



COURSE DESCRIPTIONS

JULY 2012

Throughout this document, trademark names are used. Rather than placing a trademark symbol after every occurrence of a trademarked name, we used the names in an editorial fashion only, and to the benefit of the trademark owner, with no intention of infringement of the trademark. Where such designations appear in this document, they have been printed with initial caps.

Corrections will be made if errors are discovered.

Cooperative Education/Experiential Learning Courses

Each degree program that includes cooperative education and internship experiences has a set of assigned courses. All co-op and internship courses follow the model shown below. Each time a student registers for a co-op or internship experience, a different course number will be required.

- **Part-Time** co-op registration uses course numbers 191 through 196
- **Full-Time** co-op registration uses course numbers 291 through 293
- **Internship** registration uses course numbers 294 and 295

Within this Catalog only the first part-time co-op, full-time co-op, and/or internship course is listed for each program.

Clinical experience courses in various degree programs uses course numbers that are different from those shown here. All clinical courses are listed in the Catalog.

Students with questions about co-op registration should talk to their academic Program Chair or Cooperative Education Coordinator for additional information.

XXX 191 **Part-Time Cooperative Education 1:** **1-20-1**
Program Name
 Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: Varies by program

XXX 192 **Part-Time Cooperative Education 2:** **1-20-1**
Program Name
 Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 191

XXX 193 **Part-Time Cooperative Education 3:** **1-20-1**
Program Name
 Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 192

XXX 194 **Part-Time Cooperative Education 4:** **1-20-1**
Program Name
 Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 193

XXX 195 **Part-Time Cooperative Education 5:** **1-20-1**
Program Name
 Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 194

XXX 196 **Part-Time Cooperative Education 6:** **1-20-1**
Program Name
 Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX195

XXX 291 **Full-Time Cooperative Education 1:** **1-40-1**
Program Name
 Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: Varies by program

XXX 292 **Full-Time Cooperative Education 2:** **1-40-1**
Program Name
 Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 291

XXX 293 **Full-Time Cooperative Education 3:** **1-40-1**
Program Name
 Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 292

XXX 294 **Internship 1: Program Name** **1-40-2**
 Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: Varies by program

XXX 295 **Internship 2: Program Name** **1-40-2**
 Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: XXX 294

ACC Accounting ADC Addiction Studies

ACC Accounting

ACC 101	Financial Accounting	2-2-3
An introduction to financial accounting and financial reporting for business entities. Topics include: the accounting cycle, inventories, cash, receivables, plant assets, current liabilities, stock transactions, long-term liabilities, and cash flows.		
Prerequisites: None		
Ohio Transfer Assurance Guide Approved		
ACC 102	Managerial Accounting	2-2-3
An introduction to managerial accounting for business entities. Topics include: job-order and process costing, cost behavior and cost-volume-profit analysis, activity based costing, budgeting, standard costs, performance evaluation, relevant costs and capital budgeting.		
Prerequisites: ACC 101		
Ohio Transfer Assurance Guide Approved		
ACC 110	Accounting Information Systems	2-0-2
A course on documentation, design, and operation of accounting information systems. Topics include: internal control, business processes, flowcharting, developing an accounting information system, and evaluating accounting software.		
Prerequisites: ACC 101		
ACC 115	Accounting Software Applications	0-3-1
A course on processing business transactions using computerized accounting software. Topics include: integrated accounting applications such as general ledger, accounts receivable, accounts payable, payroll, fixed assets and depreciation, and inventory.		
Prerequisites: ACC 101		
ACC 120	Computerized Bookkeeping: QuickBooks	0-3-1
A course on processing transactions for small businesses using QuickBooks software. Topics include: processing banking, customer, vendor, inventory, and payroll transactions; and generating and customizing financial reports.		
Prerequisites: ACC 101		
ACC 130	Payroll Procedures	2-0-2
A course on payroll accounting and procedures. Topics include: payroll regulations, gross pay, withholdings, and payroll tax returns.		
Prerequisites: ACC 101		
ACC 135	Financial Statement Analysis	2-0-2
A course on understanding and interpreting corporate annual reports. Topics include: trend analysis, common-size statements, and ratio analysis.		
Prerequisites: ACC 101		
ACC 140	Fund Accounting for Non-profit Organizations	2-0-2
A course on principles and practices of accounting for nonprofit organizations. Topics include: transaction analysis, appropriations, encumbrances, budgeting, and financial reporting.		
Prerequisites: ACC 101		
ACC 175	Federal Taxation: Individuals	3-0-3
A course on federal income taxation as it relates to individual taxpayers. Topics include: elements of the tax formula, tax issues associated with self-employment, and depreciation. Students prepare multiple tax returns and related schedules.		
Prerequisites: None		
ACC 180	Federal Taxation: Business	3-0-3
A course on federal income taxation as it relates to corporations, partnerships, and S corporations. Topics include: the elements of the tax formula, advanced tax issues, and property transactions. Students prepare multiple tax returns and related schedules.		
Prerequisites: None		
ACC 191	Part-Time Cooperative Education 1: Accounting	1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.		
Prerequisites: BUS 190		

ACC 201	Intermediate Accounting 1	4-0-4
A course on theory and techniques of financial accounting. Topics include: preparing required financial statements and disclosures; accounting for cash, accounts and notes receivable, inventory, plant and equipment, and intangible assets; analyzing financial statements; and international standards.		
Prerequisites: ACC 101		
ACC 202	Intermediate Accounting 2	3-0-3
A continuation of ACC 201. Topics include: liabilities, stockholders' equity, investments, revenue recognition, income taxes, pension, leases, changes and disclosures in financial reporting, international standards, and analyzing financial statements.		
Prerequisites: ACC 201		
ACC 210	Cost Accounting	3-0-3
A course on principles and practices of cost accounting related to manufacturing and services businesses. Topics include: overhead rates, absorption and variable costing, job-order and process costing, standard costing and variance analysis, joint costs, cost allocations, and cost management.		
Prerequisites: ACC 102		
ACC 230	Professional Ethics for Accountants	2-0-2
A course on the ethical obligations of accountants. Topics include: codes of conduct of various professional accounting organizations, accounting scandals, and ethical decision-making.		
Prerequisites: ACC 201		
ACC 270	Auditing	3-0-3
A course on objectives and procedures of the auditing profession. Topics include: audit reports, auditing standards, professional ethics, evidence, materiality, internal control, planning, and audit testing.		
Prerequisites: ACC 202		
ACC 291	Full-Time Cooperative Education 1: Accounting	1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.		
Prerequisites: BUS 190		
ADC Addiction Studies		
ADC 100	Drugs in Society	3-0-3
A course on the use and abuse of drugs and alcohol. Topics include: causes of drug abuse, prevention, early intervention, and treatment programs.		
Prerequisites: None		
ADC 105	Addiction, Counseling, and Diversity	3-0-3
A survey of addiction studies, emphasizing the importance of cultural competency in substance abuse counseling.		
Prerequisites: AFL 085 or appropriate placement test score, and ADC 100 or 15 RCHs and Program Chair consent		
ADC 110	Pharmacology of Addiction	3-0-3
A course on psychological and physiological effects of mood-altering substances. Topics include: physical and psychological characteristics of addiction; drug tolerance, dependency, and withdrawal; cross addictions; and drug interactions.		
Prerequisites: AFL 085 or appropriate placement test score, and ADC 100 or 15 RCHs and Program Chair consent		
ADC 115	Ethics in Addiction Treatment	3-0-3
A course on ethical and legal issues in the field of substance abuse counseling. Topics include: the counselor as a professional, values and helping relationships, client rights and counselor responsibilities, and ethics and cultural sensitivity.		
Prerequisites: AFL 085 or appropriate placement test score, and ADC 100 or 15 RCHs and Program Chair consent		
ADC 120	Addiction Screening, Assessment, and Treatment	3-0-3
A course on systematic approaches to addiction counseling. Topics include: making appropriate referrals, using community resources, collaborating in the counselor/client relationship, and planning and implementing treatment.		
Prerequisites: ADC 105, ADC 110		
ADC 125	Relapse, Treatment, and Prevention	3-0-3
A course on factors that influence relapse in drug and alcohol abuse and best practices for preventing and treating relapse.		
Prerequisites: ADC 105, ADC 110		

AFL Academic Foundations – Language**AVT Aviation Maintenance Technology**

ADC 200 Dual Diagnosis: Substance Abuse and Mental Illness 4-0-4
A course on co-occurring psychiatric and substance abuse disorders and their impact on the individual, family, and community. Topics include: differential diagnosis of chemical dependency and mental disorders; assessment strategies; intervention approaches; and working with clients with dual disabilities, including addicted trauma survivors.
Prerequisites: ADC 120

ADC 205 Addiction Studies Certificate Practicum 1-7-2
Students spend at least seven hours per week in a substance abuse/addiction facility that serves culturally, linguistically, and socio-economically diverse populations, under the supervision of a Licensed Certified Chemical Dependency Counselor, Licensed Independent Social Worker or other professional with a Master of Social Work degree.
Prerequisites: ADC 115, ADC 120, ADC 125

AFL Academic Foundations – Language

AFL 070 Essentials of Reading and Writing 5-0-5
A course on fundamentals of reading and writing in standard English. Students must earn a minimum grade of C to pass this course.
Prerequisites: None

AFL 080 Fundamentals of College Reading and Writing 5-0-5
A course that integrates reading and paragraph writing skills with strategies needed to succeed in other college courses. Students must earn a minimum grade of C to pass this course.
Prerequisites: None

AFL 085 Applications of College Reading and Writing 5-0-5
A course that integrates critical reading and essay writing skills with strategies needed to succeed in other college courses. Students must earn a minimum grade of C to pass this course.
Prerequisites: AFL 080 (minimum grade C) or appropriate placement test score

AFM Academic Foundations – Mathematics

AFM 075 Essentials of Mathematics 4-0-4
A course on using math skills to solve practical problems such as balancing a bank account, developing a personal budget, and comparison shopping. Topics include: whole numbers, decimals, and fractions. Students receive a course grade of Satisfactory or Unsatisfactory.
Prerequisites: None

AFM 090 Foundations of Basic Mathematics 4-0-4
A course on using basic arithmetic operations to solve problems in a variety of contexts. Topics include: whole numbers, fractions, percents, proportional reasoning, and simple linear equations. Students must earn a minimum grade of C to pass this course.
Prerequisites: None

AFM 095 Foundations of Basic Algebra 4-0-4
A course on investigating, representing, and solving problems with algebra. Topics include: literal equations; scientific notation; and algebraic, graphic, and numerical representation. Students must earn a minimum grade of C to pass this course.
Prerequisites: AFM 090 (minimum grade C) or appropriate placement test score

AMT Aviation Maintenance Technology

AMT 100 Aviation Standard Practices 4-6-6
A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: fluid lines and fittings, materials and processes, and cleaning and corrosion control.
Prerequisites: AFL 085 or appropriate placement test score

AMT 105 Aircraft Orientation 2-5-4
A course on foundation concepts in aviation maintenance. Topics include: aircraft drawings, ground operations and servicing, mechanic privileges, and basic concepts of physics.
Prerequisites: AFL 085 or appropriate placement test score

AMT 110 Aircraft Electricity 3-3-4
A course that uses FAA-approved instruction for foundation concepts and techniques in aviation maintenance. Topics include: basic concepts of math, physics, and electricity; aircraft drawings; and maintenance forms and records.
Prerequisites: MAT 120

AMT 115 Aircraft Weight and Balance 3-3-4
A course on foundation concepts and techniques related to aircraft weight and balance. Topics include: maintenance forms and records, and maintenance publications.
Prerequisites: MAT 120

AMT 120 Aircraft Non-Metal Structures 3-4-5
A course on wood structures, aircraft covering, aircraft finishes, and inspection of bonded structures.
Prerequisites: AMT 105

AMT 125 Aircraft Metal Structures 3-5-5
A course on repairing and maintaining sheet metal structures. Topics include: selecting and installing rivets and fasteners, forming and bending sheet metal, and laying out repairs.
Prerequisites: AMT 100 and AMT 105

AMT 130 Aircraft Welding Processes 2-2-3
A course on welding of magnesium, titanium, aluminum, and steel in aircraft. The course does not prepare students for certification specific to welding.
Prerequisites: None

AMT 135 Aircraft Landing Gear Systems 3-5-5
A course on repairing and maintaining aircraft landing gear systems and hydraulic and pneumatic power systems.
Prerequisites: AMT 105 and MAT 121

AMT 140 Airframe Electrical Systems 4-4-6
A course on troubleshooting aircraft electrical systems and inspecting direct current generators.
Prerequisites: AMT 105 and AMT 110

AMT 145 Airframe Electronic Systems 2-1-2
A course on aircraft instrument systems and communication and navigation systems.
Prerequisites: AMT 105 and AMT 110

AMT 150 Airframe Systems 3-3-4
A course on systems for cabin atmosphere and control, position and warning, ice and rain control, fire protection, and aircraft fuel.
Prerequisites: AMT 100, AMT 105, and AMT 110

AMT 155 Airframe Assembly and Rigging 3-4-5
A course on balancing rigging, and inspecting primary and secondary flight controls of rotor and fixed wing aircraft.
Prerequisites: AMT 100, AMT 105, and MAT 121

AMT 160 Airframe Inspection 1-3-2
A course on inspection of airframes and sheet metal structures, repair of sheet metal structures, and conformity inspections on rotor and fixed wing aircraft.
Prerequisites: AMT 105 and AMT 115

AMT 191 Part-Time Cooperative Education 1: Aviation Maintenance Technology 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: AMT 100

AMT 200 Engine Instruments and Electrical Systems 4-3-5
A course that uses FAA-approved instruction for concepts and techniques in engine instrument systems, engine fire protection systems, and engine electrical systems.
Prerequisites: AMT 105 and AMT 110

AMT 201 Powerplant Maintenance 1 6-4-8
A course that uses FAA-approved instruction for concepts and techniques in inspection and repair of radial engines; overhaul of reciprocation engines; and inspection, check, service and repair of reciprocating engines and engine systems.
Prerequisites: AMT 100 and AMT 105

ART Art

AUTO Automotive Service Management

AMT 202 Powerplant Maintenance 2 5-5-7
A continuation of AMT 201, using FAA-approved instruction for concepts and techniques in installation, troubleshooting, and removal of reciprocating engines; overhaul of turbine engines; and induction and engine airflow systems.
Prerequisites: AMT 201

AMT 203 Powerplant Maintenance 3 4-2-5
A continuation of AMT 202, using FAA-approved instruction in the subject areas of inspection, check, service, and repair of turbine engines and turbine engine installations; installation, troubleshooting, and removal of turbine engines; performing powerplant conformity and airworthiness inspection; engine exhaust and reverser systems; unducted fans; and auxiliary power units.
Prerequisites: AMT 202

AMT 205 Starting and Ignition Systems 3-4-5
A course that uses FAA-approved instruction for concepts and techniques in ignition and starting systems for reciprocating and turbine aircraft engines. Topics include: inspection, troubleshooting, and repair.
Prerequisites: AMT 105 and AMT 110

AMT 210 Engine Fuel and Lubrication Systems 5-5-7
A course that uses FAA-approved instruction for concepts and techniques in lubrication systems, fuel metering systems, and engine fuel systems.
Prerequisites: AMT 100 and AMT 105

AMT 215 Aircraft Propellers 2-2-4
A course that uses FAA-approved instruction for concepts and techniques in removal, installation, inspection, and repair of fixed and variable pitch aircraft propellers and propeller governing systems.
Prerequisites: AMT 105 and AMT 115

AMT 291 Full-Time Cooperative Education 1: Aviation Maintenance Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: AMT 100

AMT 294 Internship 1: Aviation Maintenance Technology 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: AMT 100

ART Art

ART 110 Introduction to Art 3-0-3
Study of visual artistic expression in Western culture from ancient times to the present. Topics include: examining painting, sculpture, architecture, and other media for their style, function, and relationship to the historical and cultural developments of the period.
Prerequisites: None
Ohio Transfer Module Approved

ART 111 Art History: Ancient to Medieval Periods 3-0-3
A survey of world art including major works of painting, sculpture, and architecture of the Ancient and Medieval periods.
Prerequisites: None
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

ART 112 Art History: Renaissance to the Present 3-0-3
A survey of world art including major works of painting, sculpture, and architecture of the Renaissance, Baroque, and Modern periods.
Prerequisites: None
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

ART 120 Design History 3-0-3
A course on historical trends in two-dimensional and three-dimensional design. Topics include: key developments and contributors, design language, and effective description of design concepts in written and spoken communication. Students must co-register for a designated section of ENG 102.
Prerequisites: ENG 101 (minimum grade C)
Corequisites: ENG 102 (instructor-designated section)

ART 130 Photography 2-3-3
A course on fundamentals of photography for personal and professional expression, using film-based 35mm cameras.
Prerequisites: None

ART 141 Drawing 1 2-2-3
A course on fundamental techniques of drawing in pencil and other media, emphasizing visual observation and realistic expression.
Prerequisites: None
Ohio Transfer Assurance Guide Approved

ART 142 Drawing 2 2-2-3
A continuation of ART 141, emphasizing drawing the human figure.
Prerequisites: ART 141
Ohio Transfer Assurance Guide Approved

ART 143 Drawing 3 2-2-3
A continuation of ART 142, emphasizing independent development of a cohesive body of work using traditional and non-traditional drawing media and tools.
Prerequisites: ART 142 or instructor consent

ART 150 Watercolor 2-2-3
A course on fundamental principles and techniques of watercolor painting. Topics include: basic tools, color theory, brush techniques, styles, and framing and matting.
Prerequisites: None

ART 161 Sculpture 1 2-3-3
A course on fundamental techniques of sculpture using clay and other materials.
Prerequisites: None

ART 162 Sculpture 2 2-3-3
A continuation of ART 161, emphasizing envisioning and creating three-dimensional art works.
Prerequisites: ART 161

AUTO Automotive Service Management

AUTO 100 Introduction to Automotive Technology 2-3-3
A course on foundation concepts of the automotive industry. Topics include: safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance.
Prerequisites: None

AUTO 111 Engine Repair 1 2-3-3
A course on internal combustion engines. Topics include: engine classification, disassembly, inspection, measurement and identification of parts, failure analyses, reassembly, and tools and procedures used in the engine rebuilding process.
Prerequisites: AUTO 100

AUTO 112 Engine Repair 2 2-3-3
A continuation of AUTO 111, emphasizing replacing a complete engine and replacing an engine with short or long blocks. Topics include: engine cooling systems, timing chain and belt replacement, valve adjustment, internal and external leak repair, and engine noise diagnosis.
Prerequisites: AUTO 111

AUTO 120 Automatic Transmission and Transaxle 2-3-3
A course on operation, diagnosis, service, and repair of automatic transmissions and transaxles. Topics include: transmission pressure testing; scan tool testing; transmission replacement, disassembly, and reassembly; inspection of parts; and troubleshooting various systems.
Prerequisites: AUTO 100 and AUTO 161

AUTO 130 Manual Drive Train and Axles 2-3-3
A course on operation, diagnosis, service, and repair of manual transmissions, transaxles, and drivelines. Topics include: clutch, driveshaft, universal joint, constant velocity joint, final drive, transfer case, and locking hub assemblies.
Prerequisites: AUTO 100 and AUTO 161

AUTO 140 Suspension and Steering 2-3-3
A course on operation, diagnosis, service, and repair of steering and suspension systems. Topics include: wheels and tires, front and rear suspension systems for front-wheel drive and rear-wheel drive vehicles, and wheel alignment angles.
Prerequisites: AUTO 100 and AUTO 161

AUTO Automotive Service Management

AVP Audio/Video Production

AUTO 150 Brakes 2-3-3
A course on operation, diagnosis, service, and repair of automotive braking systems. Topics include: hydraulic, mechanical, and anti-lock braking systems; power assist units; and machine operations of drums and rotors.
Prerequisites: AUTO 100 and AUTO 161

AUTO 161 Electrical/Electronic Systems 1 2-3-3
A course on systematic diagnosis and repair of basic automotive electrical circuits. Topics include: Ohm's law, interpreting wiring schematics, step-by-step testing procedures, starting and charging systems, and automotive component testing.
Prerequisites: None

AUTO 162 Electrical/Electronic Systems 2 2-3-3
A continuation of AUTO 161. Topics include: wiring schematic interpretation, diagnosis, and repair of driver information systems, cruise control systems, motor driven accessories, heated glass, and electronic body control systems.
Prerequisites: AUTO 100 and AUTO 161

AUTO 170 Heating and Air Conditioning 2-3-3
A course on diagnosis, service, and repair of automotive air conditioning and heating systems. Topics include: performance testing, pressure and leak testing, electrical and mechanical controls, compressors, clutches, safety devices, and ozone-safe service.
Prerequisites: AUTO 100 and AUTO 161

AUTO 181 Engine Performance 1 2-3-3
A course on engine performance diagnostics and fuel injection and ignition systems. Topics include: evaluation of basic engine mechanical system through vacuum, cylinder power balance, compression, and cylinder leakage testing.
Prerequisites: AUTO 111 and AUTO 161

AUTO 182 Engine Performance 2 2-3-3
A continuation of AUTO 181. Topics include: On-Board Diagnostics systems, scan tools that retrieve diagnostic codes and data, diagnostic flow charts, and testing and replacing computer sensor inputs and computer-controlled output components.
Prerequisites: AUTO 181

AUTO 191 Part-Time Cooperative Education 1: Automotive 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

AUTO 291 Full-Time Cooperative Education 1: Automotive 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

AVP Audio/Video Production

AVP 100 Introduction to Audio/Video Production 4-1-4
A course on foundation principles of videography and lighting, audio and sound design, and video editing and post production. Topics include: industry vocabulary, workflow, and professional practices.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

AVP 110 Videography: Single Camera Production and Lighting 2-3-3
A course on concepts and techniques for single camera video production. Topics include: industry terminology, pre-production and planning, camera types and formats, shot composition, and use of gripping and support equipment.
Prerequisites: AVP 100, MID 110, MID 115 (minimum grade C for all)

AVP 120 Digital Video Editing 2-3-3
A course on non-linear digital video editing, with additional focus on storytelling and production workflow. Topics include: session set up, media management and acquisition, basic editing techniques, and output and delivery.
Prerequisites: AVP 110 (minimum grade C)

AVP 130 Audio: Editing and Mixing 2-3-3
A course on concepts and techniques for digital audio editing and mixing using ProTools HD and LE systems. Topics include: session set-up, routing, signal flow, equalization, dynamics control, and delivery.
Prerequisites: AVP 100, MID 110, MID 115 (minimum grade C for all)

AVP 191 Part-Time Cooperative Education 1: Audio/Video Production 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190

AVP 210 Videography: Multi Camera Production and Lighting 2-3-3
A course on concepts and techniques for multi camera video production. Topics include: industry terminology, pre-production and planning, camera types and formats, shot composition, and use of gripping and support equipment.
Prerequisites: AVP 110 (minimum grade C)

AVP 220 Video Editing and Compositing 2-3-3
A course on advanced concepts and techniques for video editing. Topics include: text and motion graphics, compositing, color correction, keyframing, and multi-camera editing and effects.
Prerequisites: AVP 120 (minimum grade C)

AVP 230 Audio: Production and Sound Design 2-3-3
A course on advanced concepts and techniques for audio production. Topics include: voice recording and direction, sound effects creation, music and editing, and mix-to-picture techniques.
Prerequisites: AVP 130 (minimum grade C)

AVP 240 Motion Graphics and Compositing: After Effects 2-3-3
A course on professional techniques for using Adobe After Effects in video post-production of movies and commercials.
Prerequisites: GRD 210, GRD 215, or GRD 220 (minimum grade C for all)

AVP 250 Video Editing: Alternate Platforms 1-2-2
A course on varieties of industry-standard software and hardware used for video editing.
Prerequisites: AVP 220 (minimum grade C)

AVP 255 Lighting Techniques 1-2-2
A course on advanced lighting techniques. Topics include: principles of electricity, color theory, and gripping and lighting for various digital media formats.
Prerequisites: AVP 210 (minimum grade C)

AVP 260 Color Grading, Correction and Continuity 1-2-2
A course on techniques for color correction and color grading. Topics include: balance and continuity, and creating emotional and special effect.
Prerequisites: AVP 220 (minimum grade C)

AVP 265 Video Compression and DVD Authoring 1-2-2
A course on techniques for video compression and DVD authoring. Topics include: past and current video file CODEC and format types, and file delivery and compatibility.
Prerequisites: AVP 220 (minimum grade C)

AVP 270 Audio Editing: Alternate Platforms 1-2-2
A course on varieties of industry-standard software and hardware used for audio editing.
Prerequisites: AVP 230 (minimum grade C)

AVP 275 Audio Mixing: 5.1 Surround Sound 1-2-2
A course on advanced mix techniques using five-channel (5.1) surround sound. Topics include: bass management, recording for surround, and final output.
Prerequisites: AVP 230 (minimum grade C)

AVP 280 Multi Track Recording 1-2-2
A course on techniques for multi-track recording from pre-production through final mix. Topics include: session flow and management, microphone placement, and mixing techniques.
Prerequisites: AVP 230 (minimum grade C)

AVP 285 Audio/Video Production Independent Final Project 2-3-3
Qualified students work individually or with an approved team from concept to completion on a media production project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.
Prerequisites: Audio/Video Production Program Chair consent, and minimum 3.0 GPA
Instructor Consent Required

AVP 290 Audio/Video Production Capstone 2-3-3
Qualified students work in structured teams to develop audio and video deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production including pre- and post. Students who do not successfully complete the course may make one additional attempt.
Prerequisites: Audio/Video Program Chair consent, and minimum 2.5 GPA
Instructor Consent Required

AVP 291 Full-Time Cooperative Education 1: Audio/Video Production 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190

AVP 294 Internship 1: Audio/Video Production 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190

BIO Biology

BIO 100 Skills for Success in Science 2-2-3
A course that improves student skills needed for success in science-related courses, especially those required for Health and Public Safety programs. Topics include: participating actively in learning; using active and critical thinking; understanding laboratory skills, techniques, and learning experiences; and taking science tests.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Instructor Consent Required

BIO 111 Biology: Unity of Life 3-2-4
A course on characteristics shared by all living organisms. Topics include: the nature of science, chemistry of life, cell biology, energetics and biochemical pathways, cell division, genetics, molecular biology, and the origin of life.
Prerequisites: AFL 085 and AFL 095, or appropriate placement test scores
Ohio Transfer Module Approval Pending

BIO 112 Biology: Diversity of Life 3-2-4
A continuation of BIO 111. Topics include: taxonomy and evolution of animals, plants, fungi, protists, bacteria, and viruses; animal behavior; ecology; population growth; and conservation biology.
Prerequisites: BIO 111 (minimum grade C)
Ohio Transfer Module Approval Pending

BIO 115 Human Genetics 3-0-3
A course on human traits, genetic conditions, and inheritance. Topics include: DNA structure, patterns of inheritance, meiosis, karyotypes, genetic engineering, and societal implications of an individual's genetic identity.
Prerequisites: BIO 111 or BIO 131 (minimum grade C for either)

BIO 117 Human Body in Health and Disease 3-0-3
A course on the structure and function of disease in the human body. Topics include: principles of disease, diseases of specific body systems, normal function contrasted with dysfunction, and common symptoms and treatments for diseases.
Prerequisites: BIO 111 (minimum grade C)

BIO 131 Biology 1 3-4-5
A course on the chemistry of life. Topics include: cellular structure and function; characteristics of life; theory of evolution; understanding DNA and its role in heredity, regulation of biological systems, bioenergetics and biochemical pathways; and current developments in biotechnology.
Prerequisites: BIO 111 (minimum grade C) or high school Biology within past 7 years (minimum grade C)
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

BIO 132 Biology 2 3-4-5
A continuation of BIO 131. Topics include: scientific theory, history of scientific discovery, evolutionary principles, form and function of living organisms, biological classification, behavior of organisms and their relationships to biological systems, ecological systems, applications of biology, and sustainability.
Prerequisites: BIO 131 (minimum grade C)
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

BIO 151 Anatomy and Physiology 1 3-2-4
A course on the structure and function of the human body. Topics include: orientation to anatomy and physiology; cellular function; tissues; special senses; and integumentary, skeletal, muscular, and nervous systems.
Prerequisites: BIO 111 and CHE 100 or CHE 110, or high school Biology or Chemistry within past 7 years (minimum grade C for all)
Ohio Transfer Module Approval Pending

BIO 152 Anatomy and Physiology 2 3-2-4
A continuation of BIO 151. Topics include: endocrine, cardiovascular, immune, respiratory, digestive, urinary, and reproductive systems; metabolism; fluid and electrolyte balance; and human growth and development.
Prerequisites: BIO 151 (minimum grade C)
Ohio Transfer Module Approval Pending

BIO 210 Cross Sectional Anatomy 1-2-2
A course on sectional anatomy of major human structures including the head, neck, thorax, abdomen, pelvis and extremities; and organ relationships in the axial, coronal, and sagittal planes.
Prerequisites: BIO 152 (minimum grade C)

BIO 220 Microbiology 2-3-3
A course on microbiology and infectious disease. Topics include: microbial taxonomy and identification, microbial cell structure, microbial genetics, metabolism, biotechnology, epidemiology, and immunology.
Prerequisites: BIO 132 or BIO 151 (minimum grade C for either)

BIO 230 Pharmacology 3-0-3
A course on clinical drug categories and therapies. Topics include: pharmacokinetics; pharmacodynamics; drug classes and schedules; drug approval and regulation; modes of administration; and indications, mechanism of action, and adverse effects.
Prerequisites: BIO 152 (minimum grade C)

BIO 240 Pathophysiology 3-0-3
A course on fundamental clinical concepts of disease processes. Topics include: terminology, clinical presentations, manifestations, and diagnostic and therapeutic activities.
Prerequisites: BIO 152 (minimum grade C)
Ohio Transfer Assurance Guide Approved

BIO 250 Cell Biology 3-4-5
A course on the structure and function of cells. Topics include: cell structure and organelles, membrane function, cell respiration and photosynthesis, intracellular transport, cell to cell communication, and cell division.
Prerequisites: BIO 132 and CHE 100 or CHE 110 (minimum grade C for all)

BIO 260 Genetics 3-4-5
A course on mechanisms of heredity and genetics. Topics include: DNA and chromosome structure, transcription and gene regulation, replication and cell division, patterns of inheritance, genetic recombination, mutations and their repair, and genetics of cancer development and evolution.
Prerequisites: BIO 131 and CHE 100 or CHE 110 (minimum grade C for all)

BMT Biomedical Equipment and Information Systems**BIO Bioscience Technology**

BIO 270 Ecology 3-4-5
A course on interrelationships between organisms and their natural environments. Topics include: ecology and evolution; population ecology, density, dispersion, and dispersal; metapopulations; competition and predation; community structure, succession, and nutrient cycling; and sustainability.
Prerequisites: BIO 132 or BIO 152, and CHE 100 or CHE 110 (minimum grade C for all)
Instructor Consent Required

BIO 275 Animal Behavior 3-4-5
A course on the diversity of animal behaviors examined from mechanistic, ecological and evolutionary perspectives. Topics include: genetic, physiological, neural, and developmental bases of behavior; animal learning and social behavior; predator-prey interaction; and communication, reproduction, mating, and parental systems.
Prerequisites: BIO 132 or BIO 270, and CHE 100 or CHE 110 (minimum grade C for all)
Instructor Consent Required

BMT Biomedical Equipment and Information Systems Technology

BMT 151 Biomedical Instrumentation 1 3-3-4
A course on the role of the biomedical engineering technician. Topics include: hospital organization and regulations, professional certifications, safety, and medical devices.
Prerequisites: AFM 090 or appropriate placement test score

BMT 191 Part-Time Cooperative Education 1: Biomedical Equipment and Information Systems Technology 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BMT 151, CIT 190

BMT 252 Biomedical Instrumentation 2 3-2-4
A continuation of BMT 151. Topics include: medical device maintenance, technology management, patient and surgical monitoring, and test equipment.
Prerequisites: BMT 151, EET 122, and EET 132

BMT 253 Biomedical Instrumentation 3 3-2-4
A continuation of BMT 252. Topics include: complex medical devices, imaging equipment, medical technology management, equipment malfunction, and globalization.
Prerequisites: BMT 252, EET 210, and EET 251

BMT 291 Full-Time Cooperative Education 1: Biomedical Equipment and Information Systems Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BMT 151, CIT 190

BMT 294 Internship 1: Biomedical Equipment and Information Systems Technology 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BMT 151, CIT 190

