shielded metal arc welding process. *Prerequisite(s):* WLD 111.

WLD-113 Gas Metal and Flux Cored Arc Welding

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the fall semester. The student will learn and apply entry level skills and knowledge of welding with gas metal and flux cored arc welding processes. Standards set by the American Welding Society (AWS) are utilized in both classroom study and laboratory work.

WLD-114 Gas Tungsten Arc Welding

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course examines safe practices in the welding industry as well as welding theory, terms, and definitions. Students will weld on carbon steel, stainless steel, and aluminum.

WLD-130 Print Reading for Welders

Credits: 2

Contact Hours: Lec 2 Lab 0 Practicum 0

Tier Rate: Tier II

This course will teach students how to read the various prints they will encounter in the welding industry. Students will learn how to read and understand welding prints, the various parts of a print, the common views used to convey information, and the weld symbols needed to complete most of the tasks found in industry. The focus of this course is to give the student a solid foundation for fabricating weldments in industry.

WLD-221 Advanced Shielded Metal Arc Welding

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course provides an in-depth study and application of skills and knowledge of shielded metal arc welding, oxy-fuel cutting, plasma arc cutting, and carbon arc gouging using standards set forth by the American Welding Society (AWS). *Prerequisite(s):* WLD 111 and WLD 112.

WLD-222 Advanced Gas Metal/Flux Cored Arc Welding

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course provides the student with an in-depth study of advanced skills and knowledge of the gas metal and flux cored arc welding process. Students will perform groove and fillet welds with Flux Cored Arc Welding (FCAW) on carbon steel and Gas Metal Arc Welding (GMAW) on carbon steel, stainless steel, and aluminum metals. Standards set by the American Welding Society are utilized in both classroom study and laboratory work. *Prerequisite(s):* WLD 113.

WLD-223 Advanced Pipe and Tube Welding

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course will teach employability skills in pipe and tube welding using various processes of application. This course will build on skills learned in the Advanced Shielded Metal Arc Welding (WLD 221) and the Advanced Gas Tungsten Arc Welding (WLD 224) classes, giving students better knowledge, skills, and opportunity to enter the welding workforce. *Prerequisite(s):* WLD 113 and WLD 221 and WLD 224

WLD-224 Advanced Gas Tungsten Arc Welding

Credits: 4

Contact Hours: Lec 2 Lab 4

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course provides the student with an in-depth study of advanced skills and knowledge of welding with the gas tungsten arc welding process. *Prerequisite(s):* WLD 114

WLD-225 Welding Inspection Technology I

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the fall semester. This course introduces the student to the skills and knowledge required to become a welding inspector.

WLD-226 Welding Inspection Technology II

Credits: 3

Contact Hours: Lec 3 Lab 0 Practicum 0

Tier Rate: Tier II

Note: Course is offered in the spring semester. This course is a continuation of the study of the skills and practice required to become a welding inspector. *Prerequisite(s):* WLD 225

WLD-230 Industrial Welding Specialist

Credits: 34

Contact Hours: Lec 18 Lab 32 Practicum 0

Tier Rate: Tier II

This course introduces students to entry level skills and knowledge of shielded metal arc welding, as metal arc welding, flux-cored arc welding, gas tungsten arc welding, oxy-fuel cutting, plasma arc cutting and carbon arc cutting and gouging. Students are also introduced to welding the various joint designs in different welding positions as well as orbital welding and manual welding of sanitary tubing, blueprint reading, material documentation, and fabrication and finishing techniques commonly used in the local stainless steel industry. Note: The Industrial Welding Specialist is a 20-week program that requires early registration and instructor consent. Please call 417-447-8909 for more information.

WLD-235 Fabrication and Finishing

Credits: 4

Contact Hours: Lec 2 Lab 4 Practicum 0

Tier Rate: Tier II

This course will introduce the students to advanced fabrication and finishing techniques commonly used in the local stainless steel industry. Skills developed will include blueprint reading, material documentation, fabrication and finishing. This is an advanced course that will apply collective knowledge of the major welding processes. *Prerequisite(s):* Grade of "C" or better in WLD 230 or WLD 224.