BPA Business Programming and Systems Analysis

BPA 130 Business Systems Analysis and Design 2-3-3
An introductory course on business systems analysis within the framework of the system development life cycle. Topics include: business case analysis, requirement gathering, requirement modeling, enterprise modeling, and development strategies.
Prerequisites: AFL 085 and AFM 095 or appropriate placement test scores

BPA 191 Part-Time Cooperative Education 1: Business Programming and Systems Analysis 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

BPA 211 Business Application Development 1: RPGLE/DB2 3-3-4
A course on the IBM operating system and utilities including DB2, Control Language, Query, SDA, and SQL. Topics include: RPGLE utilization of forms/specifications, language operation codes and special functions used to generate reports, and transaction level file maintenance.
Prerequisites: IT 102

BPA 212 Business Application Development 2: RPGLE/DB2 3-3-4
A continuation of BPA 211. Topics include: RPGLE procedural programming including arrays/list processing, interactive applications, and subfiles; interactive and embedded SQL; and ILE programming through service programs to address introductory cross-platform programming.
Prerequisites: BPA 211

BPA 230 Mobile Application Development 3-2-4
A course on designing and programming applications for current mobile devices. Topics include: GUI programming application structure; and considerations related to network, database, video, GPS sensors, and multi-touch.
Prerequisites: IT 161

BPA 240 Emerging Technologies: Web and Mobile Applications 3-3-4
A course on emerging technologies in software and applications development for the Web and mobile devices.
Prerequisites: BPA 230

BPA 290 Business Programming and Systems Analysis Capstone 3-3-4
Students work on a team project that demonstrates mastery of skills gained throughout their degree studies. Topics include: analyzing requirements, determining an IT solution, and implementing an IT solution.
Prerequisites: BPA 211, IT 161, and IT 210

BPA 291 Full-Time Cooperative Education 1: Business Programming and Systems Analysis 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

BPA 294 Internship 1: Business Programming and Systems Analysis 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

BSC Bioscience Technology

BSC 100 Survey of Bioscience and Biotechnology 2-0-2
An introductory course on the disciplines and scope of bioscience and biotechnology. Topics include: applications of bioscience and biotechnology, medical advances, bioethics, current developments, and career opportunities.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

BSC 105 Laboratory Skills for Bioscience 2-3-3
A course on skills required for safe and regulated work in a laboratory environment. Topics include: lab documentation, safety, measurements and calculations, making solutions, and aseptic technique.
Prerequisites: BIO 111 (minimum grade C) or Bioscience Program Chair consent

BSC 110 Biomanufacturing Workplace Regulations 3-0-3
A course on the regulatory environment of biomanufacturing. Topics include: scope of the biomanufacturing industry; regulations such as CRF 21, GMP, GLP, and GCP; and writing and following SOPs, batch records, and FDA warning letters and 483 notices.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

BSC 115 Bioscience Laboratory Methods 2-3-3
A course on techniques used in Bioscience laboratories. Topics include: microscopy, aseptic technique, growth and identification of microbes, spectroscopy, genetic transformation, DNA isolation, and troubleshooting experiments.
Prerequisites: BSC 105, and BIO 111 or BIO 131, and CHE 105 or high school chemistry within the past 7 years, and ENG 101 (minimum grade C for all)
Instructor Consent Required

BSC 120 Cell Culture 0-4-2
A course on skills and techniques necessary to perform cell culture. Topics include: cell counts, biosafety, plant culture, yeast culture, mammalian cell culture, and fermentation techniques.
Prerequisites: BSC 115

BSC 150 Scientific Literacy for Bioscience 2-0-2
A course on reading, writing, and speaking skills for science professionals. Topics include: style and structure for scientific journal articles, the peer review process, and oral presentations of scientific information.
Prerequisites: ENG 101
Instructor Consent Required

BSC 160 Quality and Compliance in Biomanufacturing 3-0-3
A course on quality assurance elements in biomanufacturing industries. Topics include: current Good Manufacturing Practices (cGMPs), lean manufacturing and Six Sigma, root cause analysis, validation and calibration, and regulatory compliance. Students must attend field trips to local biomanufacturing companies.
Prerequisites: BSC 110

BSC 191 Part-Time Cooperative Education 1: Bioscience 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BIO 132, BSC 205, or BSC 210 (minimum grade C for all)

BSC 205 Molecular Genetics Laboratory 2-6-5
A course on molecular genetics techniques. Topics include: DNA and RNA isolation and purification, constructing screening libraries, electrophoresis, vector construction, Southern blot, PCR, DNA sequencing, and microarrays.
Prerequisites: BSC 115, and MAT 121 or MAT 151 (minimum grade C for all)

BSC 210 Protein Purification and Analysis 2-6-5
A course on isolation, purification, and analysis of proteins from cells. Topics include: chromatography, electrophoresis, Western blot, enzyme assays, proteomics, ELISA and other immunochemistry methods for detecting proteins.
Prerequisites: BSC 115, and MAT 121 or MAT 151 (minimum grade C for all)

BSC 230 Introduction to Bioinformatics 3-0-3
A course on computer applications, statistics, and genetics used in computational biology and bioinformatics. Topics include: the Human Genome and Human Proteome projects, multiple sequence analysis, genetic conditions and trends, and use of databases such as BLAST, FASTA, and Entrez.
Prerequisites: BIO 111 or BIO 131

BSC 280 Bioscience Capstone Project 0-4-2
Students design and perform a project under the supervision of a Bioscience instructor. Topics include: planning a budget, and documenting project results.
Prerequisites: BIO 132, and BSC 205 or BSC 210 (minimum grade C for all)

BSC 291 Full-Time Cooperative Education 1: Bioscience 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BIO 132, BSC 205, or BSC 210 (minimum grade C for all)

BSC 294 Internship 1: Bioscience 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BIO 132, BSC 205, or BSC 210 (minimum grade C for all)

BUS Business

BUS 110 Business Ethics 3-0-3
A course on principles of business ethics and moral reasoning. Topics include: corporate disclosure, discrimination, whistle blowing, computer crime, and international ethics.
Prerequisites: None

BUS 150 Automotive Services ATS: Advanced Standing 30-0-30
Students complete apprenticeship education, industry training programs, or work experience related to skills used in the automotive services industry.
Prerequisites: Program Chair consent
Instructor Consent Required

BUS 190 Professional Practices 1-0-1
A course that prepares students for the cooperative education interview process, heightens student awareness of expected work ethic, and provides skills that bolster professional success.
Prerequisites: None

BUS 280 Cooperative Education Seminar 1 3-0-3
Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.
Prerequisites: Co-op coordinator consent
Instructor Consent Required

BUS 285 Cooperative Education Seminar 2 3-0-3
Students participate in activities that enhance employment options in a chosen career field, as an alternative to traditional cooperative education experience. A minimum grade of C is required to pass the course.
Prerequisites: Co-op coordinator consent
Instructor Consent Required

BUS 290 Business Competencies 1-0-1
Students complete projects and community service activities that develop their business competencies and skills. Topics include: job search, negotiations, customer service, professional ethics, public service, and cultural diversity. A minimum grade of C is required to pass the course.
Prerequisites: BUS 190 and co-op coordinator consent
Instructor Consent Required

CET Civil Engineering Technology

CET 100 Introduction to Civil Engineering Technology 2-2-3
A course on foundation concepts in civil engineering technology. Topics include: CET program and curriculum, career preparation, licensing, ethics, diversity, and OSHA. Students use Microsoft Word, Excel, and Powerpoint to complete assignments.
Prerequisites: None

CET 105 Introduction to Surveying 3-2-4
A course on foundation concepts of land surveying and site planning. Topics include: angle, distance, and elevation measurement; contours; and mapping and site planning fundamentals. Students complete outdoor field exercises and manual drafting lab exercises.
Prerequisites: AFL 085 and MAT 120, or appropriate placement test scores
Ohio Transfer Assurance Guide Approved

CET 107 Construction Health and Safety 4-0-4
An introduction to construction safety. Topics include: risk management, safety hazards, the Code of Federal Regulations, and OSHA Construction Industry Standards outlined in Federal Code 29 CFR Part 1926. Students who complete the course successfully earn the OSHA 30-hour certificate.
Prerequisites: None

CET 110 Advanced Surveying and Construction Layout 2-3-3
A course in land surveying and construction layout. Topics include: traverse calculations, coordinate geometry, and field construction layout with methods of providing line and grade for varied projects. Students complete outdoor field exercises and computer lab exercises.
Prerequisites: CET 105

CET Civil Engineering Technology

CET 115 Architectural Drafting and Computer Aided Design 2-4-4
A course on applying architectural drafting techniques and computer aided design concepts. Topics include: building codes, building materials, and fundamentals of CAD software. Students prepare residential working drawings.
Prerequisites: None

CET 117 Construction Risk Management and Insurance 4-0-4
A course on insurance for the construction management process. Topics include: financial risk planning, risk management, insurance markets, property insurance, contractual risks and transfer, forms of liability insurance (commercial, employers, environmental, management, and professional), and workers' compensation.
Prerequisites: None

CET 120 Advanced Computer Aided Design: Revit Architecture 3-3-4
A course on CAD techniques that apply building information modeling using Revit Architecture. Topics include: layouts, dimensioning, blocks, and hatching.
Prerequisites: CET 115

CET 125 Statics and Strength of Materials for CET 3-3-4
A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.
Prerequisites: MAT 121

CET 127 Environmental and Legal Issues in Construction 4-0-4
A course on environmental and legal issues affecting construction safety. Topics include: stormwater pollution prevention plans, asbestos abatement, disturbance and abatement of lead-containing materials, silica exposure, EPA regulations, multi-employer worksite rules, intentional torts, safety violations, and union contracts.
Prerequisites: None

CET 130 Building Codes and Materials 2-2-3
A course on building code requirements and their applications to designing and constructing building projects. Topics include: Ohio building, mechanical, electrical, and plumbing codes; and building materials used in construction such as steel, wood, masonry, and concrete.
Prerequisites: CET 115

CET 135 Construction Estimating 2-2-3
A course on quantifying various components of a commercial project using a complete set of working drawings and specifications. Topics include: blueprint reading, specification analysis, construction methods and materials, and proper estimating communication practices.
Prerequisites: AFM 095 or MAT 120, or appropriate placement test score

CET 137 Construction Safety Plan Management 3-0-3
A course on developing construction safety plans. Topics include: essential elements of a safety program; best practices, legal, and regulatory requirements related to safety planning; substance abuse programs; accident investigations; contractor management; and crisis management and planning.
Prerequisites: None

CET 147 Safety Training Workshops 1-0-1
Students participate in construction training workshops that provide fundamental instruction in safety methods and practices. Workshops must be approved by the program chair.
Prerequisites: Program Chair consent

CET 150 Building Technology Studies: Advanced Standing 30-0-30
Students complete courses or programs that develop expertise in skills related to the building trades.
Prerequisites: Program Chair consent
Instructor Consent Required

CET 191 Part-Time Cooperative Education 1: 1-20-1
Civil Engineering Technology

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CET 100

CET 200 Structural Design 3-3-4
A course on methods for evaluation and design of structural steel and reinforced concrete members, using AISC and ACI requirements. Topics include: design methodologies focused on bending moment behavior, tension and compression behavior, shear behavior, and connections; and common field testing techniques for concrete.
Prerequisites: CET 125

CET 205 Architectural Design and 3D Modeling: 3-3-4
Revit Architecture
A course on architectural details and information required in a complete set of professional working drawings for an office or commercial building. Topics include: using CAD design software and Revit Architecture.
Prerequisites: CET 120

CET 210 Lighting and Electrical Systems Design 3-2-4
A course on fundamental concepts for lighting and electrical design in commercial buildings. Topics include: creating sets of drawings in AutoCAD and Revit Architecture, and using the National Electric Code.
Prerequisites: CET 120

CET 215 Mechanical and HVAC Systems Design 3-2-4
A course on fundamental concepts of mechanical and HVAC design for commercial buildings. Topics include: creating sets of design drawings using AutoCAD and Revit, and Ohio mechanical and plumbing codes.
Prerequisites: CET 120

CET 220 3D Modeling: Revit MEP and Revit Structure 3-3-4
A course on applying design concepts and preparing details of mechanical, electrical, plumbing, and structure in buildings. Topics include: fundamentals of using Revit MEP and Revit Structure for design.
Prerequisites: CET 205

CET 225 Building Construction 2-2-3
A course on how buildings and structures are assembled. Topics include: methods and materials for residential, commercial, industrial, and highway construction including wood frame, masonry, pre-engineered metal, tilt-up, and high-rise construction; building codes; zoning regulations; and footing design.
Prerequisites: CET 135
Ohio Transfer Assurance Guide Approved

CET 230 Construction Management 2-2-3
A course that examines current concerns in construction management. Topics include: project delivery systems, contract types, and using Web-based software for daily project management.
Prerequisites: CET 135

CET 235 Construction Scheduling 2-3-3
A course on preparing precedence diagram CPM schedules and calculating the critical path, including start-to-start and finish-to-finish relationship types with lag. Topics include: using scheduling software, fast-tracking, reverse phase scheduling, and revising and updating schedules.
Prerequisites: CET 135

CET 240 Cost Engineering 2-2-3
A course on how budgets evolve as projects move from pre-design through construction. Topics include: types of estimates employed at each phase, formulating unit prices, time value of money and true profit, cash flow, cost indices, and using estimating software.
Prerequisites: CET 135

CET 245 Building Information Models for Construction 1-3-2
A course on using building modeling software for construction management tasks such as estimating, trade coordination, and scheduling. Topics include: parameter creation, quantity takeoff, estimation, interference checking, and timeline visualization.
Prerequisites: CET 120

CET 250 Route Location and Design 3-2-4
A course on highway design criteria and standards. Topics include: design and layout of horizontal curves, verticals, and spirals; superelevation use; typical sections; and boundary, area, and right-of-way determination. Students complete outdoor field exercises and computer lab exercises.
Prerequisites: CET 110

CET 251 Elements of Land Surveying 1 3-2-4
A course on fundamental concepts and techniques of land boundary surveying. Topics include: records research, state minimum standards, monumentation of corners, and simple plats and legal descriptions. Students must complete field exercises.
Prerequisites: CET 110

CET 252 Elements of Land Surveying 2 3-3-4
A continuation of CET 251. Topics include: sequential and simultaneous boundaries, riparian and littoral boundaries, public land surveys, easements, and legal principles of property relating to surveyors.
Prerequisites: CET 251

CET 255 Land Information Modeling 2-3-3
A course on concepts and techniques of land modeling. Topics include: mapping, using geographic information system software, advanced digital terrain modeling, 3D laser scanning, LIDAR, high-definition surveying, and 3D site modeling for visualization and machine-control projects.
Prerequisites: CET 110

CET 260 Control Surveying 3-3-4
A course in concepts and techniques of control surveying. Topics include: basic geodesy, state plane coordinate concepts and calculations, establishing horizontal and vertical control, GPS positioning, and network adjustment. Students complete outdoor field exercises and computer lab exercises.
Prerequisites: CET 110

CET 265 Subdivision Design and Drainage Control 3-3-4
A course on applying land surveying and civil engineering design principles to land development projects. Topics include: subdivision regulations, zoning regulations, lot layout, street layout, utility design, drainage, and site grading. Students create a set of subdivision drawings to meet local standards.
Prerequisites: CET 255

CET 267 Surveying Laws, Ethics, and History 4-0-4
A course on standards affecting surveyors in Ohio, Indiana, and Kentucky. Topics include: legislation affecting land surveyors, registration and ethical standards and legal regulations governing land surveyors, and history of the original surveys in Ohio, Indiana, and Kentucky.
Prerequisites: Admitted to Advanced Surveying Certificate program or Program Chair consent

CET 277 Survey Calculations and Statistics 4-0-4
A course on survey calculations employing statistical concepts. Topics include: descriptive and inferential statistics, advanced coordinate geometry methods, least squares adjustment, and error theory.
Prerequisites: Admitted to Advanced Surveying Certificate program or Program Chair consent

CET 280 Civil Engineering Technology Architectural Capstone 3-4-5
Students design a one-story commercial building with complete, integrated building systems for architectural, mechanical, and electrical systems; apply multiple appropriate codes; and create sets of drawings using AutoCAD and Revit as appropriate.
Prerequisites: CET 205, CET 210, and CET 215

CET 285 Civil Engineering Technology Construction Management Capstone 2-3-3
Students respond to a request for construction management services and complete a project that demonstrates integrated competencies in estimating, scheduling, communicating, and teamwork.
Prerequisites: CET 230 and CET 235

CET 287 Geospatial Surveying 4-0-4
A course on surveying using geospatial methods. Topics include: satellite positioning, geographic information systems, remote sensing, and laser scanning.
Prerequisites: Admitted to Advanced Surveying Certificate program

CET 290 Civil Engineering Technology Surveying Capstone 1-6-3
Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.
Prerequisites: CET 251

CET 291 Full-Time Cooperative Education 1: Civil Engineering Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CET 100

CET 294 Internship 1: Civil Engineering Technology 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CET 100

CHE Chemistry

CHE 100 Chemistry and Science Mathematics 5-3-6
An introductory chemistry course including math applications used in science. Topics include: dimensional analysis, writing and manipulating formulas, metric system conversions, the periodic table, stoichiometry, solutions, acids and bases, buffers, and equilibrium.
Prerequisites: AFM 095 or appropriate placement test score

CHE 110 Fundamentals of General Chemistry 3-3-4
A college-level general chemistry course for non-chemistry majors. Topics include: atomic structure, bonding, chemical reactions, properties and states of matter, acids and bases, and equilibrium.
Prerequisites: CHE 100 (minimum grade C) or AFM 095 (minimum grade C) or appropriate placement test score
Ohio Transfer Module Approved

CHE 111 Bio-Organic Chemistry 3-3-4
Study of foundational concepts of organic chemistry and biochemistry. Topics include: types of organic compounds and representative reactions, and biochemical compounds and reactions.
Prerequisites: CHE 110 (minimum grade C)
Ohio Transfer Module Approved

CHE 121 General Chemistry 1 4-0-4
A general chemistry course for science majors. Topics include: measurement systems; composition, properties, and reactions of elements and compounds; states of matter; atomic structure and bonding; and solution chemistry.
Prerequisites: CHE 100 or CHE 110 (minimum grade C) and MAT 150 or appropriate placement test score
Corequisites: CHE 131
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHE 122 General Chemistry 2 4-0-4
A continuation of CHE 121. Topics include: kinetics, chemical equilibrium, acid-base chemistry, acid-base and solubility equilibrium, thermodynamics, electrochemistry, and chemistry of transition elements.
Prerequisites: CHE 121 and CHE 131 (minimum grade C for both)
Corequisites: CHE 132
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHE 131 General Chemistry 1 Lab 0-3-1
A laboratory course that accompanies CHE 121.
Prerequisites: CHE 101 or CHE 110 (minimum grade C) and MAT 150 or appropriate placement test score
Corequisites: CHE 121
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHE 132 General Chemistry 2 Lab 0-3-1
A laboratory course that accompanies CHE 122.
Prerequisites: CHE 121 and CHE 131 (minimum grade C for both)
Corequisites: CHE 122
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHW Community Health Worker

CMT Chemical Technology

CHE 201 Organic Chemistry 1 3-0-3
An organic chemistry course for students preparing for science-related employment or additional science education. Topics include: principles of carbon chemistry including bonding, structure, mechanisms, properties, reactions, synthesis, acids, and bases.
Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)
Corequisites: CHE 211
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHE 202 Organic Chemistry 2 3-0-3
A continuation of CHE 201. Topics include: mass spectrometry; infrared, ultraviolet/visible, and NMR spectroscopies; aromaticity; chemistry of benzene, carboxylic acids, amines, aldehydes, and ketones; and oxidation and reduction.
Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)
Corequisites: CHE 212
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHE 211 Organic Chemistry 1 Lab 0-4-2
A laboratory course that accompanies CHE 201. Laboratory experiences include: general organic laboratory techniques; isolation, purification, and identification of organic compounds; simple synthesis; and determination of unknowns.
Prerequisites: CHE 122 and CHE 132 (minimum grade C for both)
Corequisites: CHE 201
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHE 212 Organic Chemistry 2 Lab 0-4-2
A laboratory course that accompanies CHE 202. Laboratory experiences include: simple, complex, and multistep synthesis; and isolation, purification, analysis, and identification of organic compounds.
Prerequisites: CHE 201 and CHE 211 (minimum grade C for both)
Corequisites: CHE 202
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

CHW Community Health Worker

CHW 100 Community Health Worker Training 3-2-4
A course on the community health worker's role, skills, and responsibilities, using concepts and curriculum requirements defined by the Ohio Board of Nursing Community Health Worker (CHW) Program. Topics include: health data collection, basic anatomy and physiology, basic medical terminology, health education, client communication, confidentiality, community advocacy and referral, and documentation and reporting. Students who complete CHW 100 and CHW 180 successfully may apply for professional certification as a CHW.
Prerequisites: None

CHW 180 Community Health Worker Practicum 1-8-3
Students complete 130 hours of clinical practice in a community agency or community health setting, performing functions of the community health worker under supervision of faculty and agency site supervisor, and attend a weekly on-campus seminar. Students who complete CHW 100 and CHW 180 successfully may apply for professional certification as a CHW.
Prerequisites: CHW 100, MCH 106 (minimum grade C for both)
Instructor Consent Required

CIT Center for Innovative Technologies Career Skills

CIT 100 Introduction to Engineering Technologies 1-3-2
A course that prepares students for success in Engineering Technologies fields including Biomedical, Civil, Environmental, Electrical, Industrial, and Mechanical. Topics include: investigating career pathways; and building skills in measurement, data collection and graphing, problem solving, research, and basic computation.
Prerequisites: None

CIT 110 Introduction to Information Technologies 1-3-2
A course that prepares students for success in Information Technology fields. Topics include: investigating career pathways; and building skills in problem solving, research, basic computation, and other foundational concepts.
Prerequisites: None

CIT 190 Career Preparation: Engineering and Information Technologies 1-0-1
A course on career planning and exploration for students in Engineering Technologies and Information Technologies fields. Topics include: self assessment, career research, resume development, interview skills, job search strategies, and cooperative education policies and procedures.
Prerequisites: AFL 085, and AFM 090 or MAT 120, or appropriate placement test scores

CMT Chemical Technology

CMT 111 Chemical Technology 1 0-3-1
A course on fundamental concepts and techniques in chemical technology. Topics include: career development, professional communication, industrial/laboratory safety and hygiene, quality assurance, and searching scientific literature and resources.
Prerequisites: AFL 085 and MAT 120, or appropriate placement test scores

CMT 112 Chemical Technology 2 0-3-1
A continuation of CMT 111. Topics include: maintenance, calibration, and use of laboratory glassware and equipment; solution preparation skills; laboratory math and statistics; and using computers for data analysis.
Prerequisites: CMT 111, CHE 121, and CHE 131

CMT 191 Part-Time Cooperative Education 1: Chemical Technology 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CMT 111

CMT 220 Analytical Chemistry 3-3-4
A course on quantitative and qualitative chemical analysis with emphasis on wet chemical techniques. Topics include: sample preparation; volumetric, gravimetric, electrochemical, and separation methods; and statistical treatment of data.
Prerequisites: CMT 112, CHE 122, and CHE 132

CMT 230 Chemical Instrumental Analysis 3-3-4
A course on quantitative and qualitative chemical analysis. Topics include: instrumental techniques, electrochemistry, atomic and molecular spectroscopy, gas and liquid chromatography, mass spectrometry, and statistical treatment of data.
Prerequisites: CMT 220 and CHE 111

CMT 290 Chemical Technology Capstone 1-4-3
Students complete a project in their technical specialty area, including developing a procedure, performing testing, applying statistical techniques, and incorporating the data into a formal report and oral presentation.
Prerequisites: CMT 230

CMT 291 Full-Time Cooperative Education 1: Chemical Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CMT 111

CMT 294 Internship 1: Chemical Technology 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CMT 111

COMM Communications

COMM 105 Interpersonal Communication 3-0-3
Study and practical application of principles of communication in human interactions. Topics include: self-awareness; perception; conflict; listening; interviewing; verbal and nonverbal codes; and cultural expectations and their effects on communication in family, classroom, work and intercultural settings.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Assurance Guide Approved

COMM 110 Public Speaking 3-0-3
A course on the preparation and effective delivery of various types of speeches. Topics include: improved listening techniques, audience participation, and evaluation.
Prerequisites: ENG 101
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

COMM 115 Introduction to Journalism 2-2-3
A course on basic principles of journalism, emphasizing techniques for reporting and writing news stories.
Prerequisites: ENG 101

COMM 120 Mass Media and Society 3-0-3
Study and discussion of the role and function of mass media (newspapers, magazines, film, radio, TV, and computer multimedia) in today's society, including assessment of historical, business, and cultural perspectives and implications.
Prerequisites: ENG 101

COMM 130 Introduction to Film Studies 2-3-3
A course on film as an expressive art and a cultural artifact, emphasizing American film from its inception to present. Topics include: developing critical awareness as an audience member; film history, genres, and themes; directing and acting styles; and technical elements of filmmaking.
Prerequisites: ENG 101
Ohio Transfer Module Approved

COMM 205 Small Group Communication 3-0-3
Study of the dynamics of communication in the small group context. Topics include: small group communication theory and research, awareness of personal and others' behaviors in small groups, enhancing individual functioning in groups, and analyzing/improving the functioning of other groups.
Prerequisites: COMM 105
Ohio Transfer Assurance Guide Approved

COMM 215 Journalism Practicum 1-7-2
Study and application of journalism principles through faculty-supervised writing, editing, and production of a College publication. May be repeated for credit.
Prerequisites: COMM 115 or instructor consent

CPDM Computer Programming and Database Management

CPDM 145 Data Reporting 3-3-4
A course on using Crystal Reports as the tool to design and deliver reports that include tables, charts, and graphs as part of a Web-based application linked to an SQL server database.
Prerequisites: IT 101, IT 110, IT 111

CPDM 151 ASP.NET C# 1 3-3-4
A course on the ASP.NET framework using C#. Topics include: introduction to C# language and syntax, Web forms, server controls, master pages, AJAX, and data driven applications.
Prerequisites: IT 101, IT 110, IT 111

CPDM 152 ASP.NET C# 2 3-3-4
A continuation of CPDM 151. Topics include: advanced ASP.NET server controls, building custom classes, Web services, designing Web applications from abstract requirements, and effectively utilizing online reference materials.
Prerequisites: IT 112, CPDM 145, CPDM 151

CPDM 190 Cooperative Education Preparation: Computer Programming and Database Management 1-0-1
A course that prepares students in the CPDM program for cooperative education. Topics include: using the PlacePro software system, resume development, interview skills, and cooperative education requirements, policies and procedures.
Prerequisites: IT 101, IT 105, IT 110, and IT 111

CPDM 191 Part-Time Cooperative Education 1: Computer Programming and Database Management 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 190

CPDM 290 Computer Programming and Database Management Capstone Design Project 3-3-4
Students combine their programming and database skills to complete a software application project, such as developing apps for various mobile devices, implementing a functioning database-driven website for a product, programming games for the Xbox, or developing code for the CPDM EDDIE Robot Platform.
Prerequisites: CPDM 152

CPDM 291 Full-Time Cooperative Education 1: Computer Programming and Database Management 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 190

CPDM 294 Internship 1: Computer Programming and Database Management 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CPDM 190

CRJ Criminal Justice

CRJ 102 Juvenile Delinquency 3-0-3
A course on juvenile delinquency and the juvenile court system.
Prerequisites: AFL 085 or appropriate placement test score

CRJ 105 Introduction to Criminal Justice 3-0-3
A course on the American criminal justice system. Topics include: police, courts, corrections, constitutional issues, citizen participation, and current practice.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Assurance Guide Approved

CRJ 110 Introduction to Policing 3-0-3
A course on structure and practices of policing in the United States. Topics include: relationship of police agencies to other elements of the justice system, diversity, drug enforcement, corruption and reform, community relations, and effects of technology on policing.
Prerequisites: CRJ 105
Ohio Transfer Assurance Guide Approved

CRJ 115 Introduction to Corrections 3-0-3
A course on the history, principles, and practices of the American corrections system. Topics include: incarceration, parole, and probation; operations of jails and prisons; and alternatives to incarceration including community-based programs.
Prerequisites: CRJ 105
Ohio Transfer Assurance Guide Approved

CRJ 120 Introduction to Courts 3-0-3
A course on the history, principles, and practices of the American court system. Topics include: purposes of different types of courts; members of the courtroom work group; trial, sentencing, and appellate processes; and the role of courts in society.
Prerequisites: CRJ 105

CUL Culinary Arts

DMS Diagnostic Medical Sonography

CRJ 125 Criminology 3-0-3
A course on theoretical explanations for criminal behavior. Topics include: major historical developments in understanding criminal behavior, major types of crime measures, and the nature and extent of criminal victimization.
Prerequisites: CRJ 105
Ohio Transfer Assurance Guide Approved

CRJ 130 Criminal Investigation Skills 3-0-3
A course on basic criminal investigation processes and techniques. Topics include: criminalistics, forensics, types of evidence, procedures for handling evidence, and admissibility of evidence.
Prerequisites: CRJ 105

CRJ 135 Criminal Law 3-0-3
A course on the American legal system emphasizing a criminal justice perspective. Topics include: theories of law, elements of criminal offenses, defenses to criminal acts, and constitutional rights of those charged with a criminal offense.
Prerequisites: CRJ 105

CUL Culinary Arts

CUL 100 Culinary Demonstration 2-0-2
A course that uses culinary demonstrations and problem solving to prepare students for activities in CUL 101.
Prerequisites: AFM 095 or appropriate placement test score
Corequisites: CUL 101
Instructor Consent Required

CUL 101 Culinary 1 0-6-3
A course on fundamental culinary skills. Topics include: kitchen orientation, knife skills, cooking methods, and preparation of stocks, sauces, and soups.
Prerequisites: AFM 095 or appropriate placement test score
Corequisites: CUL 100
Instructor Consent Required

CUL 102 Culinary 2 0-6-3
A continuation of CUL 101. Topics include: advanced cooking methods; meat, fish, and poultry cookery; and platter presentation.
Prerequisites: CUL 100 and CUL 101
Instructor Consent Required

CUL 105 Culinary Baking 0-6-3
A study of baking and pastries. Topics include: product identification, use of baking equipment, production of flour confectionery items, and preparation of desserts.
Prerequisites: CUL 100, CUL 101
Instructor Consent Required

CUL 110 Culinary Nutrition 0-6-3
A course on combining nutrition science with the art of preparing food that is wholesome and nutritionally balanced. Topics include: practical application of nutrition theory, recipe modification, and menu development.
Prerequisites: CUL 102
Instructor Consent Required

CUL 191 Part-Time Cooperative Education 1: Culinary Arts 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HRM 100 and co-op coordinator consent
Instructor Consent Required

CUL 200 Garde Manger 0-8-4
A study of the contemporary practice of garde manger. Topics include: basic meat fabrication, concepts of the cold kitchen, and platter and buffet presentation.
Prerequisites: CUL 102, CUL 105
Instructor Consent Required

CUL 205 Culinary Production 0-6-3
A study of food service production and service techniques. Topics include: buffet, banquet, and a la carte production.
Prerequisites: CUL 102, BUS 190
Instructor Consent Required

CUL 210 International Cuisine 0-6-3
A study of world cuisines. Topics include: regional products, cultural influences on food, differentiated cooking techniques, and international menus.
Prerequisites: CUL 200
Instructor Consent Required

CUL 290 Culinary Capstone 0-6-3
Students complete project work while applying knowledge and skills from culinary, nutrition, costing, and management areas.
Prerequisites: CUL 200, CUL 205
Instructor Consent Required

CUL 291 Full-Time Cooperative Education 1: Culinary Arts 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HRM 100 and co-op coordinator consent
Instructor Consent Required

CULT Culture Studies

CULT 105 Issues in Human Diversity 3-0-3
A survey of concepts of human diversity and the effects of diversity on individuals and society. Topics include: race; gender; social class; sexual orientation; ableism; stereotypes, bias, and discrimination; and diversity in the workplace.
Prerequisites: AFL 085 or appropriate placement test score

CULT 110 Social Issues in Technology 3-0-3
A survey of social issues that affect professionals in engineering and information technology fields. Topics include: work skills for the 21st century, professional ethics and whistleblowing, diversity in the workplace, social effects of globalization, and the impact of natural and engineering disasters.
Prerequisites: ENG 101

DMS Diagnostic Medical Sonography

DMS 100 Survey of Sonography 2-2-3
A course on foundation concepts in the field of medical sonography. Topics include: the role of the sonographer in the healthcare setting, ultrasound system controls and functions, image production and display, and basic ultrasound physics.
Prerequisites: BIO 151, MCH 101 (minimum grade C for both)

DMS 105 Principles of Sonography 2-2-3
A course on key concepts and skills in the field of medical sonography. Topics include: professionalism, ultrasound controls, scan planes, and terminology associated with ultrasonic imaging and structures.
Prerequisites: DMS Program Chair consent
Instructor Consent Required

DMS 111 Sonographic Principles and Instrumentation 1 3-0-3
A course on principles of physics in relation to ultrasound function and instrumentation. Topics include: characteristics of sound energy; using ultrasound in imaging; and waveforms, propagation, velocity, wavelength, acoustic impedance, reflection, and other types of interaction with tissue.
Prerequisites: MAT 151, and DMS Program Chair consent
Instructor Consent Required

DMS 112 Sonographic Principles and Instrumentation 2 2-0-2
A continuation of DMS 111. Topics include: integrating knowledge of physics with instrumentation theory and applications; understanding advanced signal processing, complex instrumentation, recording devices, biological effects, hemodynamics, Doppler principles, and quality control methods; and producing high quality diagnostic images.
Prerequisites: DMS 111

DMS 255 Ethics and Medical Law in Sonography 1-0-1
A course on ethical and legal issues related to the sonography profession. Topics include: laboratory accreditation, professional education, and research standards and practices.
Prerequisites: DMSC 232 and DMSC 242, or DMSG 232 and DMSG 242 (minimum grade C for all)

DMSC Diagnostic Medical Sonography – Cardiovascular
DMSG Diagnostic Medical Sonography – General Imaging

DMSC Diagnostic Medical Sonography – Cardiovascular

- DMSC 120 Cardiovascular Sonography 2-0-2**
 A course on cardiovascular scanning techniques and the operation of ultrasound systems. Topics include: professional standards and behaviors; basic ultrasound machine controls, scan planes, and appropriate imaging; and terminology associated with cardiac and vascular studies.
 Prerequisites: DMS 105, DMS 112 (minimum grade C for both)
- DMSC 121 Cardiovascular Sonography Scan Lab 1 0-6-3**
 A course on developing skills in the scanning techniques and protocols related to cardiac and vascular structures and physiology.
 Prerequisites: DMS 105, DMS 112 (minimum grade C)
- DMSC 122 Cardiovascular Sonography Scan Lab 2 0-5-2**
 A continuation of DMSC 121, emphasizing increased experience using scanning techniques and protocols related to cardiac and vascular structures and physiology.
 Prerequisites: DMSC 121 (minimum grade C)
- DMSC 131 Vascular Sonography 1 3-0-3**
 A course on theory and principles of vascular sonography. Topics include: vascular anatomy and physiology; etiology of pathologies; imaging techniques and protocols; and detecting and differentiating abnormalities, pathologies, and other deviations from normal development.
 Prerequisites: DMSC 120, DMSC 121 (minimum grade C for both)
- DMSC 141 Echocardiography 1 3-0-3**
 A course on theory and principles of adult cardiac sonography. Topics include: cardiac anatomy and physiology; etiology of pathologies; imaging techniques and protocols; and detecting and differentiating abnormalities, pathologies, and other deviations from normal development.
 Prerequisites: DMSC 120, DMSC 121 (minimum grade C for both)
- DMSC 223 Cardiovascular Sonography Scan Lab 3 0-5-2**
 A continuation of DMSC 122, emphasizing increased skills and experience using scanning techniques and protocols related to cardiac and vascular structures and physiology.
 Prerequisites: DMSC 122 (minimum grade C)
- DMSC 224 Cardiovascular Sonography Scan Lab 4 0-2-1**
 A continuation of DMSC 223, emphasizing demonstration of competencies and proficiencies required to complete the DMSC program.
 Prerequisites: DMSC 223
- DMSC 232 Vascular Sonography 2 3-0-3**
 A continuation of DMSC 131, with additional information on theory and principles of vascular sonography.
 Prerequisites: DMSC 131 (minimum grade C)
- DMSC 242 Echocardiography 2 3-0-3**
 A continuation of DMSC 141, with additional information on theory and principles of adult cardiac sonography.
 Prerequisites: DMSC 141 (minimum grade C)
- DMSC 245 Cardiovascular Specialties 1-2-2**
 A course on advanced procedures and emerging technologies in the field of cardiovascular ultrasound.
 Prerequisites: DMSC 232, DMSC 242 (minimum grade C for both)
- DMSC 250 Cardiovascular Registry Review 1-0-1**
 A course on integration of concepts and clinical applications in cardiovascular sonography. Topics include: transitioning from student to cardiovascular sonography professional, completing mock registry examinations, and preparing for national credentialing examinations.
 Prerequisites: DMSC 245 (minimum grade C)
- DMSC 281 Cardiovascular Clinical 1 0-24-3**
 Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices. Students are evaluated on professional behavior and performance, and clinical competency.
 Prerequisites: DMSC 122, DMSC 131, DMSC 141 (minimum grade C for all)

- DMSC 282 Cardiovascular Clinical 2 0-32-4**
 A continuation of DMSC 281. Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.
 Prerequisites: DMSC 281

- DMSC 283 Cardiovascular Clinical 3 0-32-4**
 A continuation of DMSC 282. Students participate in supervised practice of cardiac and vascular diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.
 Prerequisites: DMSC 282

DMSG Diagnostic Medical Sonography – General Imaging

- DMSG 120 General Imaging Sonography 2-0-2**
 A course on general imaging scanning techniques and the operation of ultrasound systems. Topics include: professional standards and behaviors; basic ultrasound machine controls, scan planes, and appropriate imaging; and terminology associated with abdomen, obstetrics, and gynecological studies.
 Prerequisites: DMS 105, DMS 112 (minimum grade C for both)
- DMSG 121 General Imaging Sonography Scan Lab 1 0-6-3**
 A course on developing skills in the scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.
 Prerequisites: DMS 105, DMS 112 (minimum grade C)
- DMSG 122 General Imaging Sonography Scan Lab 2 0-5-2**
 A continuation of DMSG 121, emphasizing increased experience using scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.
 Prerequisites: DMSG 121 (minimum grade C)
- DMSG 131 Abdominal Sonography 1 3-0-3**
 A course on theory and principles of abdominal and superficial parts sonography. Topics include: normal and abnormal etiology, diagnostic techniques and correlation with clinical tests, scanning techniques and protocols, and detection of abnormalities and pathologies.
 Prerequisites: DMSG 120, DMSG 121 (minimum grade C for both)
- DMSG 141 Obstetrics and Gynecology Sonography 1 3-0-3**
 A course on theory and principles of obstetrical and gynecological sonography. Topics include: normal and abnormal etiology; diagnostic techniques related to gynecology and fetal development; scanning techniques and protocols; and detecting abnormalities, pathologies, and other deviations from normal development.
 Prerequisites: DMSG 120, DMSG 121 (minimum grade C for both)
- DMSG 223 General Imaging Sonography Scan Lab 3 0-5-2**
 A continuation of DMSG 122, emphasizing increased experience using scanning techniques and protocols related to abdominal, superficial parts, obstetrics, and gynecological structures and physiology.
 Prerequisites: DMSG 122 (minimum grade C)
- DMSG 224 General Imaging Sonography Scan Lab 4 0-2-1**
 A continuation of DMSG 223, emphasizing demonstration of competencies and proficiencies required to complete the DMSG program.
 Prerequisites: DMSG 223
- DMSG 232 Abdominal Sonography 2 3-0-3**
 A continuation of DMSG 131, with additional information on theory and principles of abdominal and superficial parts sonography.
 Prerequisites: DMSG 131 (minimum grade C)
- DMSG 242 Obstetrics and Gynecology Sonography 2 3-0-3**
 A continuation of DMSG 141, with additional information on theory and principles of obstetrical and gynecological sonography.
 Prerequisites: DMSG 141 (minimum grade C)
- DMSG 245 General Imaging Specialties 1-2-2**
 A course on advanced procedures and emerging technologies in the field of general imaging ultrasound.
 Prerequisites: DMSG 232, DMSG 242 (minimum grade C for both)

DMSG Diagnostic Medical Sonography – General Imaging

DT Dietetic Technology

DMSG 250 General Imaging Registry Review 1-0-1
A course on integration of concepts and clinical applications in general imaging sonography. Topics include: transitioning from student to general imaging sonography professional, completing mock registry examinations, and preparing for national credentialing examinations.
Prerequisites: DMSG 245 (minimum grade C)

DMSG 281 General Imaging Clinical 1 0-24-3
Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices. Students are evaluated on professional behavior and performance, and clinical competency.
Prerequisites: DMSG 122, DMSG 131, DMSG 141 (minimum grade C for all)

DMSG 282 General Imaging Clinical 2 0-32-4
A continuation of DMSG 281. Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.
Prerequisites: DMSG 281

DMSG 283 General Imaging Clinical 3 0-32-4
A continuation of DMSG 282. Students participate in supervised practice of general imaging and obstetrical diagnostic ultrasound procedures in hospitals, clinics, and private physician offices.
Prerequisites: DMSG 282

DT Dietetic Technology

DT 105 Geriatric Nutrition 3-0-3
A course on nutrition-related concerns of the geriatric population. Topics include: basic nutrition needs, diet modification and preparation, nutrition related to disease states, and ethical issues.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

DT 110 Community Nutrition 2-2-3
A study of public health nutrition programs in the U.S. Topics include: food availability; laws, regulations, and policies; and the influence of socioeconomic, cultural, and psychological factors on food and nutrition behavior. Students participate in supervised practice.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

DT 115 Cooking for a Healthy Lifestyle 1-3-2
A course on food preparation techniques and healthy food choices for individuals. Topics include: preparing and evaluating healthy foods, modifying recipes, food safety, alternative food choices, and special diet considerations.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

DT 120 Nutrition for a Healthy Lifestyle 3-0-3
An introduction to nutrition concepts and diets for a healthy living. Topics include: health risks; socioeconomic, cultural, psychological, and environmental influences; health promotion; disease prevention; complementary, alternative, and herbal therapies, dietary supplements; and life cycle nutrition.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Ohio Transfer Assurance Guide Approved

DT 125 Nutrition Through the Lifecycle 3-0-3
A course on nutritional needs from preconception through maturity. Topics include: influence of age, growth, and normal development on nutritional requirements; diet planning principles for diverse age groups; and promoting healthy eating to reduce age-related nutrition problems.
Prerequisites: DT 120

DT 130 Nutrition Assessment 1-2-2
A course on principles of assessment for normal nutrition. Topics include: the nutrition care process, anthropometrics, drug/nutrient interactions, collecting and interpreting lab values, computerized analysis, and interviewing and counseling skills.
Prerequisites: DT 120

DT 135 Sports Nutrition 3-0-3
A course on the nutrition needs of active people and athletes. Topics include: requirements of nutrients for optimal health, fitness, and sports; weight control; popular nutrition supplements; and ergogenic aids.
Prerequisites: DT 120

DT 180 Dietetic Directed Practice: Health Care 1 0-5-1
Students participate in supervised practice in health care and acute care settings. Topics include: nutrition care process, assessment techniques, life cycle nutrition, interviewing skills, screening, monitoring food and nutrient intake, and menu modification.
Prerequisites: DT 125

DT 205 Quantity Food Production 0-6-3
A course on quantity food production practices. Topics include: identification, care, and use of institutional food service equipment; standardized recipes; quality assurance; work efficiency; costing; and food evaluation.
Prerequisites: DT 120 and HRM 105

DT 211 Food Service Management 1 2-0-2
A course on fundamental concepts of food service management. Topics include: meal service and delivery systems, evaluating meal production, performance standards, scheduling, and staffing.
Prerequisites: DT 120

DT 212 Food Service Management 2 2-0-2
A continuation of DT 211. Topics include: management responsibilities, interviewing and recruiting, performance review, productivity, work simplification, budgeting, and professional ethics.
Prerequisites: DT 211

DT 215 Nutrition for Dietary Managers 2-0-2
A course on nutrition concepts related to the Dietary Manager's scope of practice. Topics include: medical nutrition therapy, documentation, care planning, nutrition education, and healthcare regulations.
Prerequisites: DT 130

DT 221 Medical Nutrition Therapy 1 2-2-3
A course on nutrition care processes and diet modification for various disease states. Topics include: weight management, upper and lower gastrointestinal tract, diabetes, parenteral and enteral, swallowing and feeding disorders, pressure ulcers, and burns.
Prerequisites: DT 130

DT 222 Medical Nutrition Therapy 2 2-2-3
A continuation of DT 221. Topics include: nutrition in severe stress; renal disease; liver disease; cancer; HIV and AIDS; and heart, lung, and blood vessel diseases.
Prerequisites: DT 221

DT 225 Dietary Manager Exam Review 1-0-1
A course on preparing to take the Dietary Manager credentialing examination.
Prerequisites: Complete all DT program courses
Instructor Consent Required

DT 280 Dietetic Directed Practice: Food Service 0-6-1
Students participate in supervised practice in a health care food service setting. Topics include: food service management, human resources, sanitation, procurement, distribution and food cost, menu cost, recipe development, and equipment specifications.
Prerequisites: DT 180

DT 283 Dietetic Directed Practice: Health Care 2 0-5-1
Students participate in supervised practice in a health care setting. Topics include: applying the nutrition care process, care plans, enteral and parenteral nutrition, transitional feeding, severe stress, and disorders of lower and upper gastrointestinal tract.
Prerequisites: DT 180

DT 285 Dietetic Directed Practice: Health Care 3 0-5-1
Students participate in supervised practice in a health care setting while building upon previous directed practice experience. Topics include: quality improvement, health care regulations, and pediatric nutrition assessment.
Prerequisites: DT 180

DT 287 Dietetic Practicum: Food Service 1-7-2
Students participate in unpaid work experience in a food service management setting and complete a final project based on individual goals.
Prerequisites: DT 280

DT 289 Dietetic Practicum: Clinical 1-7-2
Students participate in unpaid work experience in a health care setting, complete individual curriculum goals, and review American Dietetic Association competencies.
Prerequisites: DT 221, DT 283, and DT 285

ECC Early Childhood Care

ECE Early Childhood Care and Education

ECC Early Childhood Care

ECC 100 Principles of Early Childhood Education 3-0-3
A course on basic concepts of early childhood care and education. Topics include: physical, mental, social, emotional, and cognitive growth and development from birth to age eight, and developmentally appropriate practices. Students must complete requirements for work in child care settings including references, FBI and BCI background checks, and a physical exam.
Prerequisites: None

ECC 105 Role of the Teacher Assistant 3-0-3
A course on teacher assistant responsibilities in early child care settings, and associated regulations. Students must complete requirements for work in child care settings including references, FBI and BCI background checks, and a physical exam.
Prerequisites: None

ECC 110 Creative Activities for Teacher Assistants 4-7-5
A course on the teacher assistant role in carrying out activities of the early childhood classroom. Topics include: art, music, math, science, early literacy, and play. Students spend seven hours per week in an early childhood care setting.
Prerequisites: None

ECC 115 Safe & Healthy Environments for Children 3-0-3
A course on concepts and techniques for providing safe and healthy child care. Topics include: childhood communicable diseases, USDA food requirements from birth to age eight, and requirements for safe environments for children.
Prerequisites: None

ECC 125 Foundations of Early Childhood Care and Education 3-0-3
An introduction to the field and the degree program. Topics include: early childhood care in the community, and care environments. Students must complete requirements for work in child care settings including references, FBI and BCI background checks, and a physical exam.
Prerequisites: None

ECC 130 Child Development Associate Refresher 3-0-3
A course for students with a current Child Development Associate credential not from an accredited college or university. Students must demonstrate competency in developmentally appropriate practice, learning content standards, and infant/toddler guidelines in early childhood educational settings. Minimum grade of B is required to pass the course.
Prerequisites: A current Child Development Associate (CDA) Credential

ECC 131 Early Childhood Skills 1 3-2-4
A course for students seeking the Child Development Associate credential from the Council for Professional Recognition. Topics include: assessment and observation, USDA food requirements from birth to age eight, and home providers' licensing requirements.
Prerequisites: None

ECC 132 Early Childhood Skills 2 3-2-4
A continuation of ECC 131. Topics include: pre-school, parents and family, inclusion, creative activities, and developing a resource portfolio.
Prerequisites: ECC 131

ECC 135 Working with School Age Children 3-0-3
A course on principles for teaching children ages five through eight. Topics include: effective environments, curriculum, classroom management, and developmentally appropriate practice. Students must complete requirements for work in child care settings including references, FBI and BCI background checks, and a physical exam.
Prerequisites: None

ECC 140 Creative Recreational Activities for School Age Children 4-7-5
A course on concepts and techniques for teaching children ages five through eight in before/after school programs, recreation centers, and summer programs. Students spend seven hours per week in a school age education/care setting.
Prerequisites: None

ECC 145 Diverse Populations and Families 3-0-3
A course on concepts and techniques for teaching diverse populations in early childhood settings. Topics include: developing positive relationships in diverse family units, inclusion, multiculturalism, and adapting learning environments to include gifted children and children with disabilities.
Prerequisites: None

ECC Early Childhood Care and Education

ECE 150 Introduction to Education 3-0-3
An introduction to the teaching profession. Topics include: purposes of schools in society; and knowledge, dispositions, and performance required to be an effective teacher.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Assurance Guide Approved

ECE 155 Health, Safety, and Nutrition in Childhood 3-0-3
A course on concepts and techniques for managing health, safety, and nutrition in child care settings serving infants through school age children. Topics include: childhood communicable diseases, and USDA food requirements.
Prerequisites: AFL 085 or appropriate placement test score

ECE 160 Assessment and Observation in Early Childhood Education 2-0-2
A course on strategic and purposeful techniques for observing, recording, and assessing the progress of children from infants to school age.
Prerequisites: ECE 150

ECE 165 Emergent Literacy 3-0-3
A course on growth and development of oral language from birth to school age. Topics include: the study of reading and writing, the teacher's role in promoting early literacy, and phonemic awareness. This course meets Ohio benchmark standards for reading and writing.
Prerequisites: ECE 150

ECE 170 Educational Technology 2-2-3
A course on using educational technology as an instructional resource. Topics include: types and uses of software, selecting technologies for achieving curricular goals, and aligning electronic media production with instructional goals.
Prerequisites: ECE 150, IM 111
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ECE 175 Family, Community, and Schools 3-0-3
A course on concepts and techniques for parent/teacher collaboration. Topics include: effective communication among parents, teachers, and other professionals for enhancing child development, maintaining positive relationships, and working with diverse family units.
Prerequisites: ECE 150
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ECE 180 Infant and Toddler Environments 3-7-4
A course on concepts and techniques for care and nurturing of infants and toddlers. Topics include: promoting growth and development, classroom management, and developmentally appropriate practice. Students spend seven hours per week in an early childhood care setting.
Prerequisites: ECE 150

ECE 185 Creative Learning Environments 4-0-4
A course on creating learning experiences for young children. Topics include: art, music, social studies, math, and science curricula; indoor and outdoor play; and selecting developmentally appropriate materials and equipment.
Prerequisites: ECE 150

ECE 205 The Developing Child 3-0-3
A course on growth and development of children from birth through adolescence. Topics include: characteristics and needs of children for physical, cognitive, language, social, and emotional growth and development, and theories of early childhood care.
Prerequisites: ECE 150, PSY 110
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ECE 210 Learning in Childhood 3-0-3
A course on major theories of human development and learning. Topics include: motivation, instructional strategies, assessment, similarities and differences in learners, and other factors affecting student learning and development.
Prerequisites: ECE 150, PSY 110
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ECE 215 Classroom Management and Guidance 3-0-3
A course on concepts and techniques for designing educational programs and implementing developmentally appropriate practice for children from birth to age eight.
Prerequisites: ECE 205

ECO Economics**EET Electrical Engineering Technology**

ECE 220 **Preschool and School Age Environments** **3-7-4**
A course on concepts, techniques, and educational theories for teaching preschool and school-age children. Topics include: promoting growth and development, classroom management, and developmentally appropriate practice. Students spend seven hours per week in a pre-school or school setting.
Prerequisites: ECE 180

ECE 225 **Individuals with Exceptionalities** **3-0-3**
A course on concepts and techniques for working with exceptional children and youth in varied educational and community settings. Topics include: identifying developmental characteristics for physical, cognitive, and social development disabilities; adapting learning environments; giftedness; legal issues; and community resources.
Prerequisites: ECE 210
Ohio Transfer Assurance Guide Approved

ECE 230 **Administration and Leadership in Early Childhood Education** **3-0-3**
A course on organizing, operating and managing child care facilities and family care homes. Topics include: licensing requirements, record keeping, budgeting, working with staff and parents, team building, and resolving conflicts.
Prerequisites: ECE 220

ECE 290 **Student Teaching in Early Childhood Education** **1-14-2**
Students spend a minimum of 14 hours per week in a supervised student teaching experience in an approved early childhood care/education setting. Students must prepare a professional portfolio. Placement settings should be accredited or meet requirements for Step Up To Quality level 2, and serve culturally, linguistically, and socio-economically diverse student populations.
Prerequisites: ECE 220, and ECE Program Chair consent

ECO Economics

ECO 105 **Principles of Microeconomics** **3-0-3**
Study of basic concepts of microeconomics. Topics include: supply and demand, equilibrium processes, consumer choice, firm pricing and output behavior, industry structure, government antitrust regulation, externalities, economic welfare, and income distribution.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test scores
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ECO 110 **Principles of Macroeconomics** **3-0-3**
Study of the economic macro-system. Topics include: analysis of inflation and unemployment, government monetary and fiscal policy, aggregate income analysis, consumption, savings and investment, long run growth policies and budget deficits, foreign trade flows, and exchange rate policies.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test scores
Ohio Transfer Module Approved
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EET Electrical Engineering Technology

EET 100 **Introduction to Electrical Engineering Technology** **1-2-2**
An introduction to concepts and measuring skills for the electronics field. Topics include: current, voltage, power, Ohm's law, series circuits, meter reading, software simulation use, and circuit construction.
Prerequisites: AFM 090 or appropriate placement test score

EET 101 **Electronic Fundamentals 1** **3-2-4**
A course on DC electricity and digital systems for non-electrical engineering technology programs. Topics include: voltage, current, and power distribution for resistive circuits; number systems, codes, Boolean algebra, and logic for digital circuits; instrumentation; circuit construction; and troubleshooting.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

EET 102 **Electronic Fundamentals 2** **3-2-4**
A continuation of EET 101. Topics include: digital circuits including comparators, decoders, counters, and microcomputer systems; analog circuits including capacitors, inductors, transformers, diodes, BJTs, and operational amplifiers; circuit construction; and troubleshooting.
Prerequisites: EET 101

EET 121 **Digital Systems 1** **2-2-3**
A course on analyzing, designing, and troubleshooting digital logic circuits. Topics include: basic gates and PLDs, number systems and codes, Boolean algebra, circuit simplification, functions of logic circuits, latches, flip-flops, counters, timers, and memory.
Prerequisites: MAT 120 or appropriate placement test score

EET 122 **Digital Systems 2** **3-2-4**
A continuation of EET 121. Topics include: counter design and cascading, shift registers, PLD applications, microprocessor registers, I/O, busses, DMA, memory expansion, and assembly language programming.
Prerequisites: EET 121

EET 131 **Circuit Analysis 1** **3-2-4**
A course on DC electric circuits. Topics include: current, voltage, resistance, and power; laws applied to series, parallel, and series-parallel circuits; Thevenin's, Superposition, and Norton's theorems; steady state and transient behavior of capacitive and inductive devices; and magnetic properties.
Prerequisites: MAT 121 or appropriate placement test score
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EET 132 **Circuit Analysis 2** **3-2-4**
A continuation of EET 131. Topics include: sinusoidal wave characteristics; complex numbers; phasors; transformers; RC, RL, and RLC networks; filter networks; three-phase and poly-phase systems; and power factor analysis.
Prerequisites: EET 131, MAT 125
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EET 191 **Part-Time Cooperative Education 1: Electronics Engineering Technology** **1-20-1**
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 131, CIT 190

EET 210 **Computer Calculations for Electronics** **2-3-3**
A course on solving mathematical calculations in electronics using Microsoft Office Suite. Topics include: analyzing analog circuits and digital systems, writing computer code to solve problems with MS Excel, and preparing presentations and laboratory reports. Students must have prior experience using Microsoft Office Suite.
Prerequisites: IM 111, and EET 102 or EET 121 and EET 131

EET 220 **Microprocessor Systems** **3-2-4**
A course on designing, programming, and troubleshooting microprocessor systems and applications. Topics include: assembly language programming, interrupt and polled I/O, interrupt service routines, parallel ports, timer functions, serial interfaces, A/D converters, and external hardware interfaces.
Prerequisites: EET 122

EET 251 **Electronics 1** **3-3-4**
A course on semiconductors and operational amplifier theory. Topics include: diode circuits and basic power supplies, transistor theory, operational amplifier theory, circuit construction, and troubleshooting.
Prerequisites: EET 132

EET 252 **Electronics 2** **3-3-4**
A continuation of EET 251. Topics include: operational theory of differential, bridge, and instrumentation amplifiers; active filters; oscillators; FETs; thyristors; power amplifiers and inverters; sensors; regulators; circuit construction; and troubleshooting.
Prerequisites: EET 251

EET 290 **Electronics Engineering Technology Capstone Project** **2-4-4**
Students design a system using analog and digital electronics concepts, and prepare and deliver a professional presentation of their completed project. Topics include: design theory, feasibility study, engineering economics, and presentation skills.
Prerequisites: EET 220, EET 251

EMET Electro-Mechanical Engineering Technology EMS Emergency Medical Services

EET 291 Full-Time Cooperative Education 1: Electronics Engineering Technology 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 131, CIT 190

EET 294 Internship 1: Electronics Engineering Technology 1-40-2

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EET 131, CIT 190

EMET Electro-Mechanical Engineering Technology

EMET 140 Electro-Mechanical Engineering Technology Foundations 1-2-2

An introduction to project-based learning, safety, and professional practices for electro-mechanical and power systems projects. Students who pass the course receive an OSHA 10-hour certificate.
Prerequisites: None

EMET 191 Part-Time Cooperative Education 1: Electro-Mechanical Engineering Technology 1-20-1

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EMET 140

EMET 210 Energy Efficiency and Audits 2-2-3

A course on concepts related to energy consumption. Topics include: conducting energy audits for residential, commercial and industrial locations; conserving energy; reducing energy consumption; and applying renewable energies.
Prerequisites: EMET 140, and EET 101 or EET 131

EMET 220 Photovoltaic and Solar Thermal Devices 2-3-3

A course on planning, installing, and maintaining solar energy devices. Topics include: photovoltaic electrical systems, passive and thermal solar systems, and geothermal systems.
Prerequisites: EMET 210

EMET 230 Fuel Cells and Wind Devices 2-2-3

A course on planning, installing, and maintaining alternative energy sources. Topics include: converting chemical energy to electricity; fuel cell components, power efficiencies, and applications; electrolysis; and wind turbine components.
Prerequisites: EMET 210

EMET 240 Programmable Logic Controllers, Motors, Motor Controls, and Kinematics 2-3-3

A course on programmable logic controllers, motors, and variable speed drives and mechanisms. Topics include: operating, troubleshooting and controlling circuits; calculating speed, torque, horsepower, and efficiency; and machine kinematics.
Prerequisites: EET 132

EMET 245 Laser Foundations and Safety 2-3-3

A course on the operational theory and safe use of lasers. Topics include: properties of laser light, elements of the laser, laser classifications, structure of the eye, and hazards associated with laser light.
Prerequisites: MAT 121, EMET 140

EMET 250 Servomechanisms 2-3-3

A course on negative feedback for closed-loop servo systems. Topics include: transducers for sensing system parameters; proportional, proportional-derivative, and proportional-integral-derivative positional control systems; computer control of servo-control systems; and simple closed-loop controls.
Prerequisites: EET 132, EMET 140

EMET 255 Optical Components, and Geometrical and Wave Optics 3-3-4

A course on optical elements used in photonics applications. Topics include: lens, mirrors, prisms, laser modulators and Q-switches, optical power, and energy measurements.
Prerequisites: EMET 245

EMET 260 Robotics 2-2-3

A course on robotics and factory automation. Topics include: analyzing industrial robotics applications in automated manufacturing environments, evaluating mechanical and electrical components, programming and operating robots, choosing robots for industrial applications, and applying quality assurance techniques.
Prerequisites: EET 132, EMET 140

EMET 265 Industrial Laser Systems 3-3-4

A course on lasers used in industry. Topics include: types of industrial lasers; applying lasers for cutting, welding, drilling, and heat treating; and motion control.
Prerequisites: EMET 245

EMET 290 Electro-Mechanical Engineering Technology Capstone 1-2-2

Students participate in a team design project. Topics include: design concepts, modeling, detail and assembly drawings, bill of materials, vendors, costs, and manufacture of project prototype.
Prerequisites: EMET 140, EET 251, MET 150

EMET 291 Full-Time Cooperative Education 1: Electro-Mechanical Engineering Technology 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EMET 140

EMET 294 Internship 1: Electro-Mechanical Engineering Technology 1-40-2

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EMET 140

EMS Emergency Medical Services

EMS 100 CPR and First Aid for the Health Care Professional 1-0-1

A course on life support and first aid skills. Topics include: one- and two-rescuer CPR and AED for adults, children, and infants; barrier devices; and resuscitator bags. Students who pass the course receive an American Heart Association CPR card for the Health Care Professional and First Aid card.
Prerequisites: None

EMS 103 Emergency Medical Responder Theory and Practice 3-2-4

A course on how to provide immediate care for life-threatening injuries and illnesses, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.
Prerequisites: AFL 085 or appropriate placement test score

EMS 105 Emergency Medical Responder Refresher 1-2-2

A course that provides Certified Emergency Medical Responders with a review of skills for providing immediate care for life-threatening injuries and illnesses. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.
Prerequisites: EMS 103 or current EMR certification

EMS 110 Emergency Medical Technician Theory and Practice 5-4-7

A course on assessment, care, and transportation of the ill or injured patient, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.
Prerequisites: AFL 085 or appropriate placement test score
Instructor Consent Required

EMS Emergency Medical Services

ESL English as a Second Language

EMS 115 Emergency Medical Technician Refresher 3-2-4
A course that provides Certified Emergency Medical Technicians with a review of skills for assessment, care, and transportation of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.
Prerequisites: EMS 110 or current EMT certification

EMS 120 Paramedic Anatomy and Physiology 3-0-3
A course on the structure and function of the human body. Topics include: medical terminology, cells, tissues, and human organ systems.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

EMS 200 Advanced Cardiac Life Support Provider Theory and Practice 1-0-1
A course on knowledge and skills for evaluating and managing the first 10 minutes of an episode of ventricular fibrillation/ventricular tachycardia experienced by an adult. Students must have completed or be enrolled in technical courses for Paramedic, Nursing, or Respiratory Technology.
Prerequisites: Instructor consent
Instructor Consent Required

EMS 205 Pediatric Advanced Life Support Theory and Practice 1-0-1
A course on knowledge and skills for providing advanced life support care for an infant or child during the first 10 minutes of resuscitation efforts. Students must have completed or be enrolled in technical courses for Paramedic, Nursing, or Respiratory Technology.
Prerequisites: Instructor consent
Instructor Consent Required

EMS 211 Paramedic Theory and Practice 1 8-8-12
A course on knowledge and skills for advanced life support care of the ill or injured patient, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS.
Prerequisites: EMS 120, EMS 200 (minimum grade C for both)
Instructor Consent Required

EMS 212 Paramedic Theory and Practice 2 8-8-12
A continuation of EMS 211. This course uses the curriculum approved by the Ohio Department of Public Safety, Division of EMS.
Prerequisites: EMS 211
Instructor Consent Required

EMS 213 Paramedic Theory and Practice 3 8-8-12
A continuation of EMS 212. This course uses the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students who pass the course are eligible for the NREMT certification exam.
Prerequisites: EMS 212

EMS 215 Paramedic Refresher 3-2-4
A course that provides Certified Paramedics with a review of skills for advanced life support care of the ill or injured patient. The course incorporates continuing education/recertification standards of the Ohio Department of Public Safety, Division of EMS.
Prerequisites: EMS 213 or current Paramedic certification

EMS 220 Emergency Medical Services Instructor Theory and Practice 3-2-4
A course on techniques for teaching adult learners the knowledge and skills required for the Emergency Medical Services field, using the curriculum approved by the Ohio Department of Public Safety, Division of EMS. Students participate in supervised teaching experiences.
Prerequisites: Instructor consent
Instructor Consent Required