WLD-290 Co-Operative Ed/Intern/Related Elective

Credits: Variable Credits: 2-3

Contact Hours:

Tier Rate: Tier II

This course is comprised of a supervised work experience in the major field which provides the student with the opportunity to make practical application of the knowledge and skills attained through coursework. An individualized instructional management plan will determine goals to be accomplished. Seminars may also be required. *Prerequisite(s):* Completion of 30 credit hours and 2.0 GPA, or advisor's approval. Please see the department chair of the specific program area for application.

Variable Courses

FLI-- Foreign Language Institute

Contact Hours:

Variable Courses

Foreign Language Institute Courses

Explanation

The following classes are offered through the Foreign Language Institute (FLI), a collaborative venture between several area institutions established to increase students' access to languages. Most courses offered through the FLI meet at the Jim D. Morris Center located at the corner of Jefferson and McDaniel streets in downtown Springfield. Students pay regular tuition and fees to OTC, and the grades and credits for FLI courses appear on their OTC transcript. More specific information about the FLI can be found at <http://fli.missouristate.edu>.

— 101 Foreign Language

This course is the first part of the introductory sequence in the offered language. Student acquire basic communication skills in the interpersonal, interpretive, and presentational modes as well as an understanding of peoples, products, and practices related to the offered language.

— 102 Foreign Language

This course is the second part of the introductory sequence in the offered language. Students continue to acquire and reinforce novice-level communication skills in the interpersonal, interpretive, and presentational modes while deepening their understanding of the language and culture.

— 201 Foreign Language

This course is the first part of the intermediate sequence in the offered language. Students continue to develop proficiency in the interpersonal, interpretive, and presentational modes and learn to communicate in culturally appropriate ways.

— 202 Foreign Language

This course is the second part of an intermediate sequence in the offered language. Students continue to acquire and reinforce intermediate-level communication skills in the interpersonal, interpretive, and presentational modes while deepening their understanding of the connections between language and culture.

VAR-- Variable Credit Courses

Contact Hours:

Variable Credit Courses Explanation

— 099 Developmental Special Topics

Developmental Special Topics is a course of variable topics not covered in other courses. Course may be repeated 4 times for a total of 12 hours. Supplemental course fees may apply (variable by section).

— 199 Freshmen-Level Special Topics

Freshmen-Level Special Topics is a course of variable topics not covered in other courses. Course may be repeated 4 times for a total of 12 hours. Supplemental course fees may apply (variable by section).

— 295 Special Topics

Special Topics is a course of variable topics not covered in other courses. Course may be repeated twice for a total of six (6) hours, provided the same topic is not duplicated. Supplemental course fees may apply (variable by section). This course is not offered every semester. Please check under the appropriate course code of the current semester schedule to see if it is offered.

— 296 Directed Study

Directed Study is an opportunity for a student to obtain credit through individualized, independent work in a field of study appropriate for the student's future goals. The class will be developed in collaboration with an instructor and approved by the appropriate Dean. This option may be utilized in circumstances necessary to fulfill specified degree electives. This course will not be listed in the course schedule. Please see the department chair if interested in this course.

— 298 Study Abroad

Short-term study abroad opportunities are offered to provide expanded learning opportunities, cultural developments and career education to prepare students for an increasingly global community. Participants can earn college credits in a variety of academic areas while expanding their understanding of other cultures and gaining new skills. This course is not offered every semester. Please check under the appropriate course code of the current semester schedule to see if it is offered.

MOTR Core 42 Transfer Curriculum

MOTR-- Core 42 Transfer Curriculum

CORE 42 is a statewide general education course of study intended to ensure that all graduates possess a common core of college-level skills and knowledge. CORE 42 specifies the basic competencies and knowledge areas that all students completing degrees at a Missouri public institution of higher education must complete. CORE 42 is comprised of dozens of courses distributed across five knowledge areas. These courses are designated with a Missouri Transfer (MOTR) course number, which guarantees the one-to-one transfer of these courses among all Missouri public institutions of higher education. Please refer to MDHE Core Transfer Curriculum for detailed information on CORE 42 courses.