ENG English

ENG 100 English Principles: Grammar and Structure 3-0-3
A comprehensive review of writing principles for business and professional communication. Topics include: grammar, punctuation, word usage, and techniques for reviewing and revising various business-related documents.
Prerequisites: AFL 085 or appropriate placement test score

ENG 101 English Composition 3-0-3
An introduction to college writing focusing on understanding the writing process. Topics include: identifying audiences; developing a strong thesis; providing sufficient evidence for claims; and writing essays with grammatical, mechanical, and stylistic correctness.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved

ENG 102 Composition and Argument 3-0-3
A continuation of ENG 101. Topics include: critical reasoning; argumentation; the research process and the research paper; and reading, synthesizing, and responding critically to policy-driven research.
Prerequisites: ENG 101
Ohio Transfer Module Approved

ENG 103 Composition and Literature 3-0-3
A continuation of ENG 101. Topics include: critical reading, argumentation, the research process and the research paper; and reading, synthesizing, and responding critically to literature.
Prerequisites: ENG 101
Ohio Transfer Module Approved

ENG 104 Composition and Technical Communication 3-0-3
A continuation of ENG 101. Topics include: audience analysis; planning, preparing, and revising technical and professional documents used for reference, persuasion, or instruction; using and reporting on research; and integrating visuals with text.
Prerequisites: ENG 101, 8 credit hours in technical courses
Ohio Transfer Module Approval Pending

ENG 105 Composition and Business Communication 3-0-3
A continuation of ENG 101. Topics include: planning, preparing, and revising business documents such as formal and informal business letters, emails, proposals, and reports; and using and reporting on research.
Prerequisites: ENG 101
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

ENG 131 Creative Writing: Poetry 3-0-3
A workshop-oriented poetry writing course. Topics include: the invention process, revision, poetic form, and critical response to works of literature and student work.
Prerequisites: 6 credit hours of English Composition

ENG 132 Creative Writing: Fiction 3-0-3
A workshop-oriented fiction writing course. Topics include: the invention process, revision, form of fiction, and critical response to works of literature and student work.
Prerequisites: 6 credit hours of English Composition

ENG 134 Creative Writing: Writing for Children 3-0-3
A workshop-oriented course on writing picture books, chapter books, and middle grade novels. Topics include: the invention process, revision, form of children's literature, and critical response to works of literature and student work.
Prerequisites: 6 credit hours of English Composition

ESL English as a Second Language

ESL 051 English as a Second Language Level 1 3-2-4
A course that integrates English skills including reading, writing, grammar, speaking, and listening comprehension. Topics include: American culture, cross-cultural communication, and the immigrant experience.
Prerequisites: None

ESL 052 English as a Second Language Level 2 3-2-4
A continuation of ESL 051. Topics include: American culture, cross-cultural communication, the immigrant experience, and current events.
Prerequisites: ESL 051 or appropriate placement test score

ESL 055 English as a Second Language: Grammar 2-0-2
A course for non-native speakers on English grammar skills. Topics include: verb tenses, count and non-count nouns, active and passive voice, and grammatical articles.
Prerequisites: None

EVS Environmental Science EVT Environmental Engineering Technologies

ESL 060 English as a Second Language: Pronunciation 2-0-2
A course for non-native speakers on pronunciation of standard American English. Topics include: stress, rhythm, intonation, vocabulary, idioms, cross-cultural communication, and coping strategies.
Prerequisites: None

EVS Environmental Science

EVS 110 Environmental Science: Conservation and Cleanup 3-2-4
A course on environmental science as it affects human activity and the environment. Topics include: drinking water and wastewater treatment, air pollution, energy, conservation, solid and hazardous waste management, and risk assessment. Students provide transportation to off-campus field trips.
Prerequisites: AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores
Ohio Transfer Module Approved

EVS 120 Environmental Geology 3-2-4
A course on the relationship of applied geology to the human environment. Topics include: plate tectonics, soils, groundwater and surface water, natural disasters and glacial geology, and resource protection from contamination. Students provide transportation to off-campus field trips.
Prerequisites: AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores
Ohio Transfer Module Approved

EVS 130 Environmental Science: Ecology and Ecosystem 3-2-4
A course on environmental science and ecology. Topics include: types of ecosystems and how they function, elementary soil science, biodiversity, and population growth and sustainability. Students provide transportation to off-campus field trips.
Prerequisites: AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores
Ohio Transfer Module Approved

EVT Environmental Engineering Technologies

EVT 105 Environmental Sampling 2-3-3
A course on sampling requirements and techniques. Topics include: sampling groundwater, surface water, drums, sediments, soil, and air; site assessment; and field testing. Students provide transportation to off-campus field trips. Students who complete the course successfully earn a USEPA certificate.
Prerequisites: AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores

EVT 115 OSHA 40-Hour Course 2-2-3
A course on the OSHA-specific requirements under 29 CFR 1910.120 for 40-Hour Hazardous Waste Site Training. Topics include: avoiding injury on a hazardous waste site, and basic concepts for health and safety programs. Students who complete the course successfully earn a certificate.
Prerequisites: AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores
Instructor Consent Required

EVT 125 Restoration Ecology: Sustainable Sites 1-2-2
A course on environmental design principles and sustainable development. Topics include: federal, state, and local issues and standards; and managing introduced, exotic, and invasive species. Students provide transportation to off-campus field trips.
Prerequisites: EVS 110 or EVS 130

EVT 135 Restoration Ecology: Rain Gardens 1-2-2
A course on rain garden design and construction techniques that harvest rain water from local watersheds. Topics include: baseline analysis, site preparation, plant selection, and study of components in various ecoregions. Students provide transportation to off-campus field trips.
Prerequisites: EVS 110 or EVS 130

EVT 140 Environmental Regulations and Permits 1-2-2
A course on federal, state, and local environmental laws with emphasis on related computer concepts and applications. Topics include: TSCA, FIFRA, OSHA, CAA, CWA, SDWA, CERCLA, and RCRA.
Prerequisites: EVS 110 and ENG 101

EVT 145 Restoration Ecology: Native Vegetation 1-2-2
A course on native trees, shrubs, and vines that have commercial value for sustainable use. Topics include: proven landscape species, their uses in the tri-state area, and invasive species of various ecoregions. Students provide transportation to off-campus field trips.
Prerequisites: EVS 110 or EVS 130

EVT 150 Environmental Chemistry 2-3-3
A course on organic chemistry and chemical principles of environmental systems. Topics include: carbon bonding, saturated and unsaturated aromatic hydrocarbons, alcohols, phenols, aldehydes, ketones, acids, and amines. Instrumental applications include gas and liquid chromatography and atomic absorption to environmental measurements.
Prerequisites: CHE 110 or CHE 121 or CHE 131

EVT 155 Site Mapping and GIS 2-3-3
A course on mapping techniques for the environmental field. Topics include: map projections and coordinate systems, terrain modeling, watershed and drainage basin delineation, and GIS data analysis and queries. Students use conventional surveying and GPS equipment and computer mapping CAD/GIS software.
Prerequisites: EVS 110 and MAT 121

EVT 158 Fundamentals of Industrial Hygiene 1-2-2
A course on techniques for recognizing, evaluating, and controlling health and safety hazards in the workplace. Topics include: radiation safety, noise, solvents, biological hazards, and video display terminal (VDT) hazards.
Prerequisites: EVS 110

EVT 160 Solid and Hazardous Waste Management 2-3-3
A course on concepts and techniques for solid and hazardous waste disposal facilities. Topics include: incineration, composting, and recycling; principles and practices for storage, transport, treatment, and disposal of hazardous wastes; regulations and permits; and emerging technologies. Students provide transportation to off-campus field trips.
Prerequisites: EVS 110, and CHE 110 or CHE 121 or CHE 131

EVT 165 Calculations for Water Operators 2-2-3
A course on mathematical applications for water treatment plant processes including water sources and storage, coagulation and flocculation, sedimentation, filtration, chlorination, fluoridation, and softening. Topics include applied volume, flow, and velocity; chemical dosage; loading rates; detention and retention; and pumping.
Prerequisites: EVS 110 and MAT 121

EVT 166 Calculations for Wastewater Operators 2-2-3
A course on calculations for wastewater treatment applications. Topics include: volumes, flow, and velocity; conversions; pumping and loading rates; F/M ratio; sludge age; MCRT; and efficiency.
Prerequisites: EVS 110 and MAT 121

EVT 168 Radiation Safety 1-2-2
A course on radiation safety and protection. Topics include: the interaction of radiation with matter, biological effects, types of radioactivity, dosimetry, shielding calculations, and radiation measurements.
Prerequisites: EVS 110

EVT 170 Water Treatment and Analysis 3-3-4
A course on scientific and engineering principles for water quality control. Topics include: treatment of water and wastewater; environmental microbiology; bioremediation; microbes as indicators of pollution; and physical, chemical, and biological analysis. Students provide transportation to off-campus field trips.
Prerequisites: EVS 110, and CHE 110 or CHE 121 or CHE 131

EVT 171 Environmental Mountain Ecology 1 2-0-2
A course on principles of ecology and pollutant dispersion as they pertain to mountain ecosystems, and the environmental impact of human activities on mountain ecosystems.
Prerequisites: EVT 105 and EVS 120

EVT 172 Environmental Mountain Ecology 2 1-6-3
A continuation of EVT 171. Students participate in field experience that includes a trip to the mountainous regions of the western United States. Students pay for travel-related expenses.
Prerequisites: EVT 171
Instructor Consent Required

EVT Environmental Engineering Technologies

<p>EVT 175 Watershed Management 2-3-3 A course on developing watershed action plans including economic redevelopment and brownfield development. Topics include: water quality monitoring, stream bank stabilization, flood management strategies, habitat restoration, and control of combined and sanitary sewer overflow. Students provide transportation to off-campus field trips. Prerequisites: EVS 110, and CHE 110 or CHE 121 or CHE 131</p>	<p>EVT 237 Environmental Impact of Weapons of Mass Destruction 1-2-2 A course on understanding weapons of mass destruction and recovery following an attack. Topics include: chemical and biological warfare agents; radiation dispersal devices; and detection, decontamination, and disposal of these agents. Students provide transportation to off-campus field trips. Prerequisites: EVT 105 and EVT 170</p>
<p>EVT 180 Environmental Statistics 1-2-2 A course on statistical methods used in environmental pollution monitoring. Topics include: computer concepts and applications emphasizing environmental data. Prerequisites: EVS 110 and MAT 121</p>	<p>EVT 240 Fluid Mechanics 2-3-3 A course on engineering properties of fluids including fluid flow, buoyancy, and stability. Topics include Bernoulli's equation and the energy equation; Reynold's number; energy losses; and series, parallel, and open channel flow. Prerequisites: MAT 122 and PHY 151</p>
<p>EVT 185 Supervisory Management in Environmental Fields 1-2-2 A course on concepts and practices of management as they apply to the environmental field. Topics include: problem solving, communication skills, delegation and motivation, unions, and manager-employee relationships. Prerequisites: EVS 110 and ENG 101</p>	<p>EVT 245 Operation of Water Treatment Plants 2-2-3 A course on efficient operation of water treatment plants that helps students prepare for certification exams. Topics include: proper installation, inspection, operation, maintenance, repair, and management of water treatment plants; corrosion control; control of trihalomethanes; and water sample analysis. Prerequisites: EVT 165</p>
<p>EVT 187 Materials Transportation Safety and Security 1-2-2 A course on safety and security during the transport of hazardous substances. Topics include: Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, Transportation Security Administration, aviation security, and shipping protocols. Students provide transportation to off-campus field trips. Prerequisites: EVT 105</p>	<p>EVT 246 Operation of Wastewater Treatment Plants 2-2-3 A course on efficient operation of wastewater treatment plants that helps students prepare for certification exams. Topics include: start-up, daily operations, interpretation of lab results, and possible approaches to solving operational problems. Prerequisites: EVT 166</p>
<p>EVT 191 Part-Time Cooperative Education 1: Environmental Engineering Technology 1-20-1 Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CIT 190</p>	<p>EVT 247 Advanced Sampling and Analysis 1-2-2 A course on sampling equipment and methods used to evaluate hazards after natural disasters. Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips. Prerequisites: EVT 105 and EVT 170</p>
<p>EVT 210 Industrial Waste Treatment 1-2-2 A course on the responsibilities of the industrial wastewater treatment plant operator. Topics include: the activated sludge process, physical-chemical treatment, instrumentation, industrial waste monitoring, waste treatment processes, and maintenance. Prerequisites: EVT 170</p>	<p>EVT 250 Water Collection and Distribution Systems 2-2-3 A course on operating and controlling water delivery and wastewater collection systems. Topics include: gravity and pumped lines; storage and holding tanks; pumps; system monitoring, repair, and rehabilitation; water system depressurization; backflow prevention; metering; sewer overflows; and gaseous buildup. Prerequisites: EVT 240</p>
<p>EVT 215 Utilities Safety and Security 1-2-2 A course on the safety and security of the utility systems in the United States in the event of natural disasters or terrorist or wartime attack. Topics include: protection of drinking water systems, wastewater treatment systems, and energy supplies. Prerequisites: EVT 170</p>	<p>EVT 255 Stormwater Control Technologies 2-2-3 A course on best practices in stormwater management including installation, construction, and maintenance. Topics include: porous pavements, subsurface infiltration, bioretention basins, weed management, wetlands, soil bioengineering, and cost effectiveness of methods. Students provide transportation to off-campus field trips. Prerequisites: EVT 175 and EVT 225</p>
<p>EVT 220 Air Pollution Control 2-3-3 A course on permitting and control of air releases. Topics include: air quality management, health and environmental effects, indoor air pollution, pollen and mold counts, control and sampling equipment, stack testing, and data analysis. Students provide transportation to off-campus field trips. Prerequisites: EVT 150</p>	<p>EVT 257 Environmental Risk Assessment 1-2-2 A course that utilizes risk assessment methods to evaluate and manage danger in the event of chemical, biological, or radiological exposure. Topics include: operational risk management approaches, and understanding toxicological values. Students provide transportation to off-campus field trips. Prerequisites: EVT 160 and EVT 220</p>
<p>EVT 225 Environmental Mapping 2-2-3 A course on resource inventory and mapping methods for stormwater systems. Topics include: basic surveying, map coordinate systems, GIS, GPS, remote sensing, and data collection and analysis. Prerequisites: EVT 155</p>	<p>EVT 291 Full-Time Cooperative Education 1: Environmental Engineering Technology 1-40-2 Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CIT 190</p>
<p>EVT 230 Treatment Technologies 2-2-3 A course on principles and applications of mainstream treatment technologies used to prevent, monitor, and control pollution from industries and government facilities. Topics include: physical, chemical, thermal, and biological treatment methods. Students provide transportation to off-campus field trips. Prerequisites: EVT 170</p>	<p>EVT 294 Internship 1: Environmental Engineering Technology 1-40-2 Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CIT 190</p>
<p>EVT 235 Stormwater Management 2-2-3 A course on the infrastructure of stormwater control. Topics include: hydrologic cycle, historical development of drainage control, FEMA and local flood design criteria and control methods, storm sewers, open channel, culvert conveyance, detention systems and calculations, and post-construction BMPs. Prerequisites: EVT 225, and CHE 110 or CHE 121 or CHE 131</p>	

FIN Finance

FIN 100 Personal Finance 3-0-3
A course on coordinated and realistic personal financial planning. Topics include: budgeting and tax planning, managing liquidity, personal loans, purchasing cars and homes, insurance and investing principles, and retirement and estate planning.
Prerequisites: None

FIN 110 Financial Institutions 3-0-3
A course on the economics of U.S. and international financial markets and the management of domestic and international financial institutions. Topics include: pricing and risk factors, interest rates, and markets for securities and financial services.
Prerequisites: None

FIN 120 Risk and Insurance 3-0-3
A course on principles of risk management and insurance for enterprises and individuals. Topics include: fundamentals of life, health, property, and liability insurance; and enterprise risk management for businesses.
Prerequisites: None

FIN 150 Business Finance 3-0-3
A course on principles of financing business firms. Topics include: financial statement analysis, time value of money, management of cash flow, risk and return, and short and long-term sources of financing.
Prerequisites: ACC 101

FIN 191 Part-Time Cooperative Education 1: Finance 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

FIN 200 Investments 3-0-3
A course on securities and the markets in which they are traded, and sources of financial information. Topics include: features and characteristics of financial instruments such as money market instruments, stocks, bonds, international securities, options, and futures contracts.
Prerequisites: FIN 150

FIN 291 Full-Time Cooperative Education 1: Finance 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

FRN French

FRN 101 Elementary French 1 4-0-4
A course on French language and culture that provides the foundation for understanding, speaking, reading, and writing French.
Prerequisites: None

FRN 102 Elementary French 2 4-0-4
A continuation of FRN 101. Topics include: developing skills in understanding, speaking, reading, and writing French.
Prerequisites: FRN 101

FRN 201 Intermediate French 1 4-0-4
A continuation of FRN 102. Topics include: developing fluency in French grammar and syntax through reading short literary pieces, composition, and conversation.
Prerequisites: FRN 102

FRN 202 Intermediate French 2 4-0-4
A continuation of FRN 201. Topics include: developing additional skills and fluency in French through reading short literary pieces, composition, and conversation.
Prerequisites: FRN 201

FST Fire Service Technology

FST 100 Fire Cadet Fundamentals 2-2-3
A course on preparing for public service as a firefighter. Topics include: drill and ceremony, critical thinking, public and personal safety, self-reflection and discipline, radio communication including MAYDAY, drivers' education, and CPR for healthcare providers.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Students must pass a physical agility test.
Instructor Consent Required

FST 103 Evolution of the Fire Service 2-0-2
A course on the growth of the fire service from its creation through the 21st century. Topics include: changes in suppression methods, building codes, and rescue techniques; administrative philosophies; and personnel behaviors.
Prerequisites: None

FST 105 Fire Cadet Physical Preparedness 1-2-2
A course on preparing fire cadets for the rigors of fire training. Topics include: physical preparedness, and balanced physical conditioning that incorporates all basic factors of fitness.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Instructor Consent Required

FST 107 Home Safety 1-0-1
A course on identifying common hazards that place individuals and families at risk for injury and/or crisis. Topics include: home, fire, and child safety; health hazards; severe weather safety; and driving and water safety.
Prerequisites: None

FST 108 Emotional Preparedness for Public Safety Professionals 2-0-2
A course on dealing with emotions and stresses that result from caring for the sick, injured, and dying. Topics include: concepts and techniques from the fields of sociology, philosophy, religion, and health education.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

FST 110 Portable Fire Extinguishers 1-0-1
A course on fundamentals of fire and fire extinguishing. Topics include: elements that support a fire, and using equipment to efficiently extinguish Class A, B, and C type fires.
Prerequisites: None

FST 116 Fire Apparatus and Equipment Maintenance 2-2-3
A course on operating, maintaining, and repairing internal combustion engines. Topics include: small gas power engines used in the fire service, daily inspections of fire apparatus and equipment, and pre- and post-run inspections of vehicles.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

FST 120 Fire Behavior and Combustion 2-0-2
A course on theories and fundamentals of how and why fires start and spread, and how fires are controlled. Topics include: the chemistry of fire, combustion and heat transfer, stages of fire growth, toxic gases and smoke, and extinguishing agents.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

FST 121 Fire Investigation 1 3-0-3
A course on fundamentals of proper fire scene interpretations. Topics include: recognizing origin location and cause, preserving evidence and documentation, scene security, motives of the fire setter, and types of fire causes.
Prerequisites: None

FST 123 Principles of Emergency Services 3-0-3
A course on fire protection as an industry. Topics include: philosophy and history of fire services, fire departments as part of local government, protection systems, regulations and laws, and introductory fire ground strategy and tactics.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

FST 124 Fire and Emergency Services Administration 2-0-2
A course on organization and management of a fire department. Topics include: the relationship of government agencies to the fire service, fire and emergency services, and ethics and leadership from the perspective of the company officer.
Prerequisites: FST 123

FST Fire Service Technology

<p>FST 126 Fire Protection Systems 2-0-2 A course on design and operation of fire alarm systems. Topics include: water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers. Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores</p>	<p>FST 162 Fire Officer 2 2-2-3 A continuation of FST 161, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 2. Prerequisites: FST 161</p>
<p>FST 129 Fire Prevention 3-0-3 A course on fundamental concepts of fire prevention. Topics include: history, philosophy, organization, and operation of a fire prevention bureau; use and application of codes and standards; plan review; fire inspections; fire and life safety education; and fire investigation. Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores</p>	<p>FST 163 Fire Officer 3 2-2-3 A continuation of FST 162, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 3. Prerequisites: FST 162</p>
<p>FST 130 Volunteer Firefighter 0-3-1 A course on fundamentals for the volunteer firefighter, using the Ohio Department of Public Safety objectives for volunteer firefighter certification. Topics include: safety, fire behavior, personal protective equipment, ventilation, tools, ground ladders, water supply, and overhaul. Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores</p>	<p>FST 164 Occupational Health and Safety for Emergency Services 2-0-2 A course on basic concepts of occupational health and safety related to emergency service organizations. Topics include: risk and hazard evaluation, and control procedures. Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores</p>
<p>FST 133 Firefighter 1 Transition 3-3-4 A course for volunteer firefighters seeking the Firefighter 1 level, using the Ohio Department of Public Safety objectives for volunteer-to-Firefighter 1 certification. Topics include: safety, hoses and streams, fire extinguishers, ladders, ropes, ventilation, forcible entry, and live fire training. Prerequisites: FST 130</p>	<p>FST 206 Firefighter Physical Preparedness 1-2-2 A course on preparing for the broad array of physical work conditions associated with duty as a firefighter. Topics include: techniques for functional movements during intensity of firefighting, and performing at maximum output in natural conditions. Prerequisites: FST 105 and FST 141</p>
<p>FST 136 Emergency Vehicle Operator 1-2-2 A course on safe driving practices while responding in emergency vehicles. Topics include: techniques for safe operation, post-collision analysis, and unsafe practices during emergency response. Students must have a valid driver's license. Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores Instructor Consent Required</p>	<p>FST 210 Crew Resource Management 2-0-2 A course on effects of human error during fire ground operations, using concepts from commercial aviation that apply to fire services. Topics include: communication, teamwork, situational awareness, critical decision making, and decreasing injuries and deaths during firefighting. Prerequisites: FST 142</p>
<p>FST 141 Firefighter 1 3-6-5 A course covering NFPA 1001 Firefighter 1 objectives. Topics include: ladders, personal protection clothing, SCBA, fire extinguishers, search and rescue, ropes and knots, and hoses and nozzles. Students must successfully complete a state test to obtain Ohio Firefighter certification. PROBOARD accreditation is available for interested students. Prerequisites: FST 100</p>	<p>FST 218 Wildfire Behavior and Suppression 2-2-3 A course on knowledge and skills needed to extinguish wildfires. Topics include: factors affecting the start and spread of wildfires, and recognizing potentially hazardous situations. Prerequisites: FST 100</p>
<p>FST 142 Firefighter 2 3-6-5 A continuation of FST 141, covering NFPA 1001 Firefighter 2 objectives. Topics include: fire streams and foam, auto extrication, fire control, fire protection systems, and pre-incident surveys. Students must successfully complete a state test to obtain Ohio Firefighter certification. PROBOARD accreditation is available for interested students. Prerequisites: FST 141</p>	<p>FST 222 Fire Investigation 2 3-0-3 A continuation of FST 121. Topics include: rules and laws, fire scene analysis, fire behavior, evidence preservation, documentation, case preparation, and courtroom testimony. Prerequisites: FST 121</p>
<p>FST 145 Career Firefighter 1 and 2 6-12-10 A course covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include ladders, personal protective clothing and equipment, fire extinguishers, search and rescue, fire streams, foam, fire control and auto extraction. PROBOARD accreditation is available for interested students. Students must pass the state test before Firefighter certification is awarded. Prerequisites: FST 100</p>	<p>FST 223 Principles of Fire and Emergency Services Safety and Survival 2-0-2 A course on the history and basic principles of the national firefighter life safety initiatives, focusing on the need for cultural change throughout the emergency services. Prerequisites: FST 142</p>
<p>FST 153 Fire Service Technology Blueprint Reading 3-0-3 A course on reading computer-generated drawings used in fire services. Topics include: interpreting architectural and civil engineering symbols and abbreviations; and understanding civil, architectural, electrical, mechanical, and fire protection drawings. Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores</p>	<p>FST 225 Fire Protection Hydraulics and Water Supply 2-0-2 A course on understanding principles of water for fire protection, and understanding principles of hydraulics used to analyze and overcome challenges of applying sufficient water for fire suppression. Prerequisites: FST 142</p>
<p>FST 158 Fire Alarm Basics 2-0-2 A course on fundamentals of fire alarm systems. Topics include: system components, operation and application of systems, building codes, and regulatory standards. Prerequisites: AFM 085 and AFM 095, or appropriate placement test scores</p>	<p>FST 226 Building Construction for Fire Protection 3-0-3 A course on building construction in relation to firefighting and life safety. Topics include: elements of construction and design, building inspection factors, pre-planning fire operations, and safe operations during emergencies. Prerequisites: FST 141</p>
<p>FST 161 Fire Officer 1 2-2-3 A course on preparing for the role of company officer, using NFPA 1021 Fire Officers Professional Qualifications Level 1 objectives. Topics include: human resource management, community and government relations, inspections, investigations, emergency service delivery, and safety. Prerequisites: FST 142</p>	<p>FST 228 Legal Aspects of the Emergency Services 3-0-3 A course on legal issues related to emergency services. Topics include: the American legal system; recent court decisions, events, and statutes; Americans with Disabilities Act; Family Medical Leave Act; Fair Labor Standards Act; and HIPAA. Prerequisites: FST 100</p>
	<p>FST 229 Strategies and Tactics for Fire Suppression 2-0-2 A course on principles of fire ground control using personnel, equipment, pre-incident planning, and extinguishing agents. Prerequisites: FST 142</p>

FYE First Year Experience GIT Graphic Imaging Technology

FST 236 Fire Apparatus Operator 2-2-3
A course on theory and operation of engines and pumpers used in firefighting. Topics include: equipment operation; troubleshooting; and demonstration and practice of fire ground water flow scenarios.
Prerequisites: FST 142

FST 258 Rapid Assistance and Self-Rescue Operations 1-3-2
A course on saving your own life or saving lives of other firefighters. Topics include: MAYDAY, fire ground safety, communications, self awareness, rapid entry team preparedness, and survival techniques.
Prerequisites: FST 142

FST 263 Fire Ground Operations 2-6-4
A course on truck and engine company operations. Topics include: command and control, reading the scene, self-rescue, thermal imaging, rapid intervention, air monitoring and search and rescue techniques, and evaluating fire service tools and equipment.
Prerequisites: FST 142

FST 265 Fire Service Instructor 2-3-3
A course on techniques for teaching adult learners knowledge and skills required for the Fire Services field, using NFPA 1041 Instructor 1 and 2 objectives. Topics include: domains of learning, learning outcomes and objectives, classroom preparedness, student safety, and legal obligations. Students must have five years experience as a firefighter.
Prerequisites: FST 142 and Instructor consent
Instructor Consent Required

FST 268 Fire Safety Inspector 3-2-4
A course on fire safety inspection procedures and responsibilities, using NFPA 1031 objectives. Students who are members of an Ohio Fire Department may take the state exam for Fire Safety Inspector at the end of the course.
Prerequisites: FST 142

FST 294 Internship 1: Fire Service Technology 1-40-2
Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: FST 142 (minimum grade C)
Instructor Consent Required

FYE First Year Experience

FYE 100 College Survival Skills 1-0-1
An orientation course on making a successful transition to college. Topics include: study skills, time management, critical thinking, academic planning, goal setting, diversity, and campus resources. Students must complete one FYE course within the first 12 credits at Cincinnati State.
Prerequisites: None

FYE 105 College Success Strategies 2-0-2
An orientation to college life with community building activities. Topics include: study skills; time, stress, and financial management; personal health and wellness; critical thinking; academic and financial planning; goal setting; campus resources; diversity; and interpersonal communication. Students must complete one FYE course within the first 12 credits at Cincinnati State.
Prerequisites: None

FYE 110 Community College Experience 3-0-3
A comprehensive orientation to college life with community building activities. Topics include: study skills; time, stress, and financial management; budgeting; personal health and wellness; critical thinking and emotional intelligence; educational planning; goal setting; campus resources; diversity; interpersonal communication; and netiquette. Students must complete one FYE course within the first 12 credits at Cincinnati State.
Prerequisites: None

GAC Geriatric Activity Coordinator

GAC 101 Activity Coordinator for Long Term Care 1 4-2-5
A course on fundamentals of the long term care activity coordinator profession. Topics include: understanding client populations, job functions, approaches to care, federal regulations, and documentation guidelines.
Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry

GAC 102 Activity Coordinator for Long Term Care 2 4-2-5
A continuation of GAC 101. Topics include: skills and service methods to enhance quality of life, individualized activity programming, and documentation to meet state and federal regulations. Successful completion of this course does not ensure national certification.
Prerequisites: GAC 101 (minimum grade C)

GEO Geography

GEO 105 World Regional Geography: the Americas, Europe, and Australia 3-0-3
Study of characteristics and differences of major world regions. Topics include: cultural, economic, political, historical and physical characteristics of North America, Latin America, Europe, Russia, the Baltic States, and Australia/New Zealand.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

GEO 110 World Regional Geography: Asia, Africa, and the Middle East 3-0-3
Study of characteristics and differences of major world regions. Topics include: cultural, economic, political, historical, and physical characteristics of Asia and Africa, including the Middle East and Afghanistan.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

GEO 115 Cultural Geography 3-0-3
Survey of diverse human customs and world patterns of culture. Topics include: ethnicity, population practices, territoriality, the seeking of security and nourishment, resource use, and the commonalities among peoples.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

GIT Graphic Imaging Technology

GIT 100 Introduction to Graphic Imaging Technology 2-2-3
A course on evaluating printing processes. Topics include: lithography, flexography, screen, gravure, and digital-on-demand presses for print media; packaging options for advertising processes such as metal can, corrugated, and plastic packaging; and digital-on-demand presses for packaging.
Prerequisites: None

GIT 105 Ink and Substrates 3-0-3
A course on physical characteristics, manufacturing processes, and print industry uses for ink and paper. Topics include: how ink components affect color, drying properties of ink, printing substrates, and cost factors related to ink and paper choices.
Prerequisites: None

GIT 115 Adobe InDesign 2-3-3
A course on page layout for print documents using Adobe InDesign software. Topics include: master pages, style sheets, print production, optimized PDF files, and variable data.
Prerequisites: None

GIT 120 Digital Photography and Imaging 1-4-3
A course on producing quality images with digital cameras. Topics include: lighting; color balance; exposure; retouching; and reproducing images for uses including web, digital output devices, and printing presses.
Prerequisites: None

GIT 191 Part-Time Cooperative Education 1: Graphic Imaging Technology 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

GRD Graphic Imaging Technology**GRD Graphic Design**

GIT 200 Digital Imaging and Publishing 1-6-3
A course on sheet-fed offset printing and digital printing. Topics include: wet and dry forms of lithography; presensitized, bi-metal, and grainless synthetic plates; VDP systems for digital presses; making adjustments for quality printing; and using pressroom and plate equipment.
Prerequisites: GIT 100, GRD 110

GIT 215 Color Management and Process Control 2-3-3
A course on using page layout, vector, and image editing software applications for high-end production processes. Topics include: file construction, resolution of files and devices, trapping techniques, retouching, preflighting, color separations, profiling, color correction, variable data, and proofing.
Prerequisites: GIT 115, GRD 110

GIT 220 Screen Printing 1-6-3
A course on fundamentals of operating manual and semi-automatic screen printing presses. Topics include: printing frames, mesh, emulsions, stencils, squeegees, and inks; and printing on varied substrates and odd-shaped objects.
Prerequisites: GIT 100, GRD 110

GIT 230 Print Media Workflow 3-0-3
A course on determining printing job costs, emphasizing paper used in sheet-fed offset and flexographic printing. Topics include: cost factors; computer-assisted estimation and scheduling; file processing in a color-managed environment; and web-based job tracking.
Prerequisites: GIT 100, GIT 105

GIT 240 Flexographic Printing Methods 1-6-3
A course on fundamental principles and practices of the flexographic printing industry. Topics include: artwork preparation, prepress, plates and platemaking, inks, substrates, tooling, presswork, and finishing operations unique to flexography.
Prerequisites: GIT 100, GRD 110

GIT 250 Offset Printing Methods 1-6-3
A course on high quality sheet-fed and web-fed offset printing and digital high volume printing. Topics include: color consistency, controlling dot gain and slur, plugging halftones, maintaining ink and dampening systems, and using quality control production devices.
Prerequisites: GIT 200

GIT 255 Graphic Imaging Production Processes 2-3-3
A course on preparing art for professional printing processes. Topics include: survey of print processes such as lithography, flexography, gravure, and screen printing; file construction; design considerations; and standards for evaluating printed materials.
Prerequisites: GRD 215, GRD 230

GIT 290 Graphic Imaging Technology Capstone 1-0-1
Students complete activities that demonstrate their knowledge of concepts and techniques in Graphic Imaging Technology.
Prerequisites: Graphic Imaging Technology Program Chair consent, and minimum 2.5 GPA
Instructor Consent Required

GIT 291 Full-Time Cooperative Education 1: Graphic Imaging Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

GRD Graphic Design

GRD 110 Foundations of 2D Graphics 2-3-3
An introduction to concepts and techniques for digital design. Topics include: vector-based and raster-based graphics, emphasizing color and composition.
Prerequisites: MID 110, MID 115 (minimum grade C for both)

GRD 150 Design Concepts: Typography 2-3-3
A course on the use of typography as a design element in short-form and long-form applications. Topics include: typography as image, and anatomy of type.
Prerequisites: GRD 110, ENG 101 (minimum grade C for both)

GRD 191 Part-Time Cooperative Education 1: Graphic Design 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190, GRD 200

GRD 200 Graphic Design Portfolio Review 1-0-1
An assessment of skills required to enter upper-level courses in the Graphic Design program, including a technical skills exam and presenting a portfolio to a panel of evaluators. Students receive grades of Satisfactory or Unsatisfactory, and must pass the course to be eligible for cooperative education assignments. Those who do not pass may make one additional attempt.
Prerequisites: Graphic Design Program Chair consent
Instructor Consent Required

GRD 210 Applied 2D Graphics: Audio/Video Production 2-3-3
A continuation of GRD 110, focusing on creating 2D graphics for use in on-screen video applications.
Prerequisites: GRD 110 (minimum grade C), and instructor consent
Instructor Consent Required

GRD 215 Applied 2D Graphics: Graphic Design 2-3-3
A continuation of GRD 110, focusing on creating 2D graphics for print and graphic design applications.
Prerequisites: GRD 110 (minimum grade C)

GRD 220 Applied 2D Graphics: Web Design 2-3-3
A continuation of GRD 110, focusing on creating 2D graphics for Web and multimedia applications.
Prerequisites: GRD 110 (minimum grade C)

GRD 230 Brand Identity Development 2-3-3
A course on the development of strong brand identity concepts and materials for products and organizations. Topics include: analyzing existing brands, creating new brand identities, and developing brand standards manuals.
Prerequisites: GRD 200

GRD 260 3D Visualization 3-4-5
An introduction to 3D concepts and skills using Maya software. Topics include: polygon, NURBS, and subdivision surface modeling; texturing; animation; lighting; rendering; interaction of soft and rigid body solvers; dynamics; and manipulation of 3D attributes using nodes and connections.
Prerequisites: GRD 200

GRD 285 Graphic Design Independent Final Project 2-3-3
Qualified students work individually or with an approved team from concept to completion on a graphic design project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.
Prerequisites: Graphic Design Program Chair consent, and minimum 3.0 GPA
Instructor Consent Required

GRD 290 Graphic Design Capstone 2-3-3
Qualified students work in structured teams to develop graphic design deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production of materials. Students who do not successfully complete the course may make one additional attempt.
Prerequisites: Graphic Design Program Chair consent, and minimum 2.5 GPA
Instructor Consent Required

GRD 291 Full-Time Cooperative Education 1: Graphic Design 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190, GRD 200

GRD 294 Internship 1: Graphic Design 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190, GRD 200

HFT Health and Fitness Technology

HFT 100 Lifeguarding 1-2-2
 A course that prepares students for the American Red Cross Lifeguarding Certification. Topics include: recognizing and responding to aquatic emergencies, preventing drowning and injuries, and CPR for the Professional Rescuer. Prerequisites: Students must pass a pre-test during first class session including swimming 20 yards, retrieving a 10-point diving brick from 7 to 10 feet, swimming using kicks only, and exiting the pool
Instructor Consent Required

HFT 102 Journal Writing 2-0-2
 A course on using journal writing to reduce stress. Topics include: journaling techniques for self reflection, self exploration, and self healing.
 Prerequisites: None

HFT 104 Herbology 4-0-4
 A course on herbal preparations and their effects on the human body. Topics include: properties of herbs, categorizing herbs, naturopathic formulas, herbal reactions, and analysis techniques for deficiencies.
 Prerequisites: None

HFT 108 Aromatherapy 2-2-3
 A course on using essential oils in clinical settings and personal life for specific conditions. Topics include: history; preparing a variety of blends; and understanding physiological, mental, and emotional effects of aromatherapy.
 Prerequisites: None

HFT 116 Pilates Mat Instructor 1-2-2
 A course that prepares students for the National Pilates Mat Certification Examination. Topics include: history and principles of Pilates, levels of exercises, safety guidelines, instructional concepts, and modifications for special populations.
 Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Instructor Consent Required

HFT 120 Alternative and Complementary Medicine 3-0-3
 A course on foundation concepts of alternative and complementary medicine. Topics include: mind-body techniques, movement-oriented approaches, community based health care practices, manual healing methods, biological treatments, and diet and nutrition in the prevention and treatment of disease.
 Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

HFT 122 Group Fitness Instructor 3-2-4
 A course that prepares students for the National Group Fitness Instructor Examination. Topics include: communication skills, instructional concepts, effective exercise design, choreography, safety guidelines, and modifications for special populations.
 Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

HFT 124 Resistance Training Instructor 3-2-4
 A course on theories and guidelines for designing safe, effective, and efficient resistance training programs. Topics include: evaluation of biomechanical, physiologic, and genetic factors affecting strength and muscle tissue gain.
 Prerequisites: HFT 122, HFT 128, HFT 152 (minimum grade C for all)
Instructor Consent Required

HFT 128 Aquatic Group Fitness Instructor 3-2-4
 A course on aquatic exercise principles, techniques, and group instruction skills for students pursuing aquatic group fitness instructor certification. Topics include: anatomy and physiology of aquatic exercise, effects of water on the body, movement analysis, and class formats.
 Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Instructor Consent Required

HFT 130 Foundations of Health and Wellness Programs 2-2-3
 A course on developing fitness and wellness programs for individuals and groups, emphasizing disease prevention and health promotion. Topics include: fitness testing for each fitness component, behavior modification, nutrition, stress management, addictions, sexually transmitted disease, and chronic disease.
 Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

HFT 151 Personal Fitness Trainer 1 3-2-4
 A course on techniques used in the personal training fitness field. Topics include: the body's response to exercise, screening and consultation guidelines, dietary principles, and communication and documentation.
 Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores
Instructor Consent Required

HFT 152 Personal Fitness Trainer 2 3-2-4
 A continuation of HFT 151 that prepares students for the National Certified Personal Trainer Exam. Topics include: applying exercise principles, using therapeutic exercise, working with special populations, understanding legal issues, and analyzing and evaluating fitness techniques.
 Prerequisites: HFT 151 (minimum grade C)

HFT 156 Establishing a Personal Training Business 3-0-3
 A course on strategies for promoting personal training services and establishing a client base. Topics include: using resources to build a client base, applying sales processes, networking, analyzing needs, and handling objections.
 Prerequisites: HFT 151 (minimum grade C)

HFT 160 Aquatic Personal Trainer 1-2-2
 A course for experienced personal trainers who want to enter the aquatic fitness field. Topics include: effects of water properties on exercise programming, monitoring exercise intensity in aquatic environments, and aquatic exercise formats.
 Prerequisites: HFT 152, HFT 182 (minimum grade C for both)
Instructor Consent Required

HFT 164 Health and Fitness Training: Chronic Diseases and Conditions 3-0-3
 A course on how common conditions affect the exercise response. Topics include: developing an exercise plan, and effects of medications on exercise performance.
 Prerequisites: BIO 152, ENG 101 (minimum grade C for both)
Instructor Consent Required

HFT 168 Health and Fitness Training: Youth 3-0-3
 A course on current national guidelines for youth fitness and physical activity. Topics include: childhood obesity; the role of school, family, and community in youth fitness; and cultural and gender differences.
 Prerequisites: ENG 101 (minimum grade C)
Instructor Consent Required

HFT 172 Health and Fitness Training: Older Adults 3-0-3
 A course on the impact of exercise on quality of life for older adults. Topics include: ACSM guidelines for testing and prescription, effects of the aging process on exercise, and program development.
 Prerequisites: ENG 101 (minimum grade C)
Instructor Consent Required

HFT 176 Health and Fitness Training: Women's Health 3-0-3
 A course on exercise programming throughout a woman's life stages, including adolescence, prenatal, and menopause. Topics include: conditions that affect women and exercise, and program design.
 Prerequisites: BIO 152, ENG 101 (minimum grade C for both)
Instructor Consent Required

HFT 180 Pilates Mat Practicum 1-7-2
 Students apply Pilates knowledge and skills in a health and fitness setting by observing and assisting in Pilates Mat classes taught by a certified Pilates instructor.
 Prerequisites: None
 Corequisites: HFT 116
Instructor Consent Required

HFT 182 Personal Fitness Trainer Practicum 1-7-2
 Students apply personal fitness training knowledge and skills in a health and fitness setting by observing and assisting with classes taught by a professional personal fitness trainer.
 Prerequisites: HFT 151 (minimum grade C)
Instructor Consent Required

HFT 250 Exercise Physiology 3-2-4
 A course on the human body's response and adaptations to exercise and physical training. Topics include: the influence of exercise on body systems, optimal physiological adaptations for improving fitness and performance, and testing and programming related to exercise and fitness.
 Prerequisites: BIO 152, ENG 101, HFT 130 (minimum grade C for all)
Instructor Consent Required

HIM Health Information Management

HIT Health Information Technology

HFT 260 Health and Fitness Program Design 3-2-4
 A course on skills for identifying, assessing, designing, promoting, implementing, and evaluating programs for health and fitness in various settings. Topics include: needs assessment, funding, marketing, and using tools for evaluating program outcomes.
 Prerequisites: HFT 130, HFT 250 (minimum grade C for both)

HFT 294 Internship 1: Health and Fitness Technology 1-40-2
 Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: HFT 250, HFT 260, and BUS 190 (minimum grade C for all)
Instructor Consent Required

HIM Health Information Management

HIM 100 Introduction to Health Information Management 4-0-4
 A course on key concepts of the health information management profession and health care documentation. Topics include: function, maintenance, storage and processing of health records; and accreditation/regulatory requirements for health record documentation in acute and specialized care settings.
 Prerequisites: BIO 111, CHE 100 or CHE 110, IM 111 (minimum grade C for all)
Instructor Consent Required

HIM 105 Legal Aspects of Health Information Management 2-0-2
 A course on the health record as a legal document. Topics include: HIPAA regulations, release of information procedures, legal requirements for health record documentation, risk management, and physician credentialing.
 Prerequisites: BIO 111, CHE 100 or CHE 110, IM 111 (minimum grade C for all)

HIM 110 Health Data Analysis and Presentation 3-0-3
 A course on common health care statistical formulas. Topics include: analysis of health care data, and data presentation methods.
 Prerequisites: HIM 100 (minimum grade C)

HIM 115 Clinical Abstracting of Health Data 2-0-2
 A course on abstracting supportive data used to validate diagnoses and applying procedures used to create clinical databases. Topics include: analyzing and interpreting documentation, pharmacotherapy, establishing medical necessity for common laboratory and radiology tests, and UHDDS guidelines.
 Prerequisites: BIO 151, HIM 100, and MCH 101 or MCH 104 (minimum grade C for all)

HIM 120 Health Information Technology Systems 3-0-3
 A course on fundamentals of hardware and software systems commonly used in health care. Topics include: electronic health records, health information security, and data exchange standards.
 Prerequisites: HIM 105 (minimum grade C)

HIM 125 CPT Coding 3-0-3
 A course on principles of the Current Procedural Terminology (CPT) coding system used to identify medical services and procedures performed by physicians. Topics include: coding for surgical procedures, radiology, pathology, laboratory, evaluation and management services, and anesthesiology; and modifiers and HCPCS Level II codes.
 Prerequisites: BIO 152, HIM 115 (minimum grade C for both)

HIM 191 Part-Time Cooperative Education 1: Health Information Management 1-20-1
 Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: HIM 100 (minimum grade C)
Instructor Consent Required

HIM 200 Quality Assessment and Department Management for Health Information Management 4-0-4
 A course on fundamental principles of quality improvement and management in healthcare. Topics include: quality improvement activities and processes, managerial functions, roles of teams and committees, department budgets, and effective management skills in relation to HIM concepts.
 Prerequisites: HIM 110 (minimum grade C)

HIM 205 ICD-10-CM and ICD-10-PCS Coding 4-0-4
 A course on principles of the ICD-10-CM and ICD-10-PCS classification systems. Topics include: coding for diseases and procedures associated with all body systems; and coding to identify external causes of morbidity, health status factors, and contact with health services.
 Prerequisites: BIO 240, HIM 115 (minimum grade C for both)

HIM 210 Healthcare Reimbursement Methodologies 3-0-3
 A course on reimbursement systems for healthcare services. Topics include: CMS 1500, UB-04, inpatient and outpatient prospective payment systems, Resource Based Relative Value Scale (RBRVS), and compliance monitoring.
 Prerequisites: HIM 125 (minimum grade C)

HIM 215 Advanced Medical Coding 4-0-4
 A course on advanced principles of medical coding. Topics include: medical documentation concepts, code assignment, Diagnostic Related Groups (DRGs), and Ambulatory Payment Classifications (APC).
 Prerequisites: HIM 205, HIM 210 (minimum grade C for both)

HIM 220 Health Information Management Certification Exam Review 3-0-3
 Students review theory and practice in health information management to prepare for national certification examinations.
 Prerequisites: HIM 200, HIM 215, HIM 280 (minimum grade C for all)

HIM 280 Health Information Management Professional Practice 0-4-2
 Students observe and participate in the operational functions of a community health information management department or specialized HIM work setting.
 Prerequisites: HIM 120, HIM 205, HIM 210 (minimum grade C for all)

HIM 291 Full-time Cooperative Education 1: Health Information Management 1-40-2
 Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: HIM 100 (minimum grade C)
Instructor Consent Required

HIT Health Information Technology

HIT 100 Language and Culture of Healthcare 3-0-3
 A course on key elements of the U.S. healthcare system. Topics include: basic operations; inpatient, ambulatory and mental health services; government influence on healthcare delivery; roles of healthcare professionals; and legal and ethical aspects of healthcare.
 Prerequisites: None

HIT 105 Information Technology Systems in Healthcare 3-0-3
 A course on the use and value of information system technology in healthcare settings. Topics include: choosing and implementing health IT systems, clinical care delivery, and tracking and reporting healthcare delivery outcomes.
 Prerequisites: HIT 100

HIT 210 Healthcare Reimbursement 3-0-3
 A course on the history and use of healthcare reimbursement systems. Topics include: current structure and future directions for private and public healthcare reimbursement systems, and the computer systems and business processes involved in healthcare reimbursement.
 Prerequisites: HIT 105

HIT 215 Healthcare Programming 3-0-3
 A course on basic theory of healthcare information system integration. Topics include: designing, coding, implementing and supporting HL7 transactions, and the value of health information system integration within an organization and across disparate organizations.
 Prerequisites: HIT 105

HIT 220 Health Information Technology in the Continuum of Care 3-0-3
 A course on health information systems in non-hospital healthcare settings. Topics include: integrating and exchanging patient information across care settings, using health information to improve patient care and public health outcomes, and protecting health information security and integrity.
 Prerequisites: HIT 105

HNR Honors Program HST History

HIT 225 Data Mining 2-0-3
A course on concepts and techniques of data mining, the computer-assisted process of evaluating sets of data to find previously undiscovered patterns, draw conclusions, and make decisions based on those patterns.
Prerequisites: HIT 105, IT 112, MAT 131

HIT 291 Full-Time Cooperative Education 1: Health Information Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HIT 105, IT 111, BPA 130, CIT 190 (minimum grade C for all)

HNR Honors Program

HNR 100 Orientation to Honors 2-0-2
A course required for students admitted to the Honors Experience.
Prerequisites: Admitted to the Honors Experience or instructor consent

HNR 110 Honors Colloquium Var-Var-Var
Study and discussion of selected interdisciplinary topics in a seminar format, emphasizing student inquiry, critical thinking, and analysis. Students complete papers, projects, and/or presentations. Topics vary from semester to semester.
Prerequisites: ENG 101 and HNR 100

HRM Hospitality Management Technology

HRM 100 Hospitality Careers 2-0-2
An introduction to the hospitality industry. Topics include: history, structure, and trends of the hospitality industry; career opportunities; and preparation for cooperative education experience.
Prerequisites: None

HRM 105 Food Service Sanitation 1-0-1
A course on sanitation and safety in the food service industry. Students complete the ServSafe certification exam as part of this course.
Prerequisites: AFL 085 or appropriate placement test score

HRM 110 Food and Beverage Cost Control 3-0-3
A course on food service cost control systems. Topics include: food, beverage, and labor cost control; sales control; and profit and loss analysis.
Prerequisites: AFM 095 or appropriate placement test score

HRM 115 Rooms Division Management 4-0-4
A course on rooms division management and operations. Topics include: operating procedures for performing the hotel audit; registration and reservations; hotel rates; posting charges and credits; housekeeping and sanitation; and security.
Prerequisites: HRM 100

HRM 120 Event, Meeting, and Convention Management 4-0-4
A course on concepts and techniques for effective management of special events. Topics include: event planning, sales processes within catering operations, and negotiating sales and catering contracts.
Prerequisites: HRM 100

HRM 125 Beverage Management 1-2-2
A course on fundamentals of dining room service and beverage operations.
Prerequisites: HRM 105

HRM 130 Food and Beverage Division Management 4-0-4
A course on concepts and techniques for food and beverage management and operations. Topics include: leadership and supervision, operating procedures, and internal and external marketing of food and beverage services.
Prerequisites: HRM 105 and ENG 101

HRM 191 Part-Time Cooperative Education 1: Hospitality Management 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HRM 100 and co-op coordinator consent
Instructor Consent Required

HRM 291 Full-Time Cooperative Education 1: Hospitality Management 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: HRM 100 and co-op coordinator consent
Instructor Consent Required

HST History

HST 101 World History: First Civilizations to 1500 3-0-3
Survey of world history from the first civilizations until the modern era. Topics include: the first civilizations of China, India, the Americas, Europe, Greece, Asia, and Africa.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

HST 102 World History: 1500 to Present 3-0-3
Survey of world history from the modern era until the present. Topics include: creation of a world market, Europe transformed, Muslim Empire, new world order, modernization, imperialism, crises of the 20th century, and World War II and its aftermath.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

HST 111 American History: Early Settlers to 1877 3-0-3
Survey of the formative years of the Republic from Colonial America through 1877. Topics include: early settlements, independence, slavery, expansion west, the Civil War, and Reconstruction.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

HST 112 American History: 1877 to Present 3-0-3
Survey of U.S. history from the end of Reconstruction until the present. Topics include: expansion, the Gilded Age, the Progressive Era, World War I, the Great Depression, World War II, the Cold War, and the 1960s.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

HST 121 African American History: Origins to 1877 3-0-3
A course on the African American experience. Topics include: origins in Africa, the Atlantic slave trade, North American slavery, the Civil War, emancipation, and post-Civil War reconstruction.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved

HST 122 African American History: 1877 to Present 3-0-3
A course on the African American experience after 1877. Topics include: legal, social, and economic restrictions and struggle for equality; racial intolerance; the Civil Rights Movement; and contemporary realities of race.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved

HST 130 History of Africa 3-0-3
A course on major developments in African history from the 15th century to the present. Topics include: the Atlantic slave world, colonization, contemporary sub-Saharan Africa, nationalism, independence movements, and developing nations.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved

HUM Humanities and Sciences

IDT Industrial Design Technology

HUM Humanities and Sciences

HUM 190 Career Exploration Seminar: Associate of Arts and Sciences 2-0-2

Students seeking an Associate of Arts or Associate of Sciences degree assess their life experience, skills, and interests, and carry out a variety of structured activities (including directed reading and writing assignments) in order to set realistic career goals. Students should complete this course during their second academic semester.

Prerequisites: ENG 101

HUM 191 Part-Time Cooperative Education 1: Associate of Arts and Sciences 1-20-1

Students seeking an Associate of Arts or Associate of Sciences degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190

HUM 192 Part-Time Cooperative Education 2: Associate of Arts and Sciences 1-20-1

Students seeking an Associate of Arts or Associate of Sciences degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 191

HUM 194 Part-Time Career Education Project 1: Associate of Arts and Sciences 1-20-1

Students seeking an Associate of Arts or Associate of Sciences degree complete their first individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190 and coordinator consent

Instructor Consent Required

HUM 195 Part-Time Career Education Project 2: Associate of Arts and Sciences 1-20-1

Students seeking an Associate of Arts or Associate of Sciences degree complete their second individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 194 and coordinator consent

Instructor Consent Required

HUM 291 Full-Time Cooperative Education 1: Associate of Arts and Sciences 1-40-2

Students seeking an Associate of Arts or Associate of Sciences degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190

HUM 292 Full-Time Cooperative Education 2: Associate of Arts and Sciences 1-40-2

Students seeking an Associate of Arts or Associate of Sciences degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 291

HUM 294 Internship: Associate of Arts and Sciences 1-40-2

Students seeking an Associate of Arts or Associate of Sciences degree participate in an unpaid field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190

HUM 296 Full-Time Career Education Project: Associate of Arts and Sciences 1-40-2

Students seeking an Associate of Arts or Associate of Sciences degree complete individual study or a special project related to their major field and pertaining to their career goals. Working with an assigned faculty mentor, students define the project goals, carry out project tasks, and evaluate the results. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HUM 190 and coordinator consent

Instructor Consent Required

IDT Industrial Design Technology

IDT 100 Introduction to Industrial Design 3-0-3

An overview of the industrial design field. Students explore the design process through a semester-length simulated product design exercise.

Prerequisites: None

IDT 105 Rapid Visualization Techniques 2-2-3

A course on concept sketching. Topics include: hand sketching using scaled perspective and pencil and technical pen and marker rendering techniques to generate, communicate, and present ideas graphically.

Prerequisites: None

IDT 120 Materials and Manufacturing Processes 2-2-3

A course on state-of-the-art production materials and methods employed in product manufacturing. Topics include: materials science, strength analysis, and selection procedures.

Prerequisites: None

IDT 125 Human Factors 2-2-3

A course on principles for designing safe, functional, and ergonomically pleasing products.

Prerequisites: IDT 100, IDT 105

IDT 150 Computer Modeling 2-2-3

An introduction to creating, editing, and manipulating accurate 3D surface and solid models for graphic visualization, using advanced surfacing software.

Prerequisites: IDT 100, IDT 105

IDT 191 Part-Time Cooperative Education 1: Industrial Design Technology 1-20-1

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IDT 100

IDT 210 Model Making and Prototyping 2-2-3

A course on fabricating models and prototypes. Topics include: the importance of 3D visualization of the design for a product, and applying technologically advanced tools and methods.

Prerequisites: IDT 120, IDT 150, MET 131

IDT 220 Industrial Design Technology CNC and CAD-CAM 3-2-4

A course on part fabricating fundamentals. Topics include: metal removing processes; turning, facing, milling, and drilling; materials and tooling; manufacturing with plastics and composites; and using CAD files and CAM software to create a program for producing parts on a CNC machine.

Prerequisites: IDT 120, MET 131

IDT 290 Industrial Design Technology Capstone 2-3-3

Students complete the design of a product from concept to prototype, and present the finished project to a panel of reviewers.

Prerequisites: IDT 210, IDT 220

IDT 291 Full-Time Cooperative Education 1: Industrial Design Technology 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: IDT 100

IDT 294 Internship 1: Industrial Design Technology 1-40-2
 Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: IDT 100

IM Information Management

IM 100 Computer Literacy 1-2-2
 A course on fundamental concepts and skills for using computers.
 Prerequisites: None

IM 105 Keyboarding Skills 0-3-3
 A course on fundamental techniques for building keyboarding speed and formatting documents. Students must achieve a minimum speed of 20 words per minute to pass the course.
 Prerequisites: None

IM 111 Computer Applications 1 2-3-3
 A course on fundamental skills for using workplace software applications. Topics include: Microsoft Office applications for word processing (MS Word), spreadsheets (MS Excel), database management (MS Access), and presentations (MS PowerPoint); the MS Windows operating system; using the internet; and file storage.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and IM 105 or 20 wpm keyboarding speed

IM 112 Computer Applications 2 2-3-3
 A continuation of IM 111, emphasizing development of skills using workplace software applications for word processing, spreadsheets, database management, and presentations.
 Prerequisites: IM 111, and IM 105 or 20 wpm keyboarding speed

IM 115 Administrative Office Procedures and Practices 2-3-3
 A course on fundamental concepts and skills required to perform office administration duties and activities.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 120 Electronic Spreadsheets: Microsoft Excel 2-3-3
 A course on concepts and techniques for using Microsoft Office Excel spreadsheet software. Topics include: constructing worksheets, writing formulas, constructing macros, and using spreadsheets with databases.
 Prerequisites: AFM 095 or appropriate placement test score, and IM 100 or appropriate computer literacy placement test score

IM 125 Electronic Spreadsheets for Accountants and Financial Managers 2-2-3
 A course on using Microsoft Office Excel and Access software applications to analyze and interpret data and make short-term and long-term business decisions.
 Prerequisites: AFM 095 or appropriate placement test score, and ACC 101, and IM 100 or appropriate computer literacy placement test score

IM 130 Electronic Word Processing: Microsoft Word 2-3-3
 A course on concepts and techniques for word processing using Microsoft Office Word software. Topics include: developing letters and reports, using mail merge, and designing forms.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 135 Business Document Formatting 2-3-3
 A course on composing, editing, and formatting professional business documents using appropriate business communication methods.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 35 wpm keyboarding speed

IM 140 Electronic Database Management: Microsoft Access 2-2-3
 A course on concepts and skills for using Microsoft Office Access database management software. Topics include: designing, customizing, and maintaining database files; and integrating database files with other software applications.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 145 Document Proofreading and Editing 2-3-3
 A course on using editing and proofreading skills to produce documents that are correct, complete, concise, coherent, clear, and courteous.
 Prerequisites: IM 105 or 20 wpm keyboarding speed, and ENG 101

IM 150 Electronic Presentations: Microsoft PowerPoint 2-3-3
 A course on skills for developing effective slide presentations using Microsoft Office PowerPoint software.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 155 Workplace Technologies 2-2-3
 A course on concepts and skills for using office technologies such as digital cameras, scanners, tablets, Microsoft Office OneNote, and speech recognition software.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 160 Electronic Publications: Microsoft Publisher 2-2-3
 A course on skills for preparing professional documents that combine text and images using Microsoft Publisher software.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and IM 105 or 20 wpm keyboarding speed

IM 165 Legal Office Environment 3-0-3
 A course on legal concepts and the structure of law firms as applicable to paralegals and other support staff. Topics include: legal terminology, court systems and procedures, administrative functions, and ethics and professionalism.
 Prerequisites: AFL 085 or appropriate placement test score

IM 170 Electronic Project Management: Microsoft Project 2-3-3
 A course on skills for creating project plans and schedules using Microsoft Project software. Topics include: communicating project information, assigning and tracking resources and costs, tracking progress, and sharing project information with people and with other software applications.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 175 Administrative Office Management 3-0-3
 A course on concepts and skills for managing office environments, employees, administrative systems, and functions.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 191 Part-Time Cooperative Education 1: Information Management 1-20-1
 Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: BUS 190

IM 200 Information Systems for Managers 3-0-3
 A course on foundation concepts related to use of information systems such as the internet, e-mail, spreadsheet software, and database software.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, and 20 wpm keyboarding speed

IM 225 Legal Transcription and Formatting 2-3-3
 A course on preparing and transcribing a variety of legal documents for litigation, probate, and family law practices. Topics include: legal terminology, attention to detail, and proofreading.
 Prerequisites: IM 135 and IM 175 (minimum grade C for both)

IM 260 Medical Transcription and Formatting 2-2-3
 A course on skills for transcribing and formatting medical reports and other medical documents. Topics include: medical terminology, symptoms and disease conditions, and grammar related to medical documents.
 Prerequisites: IM 100 or appropriate computer literacy placement test score, 20 wpm keyboarding speed, HIM 105, MCH 102

IM 285 Legal Assistant/Paralegal Capstone 2-3-3
 Students demonstrate proficiency in skills gained in previous courses while completing a project related to the administrative duties of the legal assistant or paralegal.
 Prerequisites: IM 225 and LAW 120 (minimum grade C for both)

IT Information Technology

ITP Interpreter Training

IM 290 Administrative Assistant Capstone 2-3-3
Students seeking the Administrative Assistant associate degree complete projects that demonstrate proficiency in integrated use of workplace software applications, as well as proficiency in techniques for research and communication.
Prerequisites: IM 120, IM 130, IM 140, and IM 145 (minimum grade C for all)

IM 291 Full-Time Cooperative Education 1: Information Management 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

IT Information Technology

IT 101 .NET Programming 1 2-3-3
An introduction to concepts of object-oriented software development using Visual Basic .NET. Topics include: application design methods, stages of software development, interaction with the .NET framework, and modular programming concepts utilizing procedures and functions.
Prerequisites: None

IT 102 .NET Programming 2 3-3-4
A continuation of IT 101. Topics include: object-oriented design and implementation using the .NET framework, developing class modules, and accessing and writing to external data storage and databases using ADO.NET and SQL.
Prerequisites: IT 101

IT 103 .NET Programming 3 3-3-4
A continuation of IT 102. Topics include creating, debugging, and maintaining web-based database applications using the .NET framework.
Prerequisites: IT 102, IT 111

IT 105 Information Technology Concepts 2-3-3
A course on information technology fundamentals. Topics include: the internet, software, hardware, I/O and storage, operating systems, communications and networks, database management, security, system development, programming, enterprise computing, and numbering systems. The course is delivered through online instruction only.

IT 110 HTML with CSS and JavaScript 3-3-4
A course on internet programming using HTML, CSS, and JavaScript. Topics include: HTML commands, cascading style sheets, JavaScript commands, web apps, and dynamic web pages.
Prerequisites: None

IT 111 Database Design and SQL 1 3-3-4
A course on fundamentals of relational database design and implementation using Microsoft SQL Server. Topics include: SQL Enterprise Manager, fundamentals of database design and normalization, data import and export, Structured Query Language (SQL), indexes and keys, views, and stored procedures.
Prerequisites: None

IT 112 Database Design and SQL 2 3-3-4
A continuation of IT 111. Topics include: advanced stored procedures using transact SQL, user defined functions, triggers, user defined data types, full text searching, replication, database maintenance plans, and designing various data models from abstract requirements.
Prerequisites: IT 111

IT 115 Operating Systems Administration 2-3-3
A course on the Windows operating system used on PC's. Topics include: Windows utilization and management, utilities, managing disks, disaster recovery, troubleshooting, user management, productivity tools, and performance issues.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test scores

IT 140 PHP and MySQL 3-3-4
A course in PHP web programming with a MySQL database. Topics include: PHP language, syntax, variables, and forms; MySQL database design, connecting to a MySQL database using PHP; inserting, editing, and deleting MySQL data using PHP; and building dynamic web pages using PHP and MySQL.
Prerequisites: IT 101, IT 110, IT 111

IT 161 Java Programming 1 3-3-4
An introduction to the Java programming language. Topics include: data types, variables, basic command line input/output, decisions, loops, procedures, string manipulation, arrays, object-oriented development, event programming, and database programming.
Prerequisites: IT 101

IT 162 Java Programming 2 3-3-4
A continuation of IT 161. Topics include: Java Server Pages (JSP), and complex database applications using Java and JSP.
Prerequisites: IT 161

IT 210 System Design and Implementation 2-3-3
A course on methodologies and techniques of the system development life cycle. Topics include: system design, project management for IT, system implementation, programming design, and system testing techniques.
Prerequisites: BPA 130

ITP Interpreter Training

ITP 101 Beginning American Sign Language 1 3-1-3
An introductory course on American Sign Language. Topics include: ASL vocabulary, Deaf culture, ASL grammatical features, and beginning ASL conversational comprehensive and expressive skills.
Prerequisites: None

ITP 102 Beginning American Sign Language 2 3-1-3
A continuation of ITP 101. Topics include: continued development of ASL vocabulary, Deaf culture, grammatical features, and beginning conversational comprehensive and expressive skills.
Prerequisites: ITP 101 (minimum grade C)

ITP 120 Psychosocial Aspects of Deafness 2-0-2
An introductory course on psychosocial aspects of Deafness. Topics include: language, norms of behavior, values, and traditions within Deafness; and the evolution of the view of Deaf people from a pathological to a cultural perspective.
Prerequisites: None

ITP 125 Deaf Culture and History 2-0-2
An introductory course on the unique characteristics influencing Deaf people throughout the past hundred years, and the achievements and accomplishments of Deaf individuals in various professional fields.
Prerequisites: None

ITP 130 Legal Issues of Deafness 1-0-1
A course on the legal rights of the Deaf and people with other disabilities, and the social service organizations and other agencies that serve the Deaf population.
Prerequisites: None

ITP 135 Introduction to the Interpreting Profession 2-0-2
A course offering a framework for understanding the field of interpreting. Topics include: role of the interpreter in various settings, the interpreting process, physical factors, language variations, and the Code of Professional Conduct.
Prerequisites: None

ITP 140 Fingerspelling and Numbers 2-0-2
A course providing intensive practice in comprehension and production of fingerspelled words and numbers, with emphasis on clarity and accuracy.
Prerequisites: ITP 101 (minimum grade C) or ITP Program Chair consent

ITP 191 ITP Limited Practicum 1 1-3-1
Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
Prerequisites: ITP 250

ITP 192 ITP Limited Practicum 2 1-3-1
A continuation of ITP 191. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
Prerequisites: ITP 191

ITP 193 ITP Limited Practicum 3 1-3-1
 A continuation of ITP 192. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 192

ITP 194 ITP Limited Practicum 4 1-3-1
 A continuation of ITP 193. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 193

ITP 195 ITP Limited Practicum 5 1-3-1
 A continuation of ITP 194. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 194

ITP 196 ITP Limited Practicum 6 1-3-1
 A continuation of ITP 195. Students spend three hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 195

ITP 201 Intermediate American Sign Language 1 3-1-3
 A course on developing and practicing receptive and expressive skills for acquiring ASL targeted vocabulary and grammatical features. Topics include: improving ASL skills by visual comprehension, signing, writing with gloss system, and using basic expressive and receptive skills in laboratory/class settings.
 Prerequisites: ITP 102 (minimum grade C)

ITP 202 Intermediate American Sign Language 2 3-1-3
 A continuation of ITP 201. Topics include: higher level skills in major grammatical features of ASL and additional practice of receptive skills using prepared dialogues as well as numbers.
 Prerequisites: ITP 201 (minimum grade C)
 Corequisites: ITP 230

ITP 205 Performance Interpreting 2-0-2
 A course on interpreting for theatre and other performance art venues. Topics include: vocabulary and skill building, and script translation.
 Prerequisites: ITP 201 (minimum grade C)

ITP 210 Deaf-Blind Interpreting 2-0-2
 A course on the skills, protocols, and techniques necessary to communicate with, interpret for, and guide individuals who are Deaf-Blind.
 Prerequisites: ITP 201 (minimum grade C)

ITP 215 Religious Interpreting 2-0-2
 A course on interpreting in religious settings. Topics include: religious signs and their relationships to various religious settings.
 Prerequisites: ITP 201 (minimum grade C)

ITP 220 Educational Interpreting 2-0-2
 A course on interpreting in educational settings. Topics include: the educational setting, code of professional conduct, inservicing, and the IEP process. The Ohio Department of Education's Interpreter Guidelines are included in the curriculum.
 Prerequisites: ITP 201 (minimum grade C)

ITP 230 Intermediate Assessment 1-0-1
 A course on reviewing and teaching ASL vocabulary and structure, culminating in the Intermediate Assessment. Students receive a course grade of Satisfactory or Unsatisfactory.
 Prerequisites: ITP 201 (minimum grade C)
 Corequisites: ITP 202

ITP 250 Intra-Lingual Skills Development for Interpreters 3-0-3
 A course on practicing the role of a professional interpreter in various settings and applying the interpreting process, language variations, and the demand control schema. This course prepares students and approves them for the Practicum experience.
 Prerequisites: ITP 202 (minimum grade C) and ITP 230

ITP 251 Advanced American Sign Language 1 3-1-3
 A course on advanced ASL communication skills, vocabulary, and grammatical features. Topics include: advanced practice and development of expressive and receptive skills in American Sign Language.
 Prerequisites: ITP 202 (minimum grade C) and ITP 230

ITP 252 Advanced American Sign Language 2 3-1-3
 A continuation of ITP 251. Topics include: advanced level vocabulary building and grammatical features improvement, and applying native-like signing into American Sign Language production.
 Prerequisites: ITP 251 (minimum grade C)

ITP 261 Advanced Interpreting 1: Sign to Voice 3-0-3
 A course on the principles and strategies of interpreting from American Sign Language into spoken and written English equivalents. Topics include: the technical and mental processes involved in ASL-to-English interpretation simultaneously and consecutively using the Colonosmos and Gish Models.
 Prerequisites: ITP 202 (minimum grade C) and ITP 230

ITP 262 Advanced Interpreting 2: Sign to Voice 3-0-3
 A continuation of ITP 261. Topics include: signing with live models and unknown material.
 Prerequisites: ITP 261 (minimum 80% on Voicing Evaluation)

ITP 265 Interpreting in Specialized Settings 4-0-4
 A course on specialized vocabulary in advanced interpreting settings. Topics include: vocabulary related to medical, mental health, social work, and legal interpreting settings.
 Prerequisites: ITP 202 (minimum grade C) and ITP 230

ITP 270 Transliterating 3-0-3
 A course on transmitting spoken English into English-based sign language. Topics include: initialized signs and other English-related communication systems.
 Prerequisites: ITP 202 (minimum grade C) and ITP 230

ITP 280 Professionalism and Interpreting 1-0-1
 A course on the professional components of becoming a sign language interpreter. Topics include: resume building and appropriate conduct in the workplace, in interviews, and online.
 Prerequisites: ITP 251 (minimum grade C)

ITP 291 ITP Parallel Practicum 1 2-5-2
 Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 250

ITP 292 ITP Parallel Practicum 2 2-5-2
 A continuation of ITP 291. Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 291

ITP 293 ITP Parallel Practicum 3 2-5-2
 A continuation of ITP 292. Students spend five hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 292

ITP 295 ITP General Practicum 1 2-10-3
 Students spend ten hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 250

ITP 296 ITP General Practicum 2 2-10-3
 A continuation of ITP 295. Students spend ten hours per week in educational institutions and community agencies, completing supervised observation and practice in the role of the interpreter. Students also participate in weekly seminars.
 Prerequisites: ITP 295

LAW Law

LH Landscape Horticulture

LAW Law

LAW 101 Business Law 3-0-3
A course on the legal environment in which businesses operate.
Prerequisites: None
Ohio Transfer Assurance Guide Approved

LAW 110 Employment Law 3-0-3
A course on major federal laws regarding employment rights, and responsibilities of the employer and employee. Topics include: public policy and processes related to hiring, work environment, and resignation and termination; and recent trends in employment law.
Prerequisites: None

LAW 120 Legal Research and Writing 3-0-3
A course on concepts and techniques for conducting legal research and composing legal documents. Topics include: research purposes and uses; citation procedure and format; computer research including LEXIS; and writing materials such as briefs, pleadings, memorandums, motions, and discovery documents.
Prerequisites: LAW 101

LAW 130 Family and Probate Law 3-0-3
A course on concepts and processes of family and probate law. Topics include: marriage, dissolution, divorce, and prenuptial agreements; child custody, visitation, and support; adoption and guardianship; juvenile law; and trusts and estate administration.
Prerequisites: LAW 101

LAW 140 Entertainment and Intellectual Property Law 3-0-3
A course on concepts and processes for entertainment law and protection of intellectual property. Topics include: representing creative talent; business and personality interests; licensing; copyright; and legal concerns in music publishing, sound recordings, literary publishing, and film and television.
Prerequisites: LAW 101

LAW 191 Part-Time Cooperative Education 1: Legal Assistant 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

LAW 210 Litigation 3-0-3
A course on concepts and processes of criminal and civil litigation. Topics include: parties to lawsuits, pleadings, motion practice, Federal Rules of Civil and Criminal Procedure, Federal Rules of Evidence, discovery, trial judgments, and alternative dispute resolution.
Prerequisites: LAW 101

LAW 291 Full-Time Cooperative Education 1: Legal Assistant 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

LBR Labor Relations

LBR 105 Introduction to Labor and Employee Relations 3-0-3
Study of the historical, legal and structural status of management and labor in unionized and non-union environments in the public and private sectors. Topics include: labor history, modern labor federations, union organizing and certification, contract negotiation and administration, grievance and arbitration, and analysis of current labor issues.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved

LH Landscape Horticulture

LH 105 Horticulture Occupations 1-1-1
An introduction to horticulture occupations in the Cincinnati region. Topics include: job levels, working conditions, abilities needed, and benefits within the horticulture industries; resume preparation; interviewing; and business etiquette for the landscaping industry.
Prerequisites: None

LH 110 Horticulture Science 2-3-3
A course on plant classification, structures, physiology, and development, and the environmental conditions that affect plant growth.
Prerequisites: None

LH 115 Floral Design and Marketing 2-2-3
A course on concepts and techniques of floral design. Topics include: floral design styles, pricing, shop management, and specialized work such as weddings and funerals. Students must attend off-campus field trips.
Prerequisites: None

LH 120 Soil Science and Plant Nutrition 2-2-3
A course on the physical, chemical, and biological properties of soils. Topics include: soil formation; soil conservation; and properties of soils that affect plant growth, development, and health.
Prerequisites: None

LH 125 Turfgrass Management 2-2-3
A course on principles and practices for management of turfgrass installations. Topics include: turfgrass identification, growth, uses, and establishment; and pest control. Students must attend field trips.
Prerequisites: AFM 095 or appropriate placement test score

LH 130 Woody Plant Materials 2-3-3
A course on woody plants grown by nurseries and found in the landscape and in naturalized settings of Ohio. Topics include: identifying the features and landscape uses of deciduous and evergreen trees, shrubs, and vines. Students must attend weekly plant walk field trips.
Prerequisites: None

LH 135 Herbaceous Plant Materials 2-3-3
A course on annual, biennial, and non-woody plants commonly used in landscapes of the greater Cincinnati region. Topics include: identification, culture, and design uses of plants for landscapes.
Prerequisites: None

LH 140 Landscape Operations 2-3-3
A course on equipment used for landscape activities such as planting trees and shrubs and maintaining landscaped areas. Topics include: job safety; and operations of equipment such as loaders, backhoes, tractors, and commercial mowers. Students must attend field trips.
Prerequisites: None

LH 145 Horticulture Mechanics 2-2-3
An introduction to the mechanical systems used in the landscape industry. Topics include small engine theory, operation, and repair; gasoline and diesel fuels; hydraulic power systems; and traditional and alternative electrical systems.
Prerequisites: None

LH 151 Landscape Design 1 2-3-3
A course on landscape development for residential and small commercial sites. Topics include: the design process, proper design development, and graphics and lettering. Students must provide their own drawing tools and must attend field trips.
Prerequisites: None

LH 155 Computer-Aided Landscape Design 2-3-3
A course on techniques for using computers in landscape design and contracting. Topics include: generating plot plans, planting plans, and presentation drawings.
Prerequisites: None
Instructor Consent Required

LH 160 Irrigation Design, Installation, and Management 2-3-3
A course on designing, installing, and managing residential and commercial irrigation systems. Students must participate in field work.
Prerequisites: LH 125 and LH 151

LH 165 Landscape Construction 2-3-3
A course on techniques and use of materials for constructing and installing landscape planting features and structures such as gardens, terraces, walls, fences, mounds, ponds, irrigation, and outdoor lighting. Students must participate in field work.
Prerequisites: LH 151

LH Landscape Horticulture

LIT Literature

LH 170 From Field to Kitchen 2-3-3
A course on edible plants, herbs, and spices and their use in culinary preparations.
Prerequisites: None
Instructor Consent Required

LH 175 Interior Landscaping 2-2-3
A course on the use of foliage and blooming plants to enhance interior areas of buildings. Topics include: classification, culture, and design applications.
Prerequisites: None

LH 191 Part-Time Cooperative Education 1: Landscape Horticulture 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

LH 205 Landscape Pests and Controls 2-3-3
A course on identification, diagnosis, and control of common insect, disease, and weed pests in the landscape industry. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 6d exams.
Prerequisites: LH 110, LH 130, and LH 135

LH 210 Turfgrass Pests and Controls 2-2-3
A course on identification, diagnosis, and control of common insect, disease, and weed pests of turfgrasses. Topics include: integrated pest management/plant health care principles, and Ohio Department of Agriculture Commercial CORE and Category 8 exams. Students must attend field trips.
Prerequisites: LH 110 and LH 125

LH 215 Arboriculture 2-3-3
A course on principles and techniques of the commercial arboriculture business. Topics include: trees and the environment; protection, diagnosis, and treatment of tree health problems; techniques for pruning, removal, and climbing; and job safety. Students must attend field trips.
Prerequisites: LH 110

LH 225 Greenhouse Management and Plant Production 2-2-3
A course on principles and practices for greenhouse management and plant production. Topics include: greenhouse structures and maintenance, plant production, and managing environmental conditions vital to plant growth. Students must attend field trips.
Prerequisites: LH 110 and LH 135

LH 230 Landscape Solutions to Stormwater Management 2-3-3
A course on using landscaping to manage stormwater and water runoff. Topics include: the ecology, design, installation, and maintenance of water management and retention systems including bioswales, green roofs, and rain gardens. Students must attend field trips.
Prerequisites: LH 110, LH 120, and LH 151

LH 240 Landscape Management 2-3-3
A course on principles and practices of management used in the landscape industry. Topics include: seasonal planning for landscape maintenance, contracts and specifications, cost estimating, business management, and personnel management. Students must attend field trips.
Prerequisites: LH 110, LH 120, and LH 130

LH 245 Plants for Sustainable Landscapes 2-3-3
A course on identification, culture, and uses of nursery-grown woody and herbaceous plants in Cincinnati-area sustainable landscapes. Topics include: using native species appropriately, and controlling invasive species. Students must attend weekly field trips.
Prerequisites: LH 125 and LH 151

LH 252 Landscape Design 2 2-3-3
A course on application of design theory to develop creative solutions to landscape problems. Topics include: graphic skills such as section, elevation, isometric and perspective techniques; construction plans; interaction with clients; and sales presentations. Students must attend field trips.
Prerequisites: LH 130, LH 140, and LH 151

LH 255 Golf Course Management 2-3-3
A course on development, management, and maintenance of golf courses. Topics include: layout and construction, course management systems, budgeting, record-keeping, and golf-specific turf care.
Prerequisites: LH 125 and LH 151

LH 260 Athletic Field Management 2-3-3
A course on athletic field management for school, municipal, and professional sports operations. Topics include: turfgrass options, practices for enhancing turf growth and playability, field setup, and field renovation. Students must attend field trips.
Prerequisites: LH 125 and LH 151

LH 265 Landscape Grading, Drainage, and Surveying 2-2-3
A course on landscape site preparation. Topics include: site assessment, establishing grades, soil conservation and improvement, surface and sub-surface drain systems, cut-and-fill calculations, and safe operation of equipment. Students must attend field trips.
Prerequisites: LH 151, and MAT 120 or appropriate placement test score

LH 290 Sustainable Landscape Design Capstone 2-3-3
Students complete a project while examining the landscape designer's role in restoring and protecting habitats. Topics include: site choice, stormwater controls, xeriscaping, criteria for LEED and other certifications, and techniques for landscape features such as green roofs and rain gardens. Students must attend field trips.
Prerequisites: LH 110, LH 145, LH 151, and LH 155

LH 291 Full-Time Cooperative Education 1: Landscape Horticulture 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

LIT Literature

LIT 200 Introduction to Literature 3-0-3
A course on strategies for critical reading and analysis of literature using a variety of interpretive approaches.
Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 210 The Short Story 3-0-3
Introduction to short fiction as a literary form, emphasizing critical reading and analysis. Works studied represent a variety of periods, styles, and cultures.
Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 220 Poetry 3-0-3
Introduction to poetry as a literary form, emphasizing critical reading and analysis. Poems studied represent a variety of periods, styles, and cultures.
Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 230 Drama 3-0-3
Introduction to drama as a literary form, emphasizing critical reading and analysis. Plays studied represent a variety of periods and styles. Out-of-class viewing of plays on video is required.
Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 240 The Novel 3-0-3
Introduction to the novel as a literary form, emphasizing critical reading and analysis. Works studied represent a variety of periods, styles, and cultures.
Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 251 American Literature to 1865 3-0-3
Chronological survey of the works of American authors from the colonial period to 1865 with discussion of the major historical and cultural issues of the times.
Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

MA Medical Assisting

MAT Mathematics

LIT 252 American Literature since 1865 3-0-3
 Chronological survey of the works of American authors from 1865 to present with discussion of the major historical and cultural issues of the times.
 Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

LIT 255 African American Literature 3-0-3
 Study of major themes and forms in writing by African American and Afro-Caribbean authors from slavery to the present.
 Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 261 British Literature: Medieval Period to 1800 3-0-3
 Chronological survey of major works of British literature from the Medieval period to 1800 with discussion of the major historical and cultural issues of the times.
 Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

LIT 262 British Literature: 1800 to Present 3-0-3
 Chronological survey of major works of British literature from the 1800s to present with discussion of the major historical and cultural issues of the times.
 Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

LIT 265 Shakespeare 3-0-3
 Study of six to eight of Shakespeare's best-known plays, emphasizing issues facing modern interpreters of these classic works. Students view at least two plays on video in class. Additional out-of-class viewing of plays on video is required.
 Prerequisites: 6 credit hours of English Composition.
Ohio Transfer Module Approved

LIT 270 Children's Literature 3-0-3
 Introduction to children's literature, emphasizing critical reading and analysis. Works studied represent a variety of genres, styles, and cultures.
 Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 280 Science Fiction 3-0-3
 Introduction to themes and forms in science fiction from the late 19th century to the present, emphasizing critical reading and analysis of varied works and their cultural and technological context.
 Prerequisites: 6 credit hours of English Composition
Ohio Transfer Module Approved

LIT 285 Women Writers 3-0-3
 Study of major themes and forms in women's writing from a variety of periods and cultures, beginning with the 18th century, and including American ethnic women.
 Prerequisites: 6 credit hours of English composition
Ohio Transfer Module Approved

MA Medical Assisting

MA 100 Clinical Procedures for Medical Assistants 3-3-4
 A course on concepts and skills for assisting the physician in a clinical office setting. Topics include: infection control, patient preparation and history taking, assisting with examinations, preparing and maintaining the examination room, and assisting in medical specialty procedures and tests.
 Prerequisites: Medical Assisting Program Chair consent
Instructor Consent Required

MA 105 Administrative Procedures for Medical Assistants 2-4-4
 A course on concepts and skills for assisting in administrative areas of a medical office. Topics include: receiving patients, making appointments, handling mail and telephone communication, using medical office equipment, and maintaining equipment and supplies.
 Prerequisites: Medical Assisting Program Chair consent
Instructor Consent Required

MA 110 Medical Office Laboratory Procedures 3-4-5
 A course on concepts and skills for acquisition of samples and assessment of various diagnostic evaluations. Topics include: using laboratory equipment; maintaining quality assurance and quality control; collecting specimens; and carrying out procedures including hematology, serology, urinalysis, and chemistry.
 Prerequisites: BIO 111, MA 100, MA 105 (minimum grade C for all)

MA 115 Pharmacology for Medical Assistants 3-0-3
 A course on clinical drug therapy in relation to the role of the medical assistant. Topics include: principles, terminology, modes of administration, and mechanisms of action of the major drug groups; drug interactions; and administration of various injection routes.
 Prerequisites: BIO 111, MA 100, MA 105 (minimum grade C for all)

MA 120 Medical Office Insurance Coding and Billing 2-0-2
 A course on procedures and regulations related to bookkeeping, accounting, and insurance in the medical office setting. Topics include: using superbills; coding claims using CPT, ICD-9-CM, and HCPCS; electronic claims filing; and billing, collection, and reimbursement systems.
 Prerequisites: MA 100, MA 105, MCH 100 (minimum grade C for all)

MA 125 Externship and Seminar for Medical Assistants 2-12-4
 Students practice administrative and clinical skills during an unpaid experience in an ambulatory care setting. Students also prepare for the AAMA exam to become a Certified Medical Assistant.
 Prerequisites: MA 110, MA 115, MA 120 (minimum grade C for all)

MAA Medical Administrative Assistant

MAA 191 1-20-1
Part-Time Cooperative Education 1: Medical Administrative Assistant
 Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: BUS 190

MAA 291 1-40-2
Full-Time Cooperative Education 1: Medical Administrative Assistant
 Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
 Prerequisites: BUS 190

MAT Mathematics

MAT 111 Business Mathematics 1 2-2-3
 An algebra-based course on the applications of mathematics in business. Topics include: review of arithmetic, algebra, and percents; payroll; taxes; insurance; and the mathematics of retailing. Students need a scientific calculator.
 Prerequisites: AFM 090 (minimum grade C) or appropriate placement test score

MAT 112 Business Mathematics 2 3-0-3
 A continuation of MAT 111. Topics include: depreciation, financial reports, statistics, distribution of profit, overhead, simple and compound interest, bank discounts, multiple payment plans, annuities, amortizations, and securities. Students need a scientific calculator.
 Prerequisites: MAT 111 (minimum grade C)

MAT 120 Technical Mathematics 3-2-4
 A course on practical applications of algebra, geometry, and trigonometry. Topics include: percents and fractions, measurement, pre-algebra, basic algebra, plane and solid geometry, and triangle trigonometry. Students need a scientific calculator.
 Prerequisites: AFM 090 (minimum grade B) or appropriate placement test score

MAT 121 Technical Algebra and Geometry with Statistics 2-2-3
 A course on technical applications of algebra, geometry, and statistics. Topics include: simplifying algebraic expressions, solving equations (linear, quadratic, rational, and radical), graphing equations in two variables, inequalities, elementary statistics, right triangle trigonometry, and vectors. Students need a graphing calculator.
 Prerequisites: MAT 120 (minimum grade C) or appropriate placement test score

MAT Mathematics MCH Multi-Competency Health Technology

MAT 125 Algebra and Trigonometry 3-2-4
A course on applications of algebra, geometry, and trigonometry. Topics include: simplifying algebraic expressions, right and oblique triangles, and solving equations (linear, quadratic, rational, and trigonometric). Students need a graphing calculator.

Prerequisites: MAT 120 (minimum grade A) or appropriate placement test score

MAT 126 Functions and Calculus 3-2-4
A continuation of MAT 125. Topics include: functions (linear, exponential, logarithmic, trigonometric, polynomial, and rational), complex numbers, graphing, solving equations, and applications of differential and integral calculus. Students need a graphing calculator.

Prerequisites: MAT 125 (minimum grade C) or appropriate placement test score

MAT 130 Intermediate Algebra for Statistics 2-2-3
A course on mathematical modeling and its applications. Topics include: linear, quadratic, exponential, and square root functions; systems of equations; and one- and two-variable inequalities. Students need a graphing calculator.

Prerequisites: AFM 095 (minimum grade B) or appropriate placement test score

MAT 131 Statistics 1 2-2-3
A course on descriptive and inferential statistics. Topics include: the purpose of statistics, univariate and bivariate descriptive statistics, probability, normality and sampling distributions, confidence intervals, and hypothesis testing.

Prerequisites: MAT 121, MAT 130, or MAT 150 (minimum grade C) or appropriate placement test score

Ohio Transfer Module Approved

MAT 132 Statistics 2 2-2-3
A continuation of MAT 131. Topics include: confidence intervals and hypothesis tests for two-sample means and proportions, contingency tables, one-way analysis of variance, and multiple regression.

Prerequisites: MAT 131 (minimum grade C)

MAT 150 Intermediate Algebra 5-0-5
A course on mathematical modeling and problem solving. Topics include: linear, polynomial, exponential, radical, and rational functions; systems of equations; inequalities; and plane and solid geometry. Students need a graphing calculator.

Prerequisites: AFM 095 (minimum grade B) or appropriate placement test score

MAT 151 College Algebra 4-0-4
A course on concepts and applications of algebra. Topics include: representing linear, exponential, logarithmic, power, polynomial, and rational functions numerically, graphically, and algebraically. Students need a graphing calculator.

Prerequisites: MAT 150 (minimum grade C) or appropriate placement test score.

Ohio Transfer Module Approved

MAT 152 Trigonometry 4-0-4
A course on concepts and applications of trigonometry. Topics include: trigonometric functions and identities, inverse of trigonometric functions, vectors, complex numbers, and parametric equations. Students need a graphing calculator.

Prerequisites: MAT 151 (minimum grade C) or appropriate placement test score

Ohio Transfer Module Approved

MAT 153 Pre-Calculus 6-0-6
A course on concepts and applications of pre-calculus. Topics include: review of linear, exponential, power, polynomial, and rational functions; trigonometric functions; trigonometry; vectors; complex numbers; and parametric equations. Students need a graphing calculator.

Prerequisites: MAT 150 (minimum grade B) or appropriate placement test score or instructor consent

Ohio Transfer Module Approved

MAT 210 Business Calculus 5-0-5
A course on calculus emphasizing business applications. Topics include: analysis of functions using limits, the derivative and derivative function, rules of differentiation, applications of derivative calculus, and the definite integral. Students need a graphing calculator

Prerequisites: MAT 151 (minimum grade C)

Ohio Transfer Module Approved

MAT 251 Calculus 1 5-0-5
A course on concepts and applications of calculus. Topics include: the library of functions, analysis of functions with limits, the derivative and the derivative function, interpretations of the derivative, rules of differentiation, and introduction to integral calculus. Students need a graphing calculator.

Prerequisites: MAT 126 or MAT 152 or MAT 153 (minimum C grade)

Ohio Transfer Module Approved

MAT 252 Calculus 2 5-0-5
A continuation of MAT 251. Topics include: methods of integration (substitution, parts, tables, numerical and CAS) with modeling applications, sequences and series, Taylor series approximations, and solutions to differential equations. Students need a graphing calculator.

Prerequisites: MAT 251 (minimum grade C)

Ohio Transfer Module Approved

MAT 253 Calculus 3 5-0-5
A continuation of MAT 252. Topics include: vectors and vector-valued functions; functions of several variables; partial derivatives and directional derivatives with gradients; tangent planes and local linearization; and optimization methods with Lagrange multipliers, iterated integration, and calculus of vector fields. Students need a graphing calculator.

Prerequisites: MAT 252 (minimum grade C)

Ohio Transfer Module Approved

Ohio Transfer Assurance Guide Approved

MCH Multi-Competency Health Technology

MCH 100 Healthcare Informatics 2-0-2
A course on technology used in the healthcare delivery system and electronic health records (EHR) management. Topics include: hardware, software, user interfaces, telecommunications and networks, and health management information systems.

Prerequisites: IM 100 or appropriate computer literacy placement test score, and IM 105 or 20 wpm keyboarding speed

MCH 101 Medical Terminology 1 2-0-2
A course on the basic structure of medical words and abbreviations. Topics include: prefixes, suffixes, word roots, combining forms, and singulars and plurals.

Prerequisites: AFL 085 or appropriate placement test score

MCH 102 Medical Terminology 2 2-0-2
A continuation of MCH 101. Topics include: defining, pronouncing, and spelling medical terms using prefixes, suffixes, roots, and combined forms.

Prerequisites: MCH 101 (minimum grade C)

MCH 104 Accelerated Medical Terminology 4-0-4
An accelerated study of medical terminology covered in courses MCH 101 and MCH 102. Topics include: prefixes, suffixes, word roots, combining forms, singulars and plurals, terminology, and abbreviations associated with medical specialties.

Prerequisites: AFL 085 or appropriate placement test score

MCH 106 Health and Wellness Promotion 2-0-2
A course on promoting health and wellness issues to the public. Topics include: self-empowerment, stress reduction, physical fitness, healthy eating, addiction avoidance, identifying and reducing risk factors in disease, and alternative therapies.

Prerequisites: None

MCH 108 Professionalism in Healthcare 3-0-3
A course on professional standards applicable in healthcare settings. Topics include: communication skills, employability skills, healthcare teams, diversity, career planning, and professional development.

Prerequisites: AFL 080 or appropriate placement test score

MCH 110 Orientation to Health Records 3-0-3
A course on the content and format of health records. Topics include: standard forms, legal issues related to health records, maintaining health records, and filing and retrieving diagnostic reports.

Prerequisites: MCH 101 (minimum grade C), and IM 105 or appropriate keyboarding score

MCH Multi-Competency Health Technology

MET Mechanical Engineering Technology

MCH 112 Issues in Health Economics 2-0-2
A course on current trends and concerns related to the economics of health care systems. Topics include: economic differences between medical care and other commodities.
Prerequisites: None

MCH 114 Law and Ethics for Healthcare 2-0-2
A course on fundamentals of medical jurisprudence and essentials of professional behavior in healthcare. Topics include: medical ethics, legal concerns in healthcare, and the healthcare provider's role as an agent of the physician.
Prerequisites: AFL 085 or appropriate placement test score

MCH 116 Cultural Competency for Health and Public Safety Professions 3-0-3
A course on the influences of race, culture, and ethnicity in shaping values, belief systems, and behaviors of Health and Public Safety professionals and patients/clients.
Prerequisites: ENG 101

MCH 118 Quality Improvement in Healthcare 2-0-2
A course on quality improvement in healthcare, focused on patient-centered care. Topics include: organizations responsible for healthcare accreditation and regulation, healthcare provider departments that address regulations, and trends affecting delivery of quality healthcare services.
Prerequisites: AFL 085 or appropriate placement test score

MCH 120 Health Unit Coordinator Training 3-2-4
A course on skills required for entry-level medical clerical workers. Topics include: patient charts, transcribing nursing treatment, using computer software, medication, respiratory and physical therapy orders, X-ray and MRI scan procedures, nuclear medicine, ultrasound, and endoscopy.
Prerequisites: MCH 101 or MCH 104 (minimum grade C for either)

MCH 130 Nurse Aide Training 4-2-5
A course on caring for the elderly in long-term care facilities. Topics include: communication skills, mental health and social service needs, resident rights, safety and emergency procedures, and restorative services. Students who complete the course successfully are qualified to take the Ohio Board of Health Competency Evaluation Test.
Prerequisites: Must be at least 16 years old and must complete a physical and 2-step TB test
Instructor Consent Required

MCH 132 Patient Care Assistant Training 2-2-3
A course that prepares students for employment in acute care facilities as nursing assistive personnel. Topics include: role definition/classification, communication, basic anatomy/physiology concepts with associated observations, overview of nutrition/diet therapy, introduction to common pathologies, and commonly delegated skills.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores, and MCH 130 or currently in good standing on the Ohio State Nurse Aide Registry
Instructor Consent Required

MCH 134 Medication Aide Training 4-4-6
A course that prepares students to distribute medications in long-term care and residential care facilities, through a minimum of 80 hours of lecture and laboratory practice and 40 hours of clinical experience.
Prerequisites: MCH 130, and on State Nurse Aide Registry or have one year of experience in a residential care setting
Instructor Consent Required

MCH 136 Restorative Aide Training 1-2-2
A course on rehabilitation services used to return individuals to optimal mobility and functioning following various conditions. Topics include: lifting, moving, and ambulation procedures; care of individuals with musculoskeletal, neurological, and integumentary conditions; and restorative approaches to meeting nutrition, hydration, and personal care needs.
Prerequisites: MCH 130, and on State Nurse Aide Registry or eligible for Registry
Instructor Consent Required

MCH 138 Patient Care Skills 1-3-2
A course on fundamental health care concepts and skills for students planning a career in healthcare. Topics include: basic body mechanics, patient draping techniques, infection control techniques, oxygen therapy, and problem solving techniques.
Prerequisites: None

MCH 141 Electrocardiography 1 2-2-3
A course on basic principles of electrocardiography. Topics include: the electrical conductive system of the heart, patient preparation, setting up the ECG machine, and recognizing and correcting distortion problems.
Prerequisites: BIO 111 (minimum grade C)

MCH 142 Electrocardiography 2 3-2-4
A continuation of MCH 141, including review of basic electrocardiography and 12 lead ECG interpretation. Topics include: cardiac electrophysiology, common dysrhythmia recognition, advanced cardiac dysrhythmias, chamber enlargement, pacemakers, myocardial ischemia, injury, infarct patterns, and effects of drugs and electrolytes on the ECG.
Prerequisites: MCH 141 (minimum grade C) or certification in EMT, Paramedic, or Nursing.

MET Mechanical Engineering Technology

MET 100 Introduction to Mechanical Engineering Technology 1-2-2
An orientation to the Mechanical Engineering Technology program and the profession. Topics include: computers and software used in the profession, career opportunities, professional skills, and preparation for cooperative education.
Prerequisites: AFL 085 and MAT 120, or appropriate placement test scores

MET 111 Manufacturing Processes 1 2-3-3
An introduction to machining and fabrication. Topics include: measuring techniques, manual and computer numerical controlled metal removal processes, machine operations, and materials considerations.
Prerequisites: AFL 085 and MAT 120, or appropriate placement test scores

MET 112 Manufacturing Processes 2 3-2-4
A continuation of MET 111. Topics include: CNC programming of complex parts on two-axis mills and lathes, and CNC control.
Prerequisites: MET 111, and MAT 121 or MAT 125

MET 113 Manufacturing Processes 3 3-2-4
A continuation of MET 112. Topics include: CAM simulation, machining processes, prototyping techniques, and using CAD/CAM software to create programs for producing components on CNC machines.
Prerequisites: MET 112

MET 131 MET Computer Aided Drafting 1 2-3-3
An introduction to mechanical drafting and computer aided drafting. Topics include: geometric construction, orthographic projection, dimensioning, section views, and auxiliary views.
Prerequisites: AFL 085 and MAT 120, or appropriate placement test scores
Ohio Transfer Assurance Guide Approved

MET 132 MET Computer Aided Drafting 2 2-3-3
A continuation of MET 131. Topics include: 3D modeling, geometric dimensioning and tolerancing, and creating assembly models.
Prerequisites: MET 131

MET 140 Engineering Materials 2-2-3
A course on the materials used in designing and manufacturing machinery and products. Topics include: steel and non-ferrous metals, polymers, ceramics, and composites. Students use the materials testing laboratory to study physical and mechanical properties of materials.
Prerequisites: MET 111, and MAT 121 or MAT 125
Ohio Transfer Assurance Guide Approved

MET 150 Statics and Strength of Materials for MET 2-3-3
A course on analyzing forces that occur within machine and structural elements subjected to various types of loads. Topics include: vector analysis, free body diagrams, individual stresses, and combined stresses.
Prerequisites: MAT 121 or MAT 125

MET 160 Electrical Applications for MET 2-2-3
A course on electrical fundamentals for Mechanical Engineering Technology students. Topics include: voltage; AC and DC current; power; parallel and series circuits; and using voltmeters, ammeters, and ohmmeters.
Prerequisites: MAT 121 or MAT 125

MET Mechanical Engineering Technology

MGT Management

MET 191	Part-Time Cooperative Education 1: Mechanical Engineering Technology	1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: MET 100		
MET 230	Quality Control and Six Sigma	3-2-4
A course on modern quality methods used in manufacturing. Topics include: data collection, statistical process control, continuous improvement, and the reduction of product defects through the six-sigma process. Prerequisites: MET 150		
MET 240	Hydraulics and Pneumatics	2-3-3
A course on applied fluid power systems. Topics include: fluid transport, power systems components and circuits, relay logic, and ladder diagrams. Students design, build, and operate hydraulic and pneumatic circuits in the laboratory. Prerequisites: MET 150		
MET 250	Machine Design	3-3-4
A course on applying the principles of engineering mechanics and strength of materials to the analysis and selection of mechanical components. Topics include: combined stresses, failure theories, shaft components, shaft design, and fasteners. Prerequisites: MET 150		
MET 260	Applied Thermodynamics	2-2-3
A course in the engineering study of energy. Topics include: first and second laws of thermodynamics, general energy equation, Mollier diagrams, ideal cycles, steam generation and turbines, and refrigeration. Prerequisites: MET 150, and MAT 121 or MAT 125		
MET 270	Kinematics	2-2-3
A course on analyzing mechanisms. Topics include: linear and angular displacement, velocity, acceleration, mass moment of inertia, and dynamic balance. Students use computer simulation software to analyze machine motions and forces. Prerequisites: MET 250		
MET 285	Mechanical Engineering Technology Capstone Project 1	2-3-3
Students participate in a team design project. Topics include: feasibility study, design concepts, detail and assembly drawings, bill of materials, commercial and fabricated parts, vendors, costs, and manufacturing. Prerequisites: MET 132, MET 140, MET 150		
MET 290	Mechanical Engineering Technology Capstone Project 2	2-3-3
A continuation of MET 285. Students manufacture, assemble, and test the product designed in MET 285, and prepare a presentation on the complete design process. Prerequisites: MET 285		
MET 291	Full-Time Cooperative Education 1: Mechanical Engineering Technology	1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: MET 100		
MET 294	Internship 1: Mechanical Engineering Technology	1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: MET 100		
MGT	Management	
MGT 100	Introduction to Management	2-0-2
A course for non-management majors on concepts and techniques of supervision. Topics include: planning, organizing, influencing, and controlling in domestic and international businesses. Prerequisites: None		

MGT 101	Principles of Management	3-0-3
A course on the history and fundamental concepts of modern management. Topics include: planning, leading, organizing and controlling; global and domestic environments for management; change management; quality management; team management; and communication skills for managers. Prerequisites: None		
MGT 105	Human Resource Management	3-0-3
A course on the role of the human resource department and the supervisor's role in various human resource functions. Topics include: recruiting, choosing, and training employees; compensation and benefits; performance evaluation; disciplinary actions; and workplace rights and responsibilities. Prerequisites: None		
MGT 110	Employee Compensation and Benefits	3-0-3
A course on concepts of compensation and benefits programs. Topics include: the labor market, pay structures, collective bargaining, health care plan administration, cost control techniques, retirement and savings plans, disability insurance, and workers' compensation. Prerequisites: MGT 105		
MGT 120	Entrepreneurship	3-0-3
A course on starting and growing new businesses. Topics include: identifying new venture opportunities, evaluating the viability of a new venture, and understanding skills needed for successful business operations. Students prepare a business plan for potential investor review. Prerequisites: None		
MGT 130	Project Management	3-0-3
An introduction to project management in various industries. Topics include: planning and prioritizing projects, obtaining project approvals, working with diverse teams, managing all elements of projects, evaluating project results, and using Microsoft Project software. Prerequisites: None		
MGT 140	Quality Management	3-0-3
A course on concepts and techniques of quality management and continuous improvement for manufacturing and service organizations. Topics include: establishing a customer driven organization, and using effective feedback and control systems. Prerequisites: MGT 100 or MGT 101		
MGT 145	Training Development and Facilitation	3-0-3
A course on concepts and techniques for successful implementation of training and information sessions in a business environment. Topics include: needs assessment, transfer of training, learning environment design, training methods, and evaluation of training programs. Prerequisites: MGT 105		
MGT 191	Part-Time Cooperative Education 1: Management	1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190		
MGT 220	Leadership	3-0-3
A course on the role of successful integrative leaders in organizations. Topics include: historical and contemporary approaches to leadership, leadership for change, team leadership, servant leadership, and communication skills for leaders. Prerequisites: MGT 100 or MGT 101		
MGT 290	Business Management Capstone	2-2-3
Students use case studies and simulations to examine the entire scope of management, including functional and decision making areas such as production, management, marketing, finance, and accounting. Prerequisites: MGT 100 or MGT 101, MKT 101, ACC 101		
MGT 291	Full-Time Cooperative Education 1: Management	1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: BUS 190		

MID Multimedia Information Design

MLT Medical Laboratory Technology

MID Multimedia Information Design

MID 110 Digital Media Concepts 2-3-3
An introduction to operating systems, software, hardware, and peripheral equipment used to create, revise, and produce content for multimedia products.
Prerequisites: AFL 085 or appropriate placement test score

MID 115 Design Principles for Multimedia 2-3-3
A course on fundamental principles and techniques for effective visual composition in print and multimedia applications.
Prerequisites: AFL 085 or appropriate placement test score

MID 120 Drawing and Storyboarding 2-3-3
A course on fundamental techniques for realistic drawing and storyboarding. Topics include: sketching, 3-D drawing, conceptual drawing, architectural drawing, and storyboarding.
Prerequisites: AFL 085 or appropriate placement test score

MID 190 Career Preparation: Multimedia Information Design 2-0-2
A course on career planning for students seeking employment in multimedia fields. Topics include: self assessment, career research, resume development, interview skills and job hunting strategies, and cooperative education policies and procedures.
Prerequisites: MID 110 and MID 115, or AVP 100 (minimum grade C for all)

MKT Marketing

MKT 101 Principles of Marketing 3-0-3
A course on marketing activities, strategies, and decision making in the context of other business functions.
Prerequisites: ECO 105
Ohio Transfer Assurance Guide Approved

MKT 105 Marketing and Customer Relations 3-0-3
A course on fundamentals of marketing and the development of business systems that provide positive and memorable customer experiences.
Prerequisites: None

MKT 110 Sales and Customer Relations 3-0-3
A course on principles and techniques of effective selling. Topics include: background information required for successful sales, analysis of the selling process, and making sales presentations.
Prerequisites: None

MKT 115 Marketing Research for Multimedia Professionals 3-0-3
A course on marketing fundamentals applied by professionals in multimedia fields. Topics include: terminology, applying marketing to business operations and customer satisfaction, and using varied techniques to gain effective and ethical solutions to market research problems.
Prerequisites: None

MKT 130 Professional Selling 3-0-3
A course on the skills of sales and sales management. Topics include: prospecting, sales pre-planning, writing sales proposals, delivering sales presentations, preventing and handling objections, closing the sale, and post-sales service.
Prerequisites: None

MKT 140 Entrepreneurial Marketing 3-0-3
A course on using marketing strategies that are most effective for entrepreneurial businesses. Topics include: planning, implementation, and launch of a marketing campaign; managing marketing efforts; and measuring marketing campaign effectiveness.
Prerequisites: None

MKT 191 Part-Time Cooperative Education 1: Marketing 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

MKT 205 Marketing Research 3-0-3
An introduction to marketing research emphasizing use of research data in marketing and management decisions. Topics include: designing a market research study, using data collection and measurement tools, performing data analyses, using online and social media tools, and communicating research findings.
Prerequisites: MKT 101

MKT 210 International Business and Marketing 3-0-3
A course on the role of international marketing in business. Topics include: challenges of international trade; business customs and practices; political environments and legal systems; and adaptation of product development, pricing methods, market entry strategies, and promotional techniques.
Prerequisites: MKT 101 or MKT 105 or MKT 115

MKT 215 Advertising and Social Media 3-0-3
A course on the role of advertising in marketing and in society. Topics include: consumer buying behavior; market segmentation and targeting; product positioning; marketing communication; research; media planning; and using social media to promote goods, services, ideas, and experiences.
Prerequisites: MKT 101 or MKT 105 or MKT 115

MKT 220 Retail Marketing 3-0-3
An introduction to traditional and electronic retailing. Topics include: analyzing target markets, developing retail marketing mix elements, reviewing store planning techniques used by retailers, and examining changing retailing environments and the impact of government regulations.
Prerequisites: None

MKT 250 Direct Marketing 3-0-3
A course on theory and practice of direct marketing. Topics include: direct marketing's function in company marketing strategies, direct response television/radio strategies, database marketing, list evaluation, telemarketing, catalog marketing, internet marketing, and writing to sell.
Prerequisites: MKT 215

MKT 291 Full-Time Cooperative Education 1: Marketing 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

MLT Medical Laboratory Technology

MLT 100 Introduction to Medical Laboratory Analysis 3-6-5
A course on equipment and processes of the clinical laboratory and the responsibilities of the medical laboratory technician. Topics include pipetting; spectrophotometry; safety; point of care testing; and the chemical, physical and microscopic analysis of urine.
Prerequisites: MAT 150 and MLT Program Chair consent
Instructor Consent Required

MLT 121 Hematology and Hemostasis 1 3-3-4
A course on theory and practice of normal hematology and hemostasis. Topics include: hematopoiesis, cell and platelet counts, cell identification, and prothrombin and partial prothrombin times.
Prerequisites: MAT 150 and MLT Program Chair consent
Instructor Consent Required

MLT 122 Hematology and Hemostasis 2 2-3-3
A continuation of MLT 121. Topics include: hematopoiesis and abnormal cell identification, red cell abnormalities, anemias, leukemias, and coagulopathies.
Prerequisites: MLT 121

MLT 140 Clinical Chemistry 2-3-3
A course on principles and procedures used in the chemical analysis of clinical specimens. Topics include: manual and automated chemical testing, quality control, and clinical correlations.
Prerequisites: MLT 100 and MLT 121

MLT 170 Instrumentation for Medical Laboratory Technicians 0-3-1
A course on principles and procedures for instrumentation used in hematology, hemostasis, urinalysis and clinical chemistry. Topics include: set-up, operation, routine maintenance and quality control procedures for spectrophotometers, particle counters, electrodes, and other automated analyzers.
Prerequisites: MLT 100 and MLT 121

MUS Music

NETB Business Network Administration

MLT 180 Phlebotomy Techniques and Practice for Medical Laboratory Technicians 0-6-2

A course on theory and practice of blood collection used by medical laboratory technicians. Topics include: devices and methods, specimen integrity, communication, and professionalism. Students who develop the necessary skills also practice supervised blood collection at a clinical site.
Prerequisites: MLT 100 and MLT 121

MLT 185 Clinical Laboratory Practice 0-30-6

Students apply skills in clinical chemistry, hematology, hemostasis, and urinalysis through on-campus laboratory practice. Students who develop the necessary skills also participate in an internship in these departments at a clinical site.
Prerequisites: MLT 140 and MLT 180

MLT 191 Part-Time Cooperative Education 1: Medical Laboratory Technology 1-20-1

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MLT 185 (minimum grade C)

MLT 192 Part-Time Cooperative Education 2: Medical Laboratory Technology 1-20-1

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures in order to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MLT 191 (minimum grade C)

MLT 210 Clinical Immunology and Serology 2-3-3

A course on the function of the immune system, and immunological and serological testing methods performed in clinical laboratories. Topics include: humoral and cell mediated immunity, hypersensitivity, infectious agents, enzyme immunoassay, immunoelectrophoresis, and basic molecular testing.
Prerequisites: MLT 185

MLT 250 Immunohematology 3-6-5

A course on theory and application of immunohematology procedures used in the clinical laboratory. Topics include: ABO and Rh, antibody screens and antibody identification, compatibility, enhancement techniques, and automated procedures.
Prerequisites: MLT 185

MLT 260 Clinical Microbiology 3-9-6

A course on theory and application of procedures for clinical microbiology. Topics include: identification, antimicrobial susceptibility and clinical significance of bacteria; basic mycobacteriology; mycology; parasitology; and virology.
Prerequisites: MLT 250

MLT 270 Medical Laboratory Seminar 0-3-1

Students review theories and procedures of medical laboratory technology to prepare for the certification exam. Topics include: laboratory operations, hematology, hemostasis, clinical chemistry, immunology, immunohematology, clinical microbiology, and test-taking strategies.
Prerequisites: MLT 210 and MLT 250 (minimum grade C for both)

MUS Music

MUS 100 Musical Concepts 3-0-3

An introduction to the fundamentals of music. Topics include: basic musical theory, melody, harmony, rhythm, notation, and ear training and note reading using popular and familiar tunes.
Prerequisites: None

MUS 101 Music History: Middle Ages to Late 19th Century 3-0-3

Survey of major periods in Western musical history from the Middle Ages to the late 19th century. Topics include: major composers and development of perceptible listening habits through analysis of compositional styles and techniques.
Prerequisites: None
Ohio Transfer Module Approved

MUS 102 Music History: 20th Century 3-0-3

Survey of major genres in Western music from the late 19th century through the 20th century. Topics include: symphony, opera, art song, musical theater, jazz, and popular music. This course emphasizes the study of music through the development of perceptible listening habits.
Prerequisites: None
Ohio Transfer Module Approved

MUS 105 Music History: African-American Music 3-0-3

A course on evolution of African-American musical genres and their cultural and historical perspectives, from the beginning of slavery in America to the present.
Prerequisites: None
Ohio Transfer Module Approved

MUS 110 Jazz Appreciation 3-0-3

A course on the history of jazz from its origin to the present. Topics include: jazz styles, composers, and traditions.
Prerequisites: None
Ohio Transfer Module Approved

MUS 115 Rock and Pop Music 3-0-3

A course on the evolution of rock, pop, and related music genres from the early 20th century to the present. Topics include: the social, political, and cultural impact of popular music in the United States.
Prerequisites: None
Ohio Transfer Module Approved

MUS 131 Vocal Ensemble for Mixed Voices 1 0-3-1

Students perform in their first semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others. Music includes classical, sacred, and popular choral literature representing world languages and cultures.
Prerequisites: None

MUS 132 Vocal Ensemble for Mixed Voices 2 0-3-1

Students perform in their second semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.
Prerequisites: MUS 131

MUS 133 Vocal Ensemble for Mixed Voices 3 0-3-1

Students perform in their third semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.
Prerequisites: MUS 132

MUS 134 Vocal Ensemble for Mixed Voices 4 0-3-1

Students perform in their fourth semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.
Prerequisites: MUS 133

MUS 135 Vocal Ensemble for Mixed Voices 5 0-3-1

Students perform in their fifth semester as members of a mixed-voice ensemble, applying vocal techniques for singing accurately and blending with others.
Prerequisites: MUS 134

NET Network Systems

NET 100 Introduction to Networking and IT Support 1-1-1

An introduction to the Networking Systems and PC Support and Administration programs and professions. Topics include: computers and software used in the fields, professional skills, and preparation for cooperative education.
Prerequisites: AFL 085 and AFM 095, or appropriate placement test scores

NETB Business Network Administration

NETB 115 Networking Essentials 2-3-3

A course on managing operating systems in a network environment. Topics include: topologies and technologies, protocols, network security, network administration, network problem solving, and network support.
Prerequisites: IT 105, IT 115

NETB 125 Open Source Operating Systems and Applications 2-3-3

A course on the open source movement and the essential operating systems and applications. Topics include: history of open source, Linux operating system, file systems, and troubleshooting.
Prerequisites: IT 105, IT 115

NETC Computer Network Engineering Technology

NUR Nursing

NETB 135 IT Support Desk Concepts 3-2-4
An introduction to information technology support desk operations and procedures. Topics include: product evaluation, procedures, roles and responsibilities, support management, needs assessment, and troubleshooting.
Prerequisites: IT 105, IT 115

NETB 155 Server Administration 3-2-4
A course on user administration for Microsoft Windows server technology. Topics include: adding and deleting users, user privileges, deploying and managing software, client software, and directory services.
Prerequisites: IT 105, IT 115

NETB 191 Part-Time Cooperative Education 1: Business Network Administration 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

NETB 215 Electronic Messaging Administration 3-2-4
A course on messaging using a networked system. Topics include: installation and setup of exchange server, managing recipients and addresses, backup and recovery, managing data storage, and troubleshooting.
Prerequisites: NETB 115, NETB 155

NETB 225 Information Security 3-2-4
A course on information security and technology ethical issues. Topics include: security implementation, software protection, physical security, privacy, cryptography, policies, and ethics of IT organizations.
Prerequisites: NETB 115, NETB 155

NETB 235 Desktop and Server Virtualization 2-3-3
A course on operating systems in a virtual environment. Topics include: current trends, how virtualization operates, advantages of using virtual software, and installing virtual systems.
Prerequisites: NETB 115, NETB 155

NETB 290 Business Network Administration Capstone 2-5-4
Students demonstrate knowledge and skills while completing a project related to the Business Network Administration program. Topics include: analyzing and designing proper network architecture, developing business network solutions, and installing and implementing networks.
Prerequisites: NETB 225, COMM 110

NETB 291 Full-Time Cooperative Education 1: Business Network Administration 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

NETB 294 Internship 1: Business Network Administration 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

NETC Computer Network Engineering Technology

NETC 121 Network Communications 1 2-2-3
A course on computer networks and network operating systems. Topics include: network topology, local and wide area networks, connecting devices to networks, basic network software and file sharing, and problem solving. This course helps students prepare for the NET+ exam.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test score

NETC 122 Network Communications 2 2-2-3
A continuation of NETC 121. Topics include: routing protocols, spanning tree, VLANs and network security, and network address translation.
Prerequisites: NETC 121

NETC 191 Part-Time Cooperative Education 1: Computer Network Engineering Technology 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

NETC 230 Network Security Design 2-2-3
Topics include: design and testing of various layered network security software and hardware to protect business systems.
Prerequisites: NETC 121

NETC 240 Emerging Topics in Computer Network Engineering Technology 2-3-3
A course on current industry needs related to Computer Network Engineering Technology. Topics include: voice over internet protocol (VoIP) and Linux.
Prerequisites: NETC 122, NETB 155

NETC 290 Computer Network Engineering Technology Capstone Project 2-2-3
Students work in teams to design and build network solutions while demonstrating knowledge and skills gained in the Computer Network Engineering Technology program.
Prerequisites: NETC 122, NETC 230, NETB 155, ENG 102

NETC 291 Full-Time Cooperative Education 1: Computer Network Engineering Technology 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

NETC 294 Internship 1: Computer Network Engineering Technology 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

NUR Nursing

NUR 100 Orientation to Nursing 3-0-3
A course on building knowledge and skills essential to success for students entering the Nursing associate degree program. Topics include: the nursing process, professionalism, critical thinking, time management, study skills, and communication.
Prerequisites: None

NUR 101 Nursing Concepts 1 3-0-3
A course on the role of the RN in the healthcare system, including cognitive, affective, and psychomotor skills. Topics include: academic success skills, communication, math, health and wellness, cultural awareness, regulatory guidelines, safety, patient education, and basic nursing skills.
Prerequisites: Admitted to the NUR program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)

NUR 102 Nursing Concepts 2 3-9-6
A continuation of NUR 101. Topics include: holistic care of patients with common health problems, nursing processes, communication, evidence-based practice, cultural sensitivity, and effective decision making skills. Students apply specific nursing and assessment skills in the clinical setting.
Prerequisites: NUR 101, BIO 151, ENG 101, and MCH 100 (minimum grade C for all)
Instructor Consent Required

ORTH Orthopedic Technology OTA Occupational Therapy Assistant

NUR 103 Nursing Concepts 3 7-12-11
A continuation of NUR 102. Topics include: nursing care of children and adults across the life span. Students apply clinical reasoning and nursing skills in simulations and in the clinical setting.
Prerequisites: NUR 102, BIO 152, and 6 credits of English Composition (minimum grade C for all)

Instructor Consent Required

NUR 104 Academic Success Strategies for Nursing 3-0-3
A course on strategies for academic success in the Nursing associate degree program. Topics include: using college resources; building skills in critical thinking, studying, mathematics, test-taking; and improving time management skills.
Prerequisites: Instructor Consent
Instructor Consent Required

NUR 105 Nursing LPN to ADN Bridge 2-6-4
A course for the LPN who graduated from the Cincinnati State Practical Nursing program. Topics include: concepts and skills distinctive to the LPN and RN roles and academic programs. Students apply specific skills in simulations and in the clinical setting.
Prerequisites: Graduation from the Cincinnati State Practical Nursing program, an unencumbered LPN license in Ohio, BIO 152, and 6 credits of English Composition (minimum grade C for all)

NUR 201 Nursing Concepts 4 8-15-13
A continuation of NUR 103. Topics include: nursing care of individuals and families in multiple clinical settings, including mental health/psychiatric nursing, obstetrical nursing, and medical-surgical nursing. Students apply specific skills in the clinical setting.
Prerequisites: NUR 103 or NUR 105, and BIO 152 (minimum grade C for all)
Instructor Consent Required

NUR 202 Nursing Concepts 5 6-9-9
A continuation of NUR 201. Topics include: managing care of patients experiencing complex, acute, and emergency variations in health status; preparing for the NCLEX-RN exam; and preparing for transition to the role of professional nurse. Students apply specific skills in the clinical setting.
Prerequisites: NUR 201, and COMM 105 or COMM 110 (minimum grade C for all)
Instructor Consent Required

ORTH Orthopedic Technology

ORTH 100 Anatomy and Physiology and Radiology for the Orthopedic Technician 4-2-5
A course on the musculoskeletal system as related to body positioning for casting. Topics include: muscular and skeletal systems, skeletal divisions, body movements, and using imaging to understand basic and pathologic extremity anatomy.
Prerequisites: MCH 101, MCH 102, or MCH 104 (minimum grade C for all)

ORTH 180 Orthopedic Casting Techniques and Practicum 4-2-5
Students practice proper techniques and safe use of materials for casting and instrumentation for cast removal.
Prerequisites: ORTH 100 (minimum grade C)

OTA Occupational Therapy Assistant

OTA 100 Introduction to Occupational Therapy Assisting 3-0-3
A course on history, philosophy, and development of occupational therapy. Topics include: the Occupational Therapy Practice Framework, role and function of occupational therapists and occupational therapy assistants, and relationship to other allied health professions. Students observe community occupational therapy settings.
Prerequisites: None

OTA 101 Professionalism in Occupational Therapy 0-2-1
A course on basic tenets of professional behaviors required for client treatment and working in the health care field. Topics include: professional dress, written and verbal communication, time management, ethics, and professional associations.
Prerequisites: OTA 100 (minimum grade C)

OTA 105 Theory of Occupational Therapy 3-0-3
A course on developmental processes of human performance. Topics include: occupational tasks and roles from birth to death; age-appropriate balance of work, self-care, and play/leisure; the impact of disease; and the therapeutic use of self.
Prerequisites: OTA 100 (minimum grade C)

OTA 106 Techniques of Occupational Therapy 1-2-2
A course on use of crafts and occupation-based activity as therapeutic modalities in treatment toward function. Topics include: activity analysis and therapeutic adaptations, problem-solving, and critical thinking.
Prerequisites: OTA 100 (minimum grade C)

OTA 110 Concepts and Skills of Occupational Therapy: Psychosocial 2-0-2
A course on the role of occupational therapy in the treatment of adults in a mental health setting. Topics include: analysis and observational skills, use of self and group for therapeutic intervention, application of group process, and documentation and communication.
Prerequisites: OTA 101, OTA 105, OTA 106 (minimum grade C for all)

OTA 111 Therapeutic Media for Occupational Therapy: Psychosocial 0-4-2
A mental health laboratory experience that accompanies OTA 110. Topics include: leadership and critical thinking skills needed in a group setting, applying group process, and using purposeful activity and crafts as therapeutic tools.
Prerequisites: OTA 101, OTA 105, OTA 106 (minimum grade C for all)

OTA 120 Concepts and Skills of Occupational Therapy: Infant 2-0-2
A course on the role of occupational therapy in treatment of children with physical and/or psychological dysfunction. Topics include: normal development, developmental disabilities, selecting functionally significant and age-appropriate treatment interventions, documentation, and the team approach.
Prerequisites: OTA 101, OTA 105, OTA 106 (minimum grade C for all)

OTA 121 Therapeutic Media for Occupational Therapy: Infant 0-4-2
A pediatric laboratory experience that accompanies OTA 120. Topics include: basic developmental screening; using play as a therapeutic tool; evaluating other occupational performance skills; using adaptive equipment; and therapeutic techniques for positioning, handling, and feeding.
Prerequisites: OTA 101, OTA 105, OTA 106 (minimum grade C for all)

OTA 180 Occupational Therapy Assisting Level I Fieldwork 1 1-5-2
Directed observation and participation in a community occupational therapy setting with emphasis on psychosocial topics. Students must provide proof of current certification in CPR and First Aid.
Prerequisites: OTA 101, OTA 105, OTA 106 (minimum grade C for all)

OTA 185 Occupational Therapy Assisting Level I Fieldwork 2 1-5-2
Directed observation and participation in a community occupational therapy setting with emphasis on pediatric topics. Students must provide proof of current certification in CPR and First Aid.
Prerequisites: OTA 101, OTA 105, OTA 106 (minimum grade C for all)

OTA 230 Concepts and Skills of Occupational Therapy: Physical Disabilities 4-0-4
A course on the role of occupational therapy in treatment of adults and elders with physical dysfunction in settings including in-patient, out-patient and rehabilitation. Topics include: treatment techniques for various diagnoses, treatment planning and implementation, and documentation skills.
Prerequisites: OTA 110, OTA 120, OTA 180, OTA 185 (minimum grade C for all)

OTA 231 Therapeutic Media for Occupational Therapy: Physical Disabilities 0-6-3
A physical disabilities laboratory experience that accompanies OTA 230. Topics include: techniques for activities of daily living, therapeutic adaptations, adaptive/assistive equipment, community mobility, community resources, and critical thinking skills.
Prerequisites: OTA 111 and OTA 121 (minimum grade C for both)

OTA 233 Kinesiology for Occupational Therapy 2-2-3
A course on the movement of body parts in relation to rehabilitation therapy. Topics include: kinematics and movement analysis; fabrication, application, fitting, and using orthotic positioning devices; and administering superficial thermal and mechanical modalities to improve occupational performance.
Prerequisites: OTA 110 and OTA 120 (minimum grade C for both)

PAS Pastry Arts

PBA Pre-Business Administration

OTA 238 Home Modifications and Assistive Technology for Occupational Therapy 0-2-1

A course on options for improving functional independence of clients. Topics include: adaptation, simple and complex technology options, and Universal Design.

Prerequisites: OTA 110, OTA 120 (minimum grade C for both)

OTA 240 Fundamentals of Occupational Therapy Practice 2-0-2

A course on professional concerns for the practicing Occupational Therapy Assistant. Topics include: licensure, liability, continuing education, national registration, and promoting occupational therapy. Students prepare for Level 2 Field Work experience.

Prerequisites: OTA 230, OTA 231, OTA 233 (minimum grade C for all)

OTA 245 Therapeutic Media Analysis for Occupational Therapy 0-4-2

A course on using crafts and occupation-based activities in various clinical settings. Topics include: analyzing tasks and developing group leadership skills.

Prerequisites: OTA 230, OTA 231, OTA 233 (minimum grade C for all)

OTA 280 Occupational Therapy Assisting Level I Fieldwork 3 1-5-2

Directed observation and participation in a community occupational therapy setting with emphasis on physical disabilities and geriatric topics. Students must provide proof of current certification in CPR and First Aid.

Prerequisites: OTA 180 (minimum grade C)

OTA 283 Occupational Therapy Assisting Level II Fieldwork 1 0-22-4

A clinical practicum that provides students with full-time work experience delivering occupational therapy services for various ages and conditions, under the supervision of a registered occupational therapy practitioner.

Prerequisites: OTA 240 and OTA 245 (minimum grade C for both)

OTA 285 Occupational Therapy Assisting Level II Fieldwork 2 0-22-4

A clinical practicum that provides students with full-time work experience delivering occupational therapy services for various ages and conditions, under the supervision of a registered occupational therapy practitioner.

Prerequisites: OTA 240 and OTA 245 (minimum grade C for both)

PAS Pastry Arts

PAS 100 Theory of Baking 3-0-3

A course on the science and technical components of baking. Topics include: function of ingredients, such as fats, sugar, liquids, and leavening agents; and flour technology. The course is delivered through online instruction only.

Prerequisites: Admitted to PAS program, and AFL 085 and AFM 095 or appropriate placement test scores

Corequisites: PAS 105

Instructor Consent Required

PAS 105 Fundamentals of Baking 0-6-3

A course on baking principles. Topics include: ingredient functions, weighing and measuring procedures, using leavening agents, and producing yeast dough, quick breads, puff pastries, pies, and tarts.

Prerequisites: Admitted to PAS program, and AFL 085 and AFM 095 or appropriate placement test scores

Corequisites: PAS 100

Instructor Consent Required

PAS 110 Celebration Cakes 1-4-3

A course on design and production of cakes for celebrations such as weddings, birthdays, anniversaries, and other special occasions.

Prerequisites: PAS 100 and PAS 105

PAS 115 Pastry Production and Design 0-6-3

A course on production and decorating of cakes, cookies, petits four, and fruit-based desserts. Topics include: make-up methods, finishing techniques, using pastry decoration mediums, and creating a sugar centerpiece.

Prerequisites: PAS 110

Instructor Consent Required

PAS 120 Nutritional Baking and Cuisine 1-4-3

A course on producing nutritional baked goods. Topics include: nutritional significance of ingredients; replacements for fat, sodium, and sugar; and techniques for recipe modification.

Prerequisites: PAS 110 and DT 120

Instructor Consent Required

PAS 191 Part-Time Cooperative Education 1: Pastry Arts 1-20-1

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 100 and co-op coordinator consent

Instructor Consent Required

PAS 210 Advanced Pastry and Buffet Design 1-5-3

A course on production of a pastry buffet. Topics include: decoration techniques, creating dessert platters, and producing sugar centerpieces.

Prerequisites: PAS 115

Instructor Consent Required

PAS 215 Novelty and Theme Cake Production 1-4-3

A course on production of novelty and theme cakes. Topics include: cake sculpturing techniques, fondant figure-making, figure piping, and creative construction styles.

Prerequisites: PAS 110

Instructor Consent Required

PAS 220 Advanced Wedding Cake Production 1-4-3

A course on the design and construction of wedding cakes. Topics include: layering and covering tiered cakes, using techniques for fine piping design and royal icing, and creating gum paste flowers and other decorations.

Prerequisites: PAS 110

Instructor Consent Required

PAS 225 Artisan Bread Baking 1-4-3

A course on the production of fine artisan breads. Topics include: techniques for basic sponge and sour dough, lamination of dough, and production of European-style specialty bread products.

Prerequisites: PAS 110

Instructor Consent Required

PAS 230 Chocolate and Confectionery Production 1-4-3

A course on the production of fine chocolate confectionery items, emphasizing candy making and production.

Prerequisites: PAS 115

Instructor Consent Required

PAS 290 Pastry Capstone 1-5-3

Students apply previous training in baking and pastry arts to advanced study of bakery production, emphasizing dessert production for restaurants.

Prerequisites: PAS 220

Instructor Consent Required

PAS 291 Full-Time Cooperative Education 1: Pastry Arts 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: HRM 100 and co-op coordinator consent

Instructor Consent Required

PBA Pre-Business Administration

PBA 191 Part-Time Cooperative Education 1: Pre-Business Administration 1-20-1

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

PBA 291 Full-Time Cooperative Education 1: Pre-Business Administration 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: BUS 190

PCC Personal Chef

PCC 101 Personal Chef Principles and Menu Planning 1 3-0-3
A course on foundation concepts and techniques for working as personal or private chef. Topics include: operating a chef service, meal and menu planning, and recipe development and deconstruction.
Prerequisites: AFL 085 and AFM 090 or appropriate placement test scores, IM 111, and IM 105 or 20 wpm keyboarding speed
Instructor Consent Required

PCC 102 Personal Chef Practices and Menu Planning 2 0-6-3
A continuation of PCC 101. Topics include: developing dishes, and creating meal and menu plans that meet client requirements.
Prerequisites: PCC 101, CUL 102, HRM 105 (minimum grade C for all)
Instructor Consent Required

PCC 105 Personal Chef Meal Management for Special Diets 0-6-3
A course on creating a suitable meal structure for clients with special dietary needs in response to health concerns.
Prerequisites: PCC 101
Instructor Consent Required

PCSA PC Support and Administration

PCSA 111 Computer Repair 1 2-3-3
A course on theory and operation of computer systems. Topics include: operating systems, interface of operating systems and hardware, CPU structures and evolution, bus structures, memory, data storage, input/output devices, motherboard structures, number systems, and USB/IEEE 1392 data transmission.
Prerequisites: AFL 085 and AFM 090, or appropriate placement test scores

PCSA 112 Computer Repair 2 2-2-3
A continuation of PCSA 111. Topics include: demonstrations, lab exercises, diagnostic evaluations, and troubleshooting to the board/component level of personal computer systems while using diagnostic software and instrumentation to isolate failures and restore systems to normal operation.
Prerequisites: PCSA 111

PCSA 115 Operating Systems: Macintosh 2-2-3
A course on applying Apple Macintosh operating systems commands. Topics include: system preferences, property modification, networking options, device installation, and troubleshooting.
Prerequisites: IT 115

PCSA 191 Part-Time Cooperative Education 1: PC Support and Administration 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

PCSA 213 Computer Repair 3 2-2-3
A continuation of PCSA 112. Topics include: specialized hardware, peripheral devices, system optimization, driver installation, internet connectivity, and printer maintenance.
Prerequisites: PCSA 112

PCSA 290 PC Support and Administration Capstone 2-2-3
Students work in teams to complete a design project using analog and digital concepts, and prepare a presentation of results. Topics include: design theory, feasibility study, project economics, team building, and effective presentations.
Prerequisites: PCSA 112, NETC 121

PCSA 291 Full-Time Cooperative Education 1: PC Support and Administration 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

PCSA 294 Internship 1: PC Support and Administration 1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: CIT 190

PE Physical Education

PE 100 Meditation 0-2-1
A course on incorporating meditation practice into daily lifestyle. Topics include: introduction to meditation, relaxation techniques, meditation teachings, and breathing techniques.
Prerequisites: None

PE 104 Relaxation 0-2-1
A course on techniques for incorporating the relaxation response into daily life. Topics include: life choices, environmental stressors, nutrition, and coping skills to deal with stressors.
Prerequisites: None

PE 108 Yoga 0-2-1
A course on using yoga to provide flexibility, strength, and relaxation and to develop a yoga practice in a group setting. Topics include: yoga postures and movements, breathing techniques, meditation, and yoga philosophy.
Prerequisites: None

PE 112 Pilates Mat 0-2-1
A course on Joseph Pilates' concepts of body conditioning. Topics include: the effects of posture, flexibility, strength, and breathing techniques on increased body awareness and movement sense.
Prerequisites: None

PE 116 Zumba 0-2-1
A course that provides a cardiovascular workout by combining interval training and resistance training with Latin dance music.
Prerequisites: None

PE 120 Dance Techniques 0-2-1
A course on using and combining techniques for warm-up, barre work, center floor combinations, and across-the-floor choreography. Topics include: ballet, Latin American dance, tap, musical theater dance, and multicultural and contemporary dance styles.
Prerequisites: None

PE 124 Spinning 0-2-1
A course on using indoor stationary cycling to provide a cardiovascular workout. Topics include: bike set up, pedal stroke, cycling positions, nutrition, periodization, heart rate training, and energy zones.
Prerequisites: None

PE 128 Group Fitness 0-2-1
A course on techniques for experiencing a total body workout in a group setting, including cardiovascular movement, strength training, and flexibility training.
Prerequisites: None

PE 132 Resistance and Cardiorespiratory Training 0-2-1
A course on exercise techniques for developing and maintaining physical fitness and good health. Topics include: basic exercise principles, building and retaining muscle mass, and using strength training to improve cardiovascular endurance.
Prerequisites: None

PE 136 Aikido 0-2-1
A martial arts course that emphasizes a non-aggressive approach to self defense without injury. Topics include: using the energy of an opponent to diffuse an attack with blending energy, pressure points, and joint locks and pins.
Prerequisites: None

PE 140 Tai Chi 0-2-1
A course on using Yang style Tai-Chi Chuan to improve flexibility, balance, endurance, and health. Topics include: the physiological basis of the techniques, the simplified 24 forms, and stress reduction.
Prerequisites: None

PHI Philosophy

PM Project Management of Technology

PE 144 Chinese Kung-Fu 0-2-1
A course on fundamentals of the Celestial Mountain Northern Style of Kung-Fu. Topics include: warm-ups, stretch kicks, basic stances and a variety of offensive and defensive techniques.
Prerequisites: None

PE 148 Hiking Local Trails 0-2-1
A course on basic techniques and safe practices for outdoor hiking. Topics include: conditioning, choosing equipment, planning trips and hikes for varied weather conditions, using trail maps, and applying leave-no-trace outdoor ethics. Students must travel to off-campus hiking locations.
Prerequisites: None

PE 152 Racquetball 0-2-1
A course on basic racquetball skills. Topics include: rules, terminology, practice, and game play.
Prerequisites: None

PE 156 Soccer 0-2-1
A course on basic soccer skills. Topics include: rules, terminology, practice, and game play.
Prerequisites: None

PE 160 Basketball 0-2-1
A course on basic basketball skills. Topics include: rules, terminology, dribbling, shooting, passing, team strategy, and game play.
Prerequisites: None

PE 164 Swimming 0-2-1
A course on basic swimming skills, covering topics required for the American Red Cross Learn-to-Swim courses 1, 2, and 3.
Prerequisites: None

PE 168 Aquatic Group Fitness 0-2-1
A course on using a shallow water pool to provide a total body workout in a group setting. Topics include: cardiovascular movement, strength training, and flexibility training.
Prerequisites: None

PE 172 Scuba Diving 2-2-3
A course on techniques required to complete the open water dives for certification in scuba diving. Topics include: physiology of underwater environments, entry and exit, buoyancy control, handling equipment, and responding to emergencies.
Prerequisites: Students must pass a pre-test during the first class session including swimming 200 yards (any style, any speed), swimming underwater for 25 feet on one breath, and remaining afloat or treading water for 10 minutes

PHI Philosophy

PHI 105 Introduction to Philosophy 3-0-3
Study of philosophical principles and methods of investigation. Topics include: knowledge, reasoning, morality, and other philosophical concepts associated with notable Western and Eastern philosophers.
Prerequisites: ENG 101
Ohio Transfer Module Approval Pending
Ohio Transfer Assurance Guide Approval Pending

PHI 110 Ethics 3-0-3
Study of theories and applications of ethics. Topics include: evaluating moral arguments in theoretical and practical situations, applying moral reasoning to contemporary social and cultural problems, and making moral choices using examples related to the student's field of study.
Prerequisites: ENG 101
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approval Pending

PHY Physics

PHY 105 Fire Service Physics 1-3-2
A course on concepts and principles of physics that are applied in public safety technologies. Topics include: the kinematics and dynamics of linear motion, machines, fluid mechanics, thermodynamics, electricity, and electrical safety.
Prerequisites: AFM 095 or appropriate placement test score

PHY 110 Health Physics 2-2-3
A course on concepts and principles of physics that are applied in health technologies. Topics include: the kinematics and dynamics of linear motion, machines, fluid mechanics, temperature, electricity and electrical safety, waves, and light.
Prerequisites: AFM 095 or appropriate placement test score

PHY 121 Technical Physics 1 2-3-3
A course on concepts and principles of physics that are applied in engineering technologies. Topics include: the kinematics and dynamics of linear motion, machines, fluid mechanics, and thermodynamics.
Prerequisites: MAT 120 or appropriate placement test score

PHY 122 Technical Physics 2 2-3-3
A continuation of PHY 121. Topics include: rotational motion; physical properties; AC, DC, and digital electronics; circuit analysis; waves; and optics.
Prerequisites: PHY 121 or BMT 151

PHY 150 Introduction to Physics 2-2-3
A course on fundamentals of physics. Topics include: laboratory procedures, the controlled experiment, methods of measurement, data collection and analysis techniques, and interpreting experimental results.
Prerequisites: MAT 120 or appropriate placement test score

PHY 151 Physics 1: Algebra and Trigonometry-Based 3-2-4
A course on concepts and principles of algebra-and-trigonometry-based physics. Topics include: kinematics, dynamics, statics, heat, and thermodynamics.
Prerequisites: PHY 150 or MAT 125 or appropriate math placement test score
Ohio Transfer Module Approved

PHY 152 Physics 2: Algebra and Trigonometry-Based 3-2-4
A continuation of PHY 151. Topics include: electromagnetic radiation, geometrical optics, physical optics, photometry, basic forces in physics, special relativity, quantum mechanics, nuclear physics, and cosmology.
Prerequisites: PHY 151
Ohio Transfer Module Approved

PHY 201 Physics 1: Calculus-Based 4-2-5
A course on concepts and principles of calculus-based physics. Topics include: the kinematics and dynamics of linear and rotational motion, gravity, oscillatory motion, waves, and fluid mechanics.
Prerequisites: MAT 122 or MAT 126 or MAT 152 or MAT 153 or appropriate placement test score
Corequisites: MAT 251
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

PHY 202 Physics 2: Calculus-Based 4-2-5
A continuation of PHY 201. Topics include: thermodynamics, electric and magnetic fields, DC and AC circuit analysis, electromagnetic radiation, optics including interference and diffraction, and modern physics.
Prerequisites: PHY 201
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

PM Project Management of Technology

PM 100 Introduction to Project Management of Technology 2-2-3
A course on foundation concepts of the Project Management of Technology program. Topics include: analyzing and developing innovative solutions to business problems, computer networking and software design concepts, negotiation, business and technology ethics, and technology risk management.
Prerequisites: None

PM 175 Project Management Exam Preparation 2-2-3
A course on the nine knowledge areas of the Project Management Institute's (PMI) Body of Knowledge: professional conduct, general business information, the PMI code of ethics, and five process groups. The course prepares students for the PMI Certified Associate exam.
Prerequisites: None
Instructor Consent Required

PN Practical Nursing

PSC Physical Science

PM 191 Part-Time Cooperative Education 1: Project Management 1-20-1

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

PM 210 Comprehensive Project Management 2-2-3

A course on complex assignments in project management. Topics include: project management process groups, project integration, and procurement management. The course is delivered through online instruction only and students work in virtual teams.
Prerequisites: MGT 130

PM 215 Project Risk Management 2-2-3

A course on minimizing risk and maximizing opportunities that occur in project management. Topics include: risk response, risk identification, risk monitoring and control, and risk quantification.
Prerequisites: MGT 130

PM 220 Earned Value Project Management 2-2-3

A course on a systematic approach for controlling, forecasting, planning, and measuring project performance.
Prerequisites: MGT 130

PM 291 Full-Time Cooperative Education 1: Project Management 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

PN Practical Nursing

PN 110 Foundations of Practical Nursing 2-0-2

A course on the role of the practical nurse in the healthcare system. Topics include: nursing history, scope of practice and law, safety, administering medication safely, the health/wellness continuum, cultural sensitivity, geriatrics, nursing processes, and holistic nursing care.
Prerequisites: Admitted to the PN program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)
Corequisites: PN 180

PN 121 Alterations in Health 1 6-0-6

A course on evidence-based nursing care of patients with common health problems across the lifespan. Topics include: medical/surgical nursing, obstetrics/women's health, basic pediatrics, the hospitalized patient, mental health, and administering medication safely.
Prerequisites: PN 110, BIO 151, ENG 101, MCH 100, and PSY 110 (minimum grade C for all)
Corequisites: PN 181

PN 122 Alterations in Health 2 8-0-8

A continuation of PN 121. Topics include: nursing care of individuals with alterations in health, gerontology, and end of life care.
Prerequisites: PN 121 and BIO 152 (minimum grade C for both), and PN 181
Corequisites: PN 182

PN 125 Academic Success Strategies for Practical Nursing 3-0-3

A course on strategies for academic success in the Practical Nursing Certificate program. Topics include: building skills in critical thinking, studying, mathematics, and test-taking; improving time management skills; and developing effective communication and conflict resolution skills.
Prerequisites: Instructor consent
Instructor Consent Required

PN 180 Foundations of Practical Nursing Clinical 0-3-1

Students apply theory and skills related to the role of the practical nurse in laboratory and clinical settings. Topics include: nursing processes, data collection, clinical reasoning, therapeutic communication, infection control, and evidence-based nursing care.
Prerequisites: Admitted to the PN program, high school biology and chemistry within the past 7 years, and STNA (minimum grade C for all courses)
Corequisites: PN 110

PN 181 Alterations in Health Clinical 1 0-6-2

Students apply theory and skills related to evidence-based nursing care of patients with common health problems across the lifespan, in laboratory and clinical settings. Topics include: fluid and electrolytes, IV therapy, wound care, urinary catheters, tracheostomy care, and suctioning.
Prerequisites: PN 110, BIO 151, ENG 101, MCH 100, and PSY 110 (minimum grade C for all), and PN 180
Corequisites: PN 121

PN 182 Alterations in Health Clinical 2 0-6-2

A continuation of PN 181. Students apply theory and skills in laboratory and clinical settings. Topics include: IV therapy, and administering medication safely.
Prerequisites: PN 121 and BIO 152 (minimum grade C for both), and PN 181
Corequisites: PN 122

PN 185 Practical Nursing Role Transition 2-8-2

Students apply practical nursing knowledge and skills while working with diverse groups of patients. Topics include: professionalism, and transition from student to practical nurse role. To pass the course, students must achieve a pre-determined score on a national standardized exam.
Prerequisites: PN 122 (minimum grade C), and PN 182

POL Political Science

POL 100 Democracy in Action: Making Your Voice and Vote Count 3-0-3

An introduction to the role of citizens in a democracy. Topics include: the history of voting in the United States, participation in electoral processes, local and state government, and how voters can make changes in their community.
Prerequisites: None

POL 101 Introduction to American Government 3-0-3

Study of the American political system at the national level. Topics include: democratic theory and principles, the Constitution, civil liberties, and citizen rights.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved
Ohio Transfer Assurance Guide Approved

POL 102 Introduction to Comparative Governments and Politics 3-0-3

Study of political systems and structures. Topics include: the relationship between political ideologies and governments; and comparison of international examples of alternative structures for executive leadership, legislatures, bureaucracy, and judicial systems.
Prerequisites: POL 101
Ohio Transfer Module Approved

PSC Physical Science

PSC 105 Astronomy 3-2-4

A course on fundamentals of astronomy. Topics include: evolution of the solar system, probability of life beyond Earth, and evolution of the universe.
Prerequisites: AFM 095 or appropriate placement test score
Ohio Transfer Module Approved

PSC 110 Earth Science 3-2-4

A course on fundamentals of earth science. Topics include: geologic processes and history of Earth, techniques of weather forecasting, and methods for maintaining environmental integrity.
Prerequisites: AFM 095 or appropriate placement test score
Ohio Transfer Module Approved

PSC 115 Energy 2-2-3

A course on fundamental concepts of science related to energy. Topics include: historical energy sources, social costs of energy, and alternative energy sources.
Prerequisites: AFM 095 or appropriate placement test score
Ohio Transfer Module Approved

PSET Power Systems Engineering Technology**PST Public Safety Technology****PSET Power Systems Engineering Technology**

PSET 110 Power Systems CAD 2-3-3
A course on computer aided design for power systems. Topics include: fundamentals of CAD, modifying and designing electrical systems, and building design electrical systems as they apply to the power industry.
Prerequisites: AFL 085, AFM 095 or MAT 120, or appropriate placement test score

PSET 130 Introduction to the National Electric Code 1-2-2
An overview of the National Electric Code (NEC), National Fire Protection Association Standard 70E. Topics include: purpose, intent, enforcement, and use of the NEC in electrical design and specifications of equipment and hardware used in facility power systems.
Prerequisites: EET 131

PSET 140 Power Systems Foundations 2-2-3
An introduction to commercial, industrial, and residential AC power systems. Topics include: power grid generation, transmission, distribution, and equipment utilization; control methods and mechanisms; renewable energy sources; and issues and challenges facing the power industry today.
Prerequisites: EET 131

PSET 150 Electrical Power Technology Studies: Advanced Standing 30-0-30
Students complete apprenticeship education, post-secondary education, or work experience related to skills used in the electrical power industry.
Prerequisites: Program Chair consent
Instructor Consent Required

PSET 191 Part-Time Cooperative Education 1: Power Systems Engineering Technology 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EMET 140

PSET 220 Infrastructure Design and EGIS Systems 2-2-3
A course on Electric Geographic Information Systems (EGIS) that share geospatial data associated with power transmission and distribution. Topics include: integrated components for the common infrastructure; shared data analysis, modeling, and visualization; and management and administration of services.
Prerequisites: PSET 110, PSET 140

PSET 230 Conductors and Electrical Safe Work Practices 2-3-3
A course on wires, cables, and connectors used in power systems. Topics include: selecting, sizing, insulation, testing, maintaining conductors, and review of OSHA requirements governing electrical safe work practices.
Prerequisites: PSET 130, EET 132

PSET 245 Electronic Mapping 2-2-3
A course on electronic mapping as it applies to the power smart grid. Topics include: electrical grid mapping, navigation electronic mapping, electronic map databases, and spatial position geographical coordinates combined with spatial positioning systems for location-based services.
Prerequisites: PSET 140, EET 132

PSET 250 Power Transmission and Distribution Design 3-3-4
A course on overhead and underground transmission and distribution systems. Topics include: operation, maintenance, and monitoring of transmission and distribution equipment; transmission line parameters; power flow; design of conductor support structures and system protection; and using data collection mechanisms.
Prerequisites: PSET 140

PSET 255 Smart Devices 2-2-3
A course on smart grid communication. Topics include: standards and protocols from electricity generation to end user, technologies electric utilities use to monitor and manage infrastructure, and devices and control systems for commercial and residential customers to optimize energy usage.
Prerequisites: PSET 140, EET 132

PSET 260 Stationary Engineering with Instrumentation and Controls 3-3-4

A course on controls and instrumentation for steam plant operations. Topics include: basic components, maintenance requirements, utility boilers for electrical power, combined cycle and cogeneration systems, nuclear steam generation, and standard pressure and horsepower calculations.
Prerequisites: EMET 240, PSET 230

PSET 265 Smart Grid System Design 2-3-3

Students complete a project to design a smart grid system by integrating intelligence of electronic mapping and smart grid devices for electric utilities, consumers, and commercial businesses.
Prerequisites: PSET 245, PSET 255

PSET 290 Power Systems Capstone 1-2-2

Students work in teams to complete a design project. Topics include: design concepts, modeling, detail and assembly drawings, bill of materials, vendors, costs, and manufacture of prototype.
Prerequisites: PSET 220

PSET 291 Full-Time Cooperative Education 1: Power Systems Engineering Technology 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EMET 140

PSET 294 Internship 1: Power Systems Engineering Technology 1-40-2

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: EMET 140

PST Public Safety Technology

PST 100 Survey of Public Safety Issues 3-0-3

A course on current issues and philosophies related to accountability in the public safety environment.
Prerequisites: None

PST 110 Introduction to Homeland Security 3-0-3

A course on key principles of emergency management and their relationship to homeland security.
Prerequisites: None

PST 115 Introduction to Terrorist Groups 3-0-3

A course on the history, motivation, and activities of terrorists. Topics include: how terrorist groups and individuals evolve, and how governments respond to terrorist events.
Prerequisites: None

PST 120 Intelligence Analysis and Security Management 3-0-3

A course on key principles of physical security. Topics include: passive detection systems; assessing risk; understanding rules of evidence and testifying in court; and using tools such as link analysis, event flow diagrams, and visual intelligence analysis diagrams.
Prerequisites: None

PST 125 Public Safety Contingency Planning 3-0-3

A course on techniques for developing continuity of operations plans (COOP), continuity of government plans (COG), and event and community hazard plans.
Prerequisites: PST 110

PST 130 Public Safety Communication Practices 3-0-3

A course on techniques for communication with employees, the community, and the media during a crisis event.
Prerequisites: None

PST 135 Disaster Preparedness for Healthcare Workers 2-0-2

A course on disaster preparedness, incident command, and risks and hazards as related to the healthcare worker.
Prerequisites: None

PST 150	Law Enforcement Studies: Advanced Standing	30-0-30
Students complete the requirements for OPOTA certification. Prerequisites: Program Chair consent Instructor Consent Required		
PST 200	Healthcare Security	3-0-3
A course on healthcare security programs. Topics include: preventing accidents and injuries, fire safety, and crisis intervention. Prerequisites: PST 120		
PST 205	Transportation Security	3-0-3
A course on providing security for various modes of transportation and transportation facilities. Topics include: airports, railroads, ports, trucking, and pipelines. Prerequisites: None		
PST 210	Public Safety Budgeting and Finance	3-0-3
A course on preparing and managing public sector organizational budgets. Topics include: grant writing, and program management. Prerequisites: None		
PST 291	Full-Time Cooperative Education 1: Public Safety Technology	1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PST 100 (minimum grade C) Instructor Consent Required		
PST 294	Internship 1: Public Safety Technology	1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: PST 100 (minimum grade C)		

PSY Psychology

PSY 100	Applied Psychology: Human Relations	3-0-3
A course on applying psychological principles and theories to everyday life. Topics include: personality, behavioral change, stress and coping, interpersonal communication, relationships, gender and sexuality, and diversity and individual differences. Prerequisites: None		
PSY 102	Applied Psychology: Stress Management	3-0-3
A course on understanding and managing stress. Topics include: causes and consequences of stress, physiology of stress, social and cultural factors affecting stress, and strategies for managing stress. Prerequisites: None		
PSY 110	Introduction to Psychology	3-0-3
A course on psychology as the scientific study of behavior and mental processes. Topics include: history, experimental psychology, clinical psychology, and human development. Prerequisites: AFL 085 or appropriate placement test score Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		
PSY 200	Abnormal Psychology	3-0-3
Survey of behavioral, emotional, and mental disorders. Topics include: etiology, prognosis, and treatment modalities using the current DSM; historical and cultural viewpoints; research; prevention; substance abuse; and legal and ethical issues. Prerequisites: PSY 110 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		
PSY 205	Child Development	3-0-3
A course on a child's development from the prenatal period to age 12. Topics include: influences of physical/neurological, social/emotional, and cognitive factors in development. Prerequisites: PSY 110 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		

PSY 210	Adolescent Development	3-0-3
A course on developmental issues of adolescence. Topics include: physical, cognitive, familial, educational/vocational, and social development. Prerequisites: PSY 110 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		
PSY 215	Adult Development	3-0-3
Study of principles and theories of human growth and development from early adulthood through late adulthood. Prerequisites: PSY 110 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		
PSY 220	Social Psychology	3-0-3
Study of the individual within the social environment. Topics include: understanding the social behavior of individuals in interactions with others, social interactions in groups, social influence, perception, attraction, aggression, and altruism. Prerequisites: PSY 110 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		
PSY 225	Lifespan Development	3-0-3
Study of human development from the prenatal period through late adulthood. Topics include: biological, cognitive, social, and cultural factors that influence development. Prerequisites: PSY 110 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		

RE Real Estate

RE 100	Real Estate Principles and Practices	3-0-3
A course on real estate economics required prior to taking the sales license exam. Topics include: principles of contracts, civil rights, ethics, financing, brokerage, appraisal, and Ohio real estate practices. Prerequisites: None		
RE 105	Real Estate Law	3-0-3
A course on Ohio Real Estate Law required prior to taking the sales license exam. Topics include: law of agency as applied to real estate; landlord/tenant law; estates; the sales contract; mortgages, deeds, and property; and financing, liens, and easements. Prerequisites: None		
RE 110	Real Estate Finance and Appraisal	3-0-3
A course on concepts and techniques for preparing an appraisal on income producing properties. Topics include: structuring real estate investments, investment analysis and taxation, financial leverage, financing alternatives, and risk analysis. Prerequisites: None		
RE 120	Real Estate Investing	3-0-3
A course on strategies and techniques for profiting from investments in residential, office, warehouse, and industrial real estate. Prerequisites: None		
RE 130	Introduction to Property Management	3-0-3
A course on concepts and techniques for successful management of property. Topics include: planning systems and philosophies, personnel and resident policies, accounting and budgeting, legal and insurance concerns, marketing, leasing and sales, and maintenance and energy conservation. Prerequisites: None		
RE 140	Commercial Real Estate Management	3-0-3
A course on concepts and techniques for successful management of commercial real estate. Topics include: administration and management, building systems and operations, budgeting, accounting and reporting, and contract administration. Students must attend building tours of area properties. Prerequisites: None		
RE 150	The Green Realtor	3-0-3
A course on environmental concepts and practices and sustainable technologies related to residential and commercial properties. Prerequisites: None		

REL Religion

SET Software Engineering Technology

RE 191 Part-Time Cooperative Education 1: Real Estate 1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

RE 200 Income Property Appraisal and Finance 3-0-3
A course on concepts and techniques for preparing an appraisal on income producing properties. Topics include: structuring of real estate investments, investment analysis and taxation, financial leverage, financing alternatives, and risk analysis.
Prerequisites: RE 110, RE 120

RE 291 Full-Time Cooperative Education 1: Real Estate 1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: BUS 190

REL Religion

REL 105 World Religions 3-0-3
Comparative study of the major religions of the world. Topics include: foundation and historical development, cultural function, and religious traditions of Hinduism, Islam, Buddhism, Daoism, Confucianism, Jainism, Shintoism, Judaism, Christianity, and other religious movements.
Prerequisites: ENG 101
Ohio Transfer Module Approved

REL 110 The Old Testament 3-0-3
Nonsectarian study of the Hebrew Bible/Christian Old Testament Bible. Topics include: historical background, authorship, literary themes and forms, and contemporary biblical scholarship.
Prerequisites: ENG 101

REL 115 The New Testament 3-0-3
Nonsectarian study of the Christian New Testament Bible. Topics include: historical background, authorship, literary themes and forms, and contemporary biblical scholarship.
Prerequisites: ENG 101

RT Respiratory Care

RT 100 Introduction to Respiratory Care 1-0-1
A course on fundamentals in the field of Respiratory Care. Topics include: body mechanics; medical abbreviations; safety; professional skills, responsibilities, and ethics; and medical literature searches.
Prerequisites: Respiratory Care Program Chair consent
Instructor Consent Required

RT 101 Respiratory Care Science 1 3-2-4
A course on fundamentals of pulmonary patient care. Topics include: patient assessment; appropriate administration of oxygen, humidity, and aerosol therapies; hospital safety; infection control; and medical ethics.
Prerequisites: Respiratory Care Program Chair consent
Instructor Consent Required

RT 102 Respiratory Care Science 2 3-2-4
A continuation of RT 101. Topics include: maintaining artificial airways, cleaning and sterilizing equipment, aerosol therapy, respiratory care medications, volume expansion devices, secretion mobilization, and interpreting chest radiography related to the care of the pulmonary patient.
Prerequisites: RT 100, RT 101, RT 172 (minimum grade C for all)

RT 103 Mechanical Ventilation 3-2-4
A course on infant and adult mechanical ventilation. Topics include: indications, assessment, application, monitoring, and modes of mechanical ventilation.
Prerequisites: RT 102, RT 111, RT 173 (minimum grade C for all)

RT 111 Respiratory Care Clinical Practice 1 1-8-2
Students practice using respiratory care skills in the hospital environment. Topics include: patient assessment and positioning; charting procedures; applying oxygen therapy, humidity therapy, and aerosol therapy; incentive spirometry; bronchial hygiene; airway clearance procedures; and cleaning and sterilization procedures.
Prerequisites: RT 100, RT 101, RT 172 (minimum grade C for all)

RT 112 Respiratory Care Clinical Practice 2 1-16-2
Students practice respiratory care skills and responsibilities in a hospital setting. Topics include: medicated aerosols, lung expansion devices, suctioning, secretion mobilization, and initiating and maintaining artificial airways.
Prerequisites: RT 102, RT 111, RT 173 (minimum grade C for all)

RT 172 Cardiopulmonary Anatomy and Physiology 3-2-4
A course on the anatomy and physiology of the respiratory and circulatory systems. Topics include: ventilation, diffusion, O₂ and CO₂ transport, acid/base balance, and fundamentals of ECG interpretation
Prerequisites: Respiratory Care Program Chair consent
Instructor Consent Required

RT 173 Cardiopulmonary Disease 3-2-4
A course on cardiopulmonary diseases and the diagnosis, treatment, and prognosis of each. Topics include: common pulmonary diseases and conditions, pulmonary function testing and interpretation, and use of testing in diagnosing pulmonary diseases.
Prerequisites: RT 100, RT 101, RT 172 (minimum grade C for all)

RT 201 Advanced Respiratory Critical Care 3-0-3
A course on caring for the critically ill respiratory care patient. Topics include: assessment, medications, and hemodynamic monitoring used during treatment.
Prerequisites: RT 103, RT 112 (minimum grade C for both)

RT 202 Specialties in Respiratory Care 2-0-2
A course on specialized areas of respiratory care and emerging roles for the respiratory therapist. Topics include: bronchoscopy, tracheostomy, burn care, chest tubes, metabolic testing, pulmonary rehabilitation, capnography, and other specialty areas.
Prerequisites: RT 103, RT 112 (minimum grade C for both)

RT 203 Respiratory Care Seminar 1-2-2
Students review theory and practice in respiratory care to prepare for national certification examinations. Topics include: ACLS, PALS, IV application, and test taking skills.
Prerequisites: RT 201, RT 202, RT 211 (minimum grade C for all)

RT 204 Respiratory Care Capstone 0-2-1
Students complete a research project in an approved specialty area in the field of respiratory care.
Prerequisites: RT 201, RT 202, RT 211 (minimum grade C for all)

RT 211 Respiratory Clinical Practice 3 1-16-2
Students practice skills and responsibilities for care of ventilator patients in the intensive care unit of a hospital. Topics include: mechanical ventilation, airway care, and an oral exam on respiratory equipment.
Prerequisites: RT 103, RT 112 (minimum grade C for both)

RT 212 Respiratory Clinical Practice 4 1-16-2
Students practice respiratory care skills and responsibilities in multiple health-care settings. Clinical rotations include: newborn intensive care, hemodynamic monitoring, vascular testing, burn care, extended care facilities, homecare, hyperbaric oxygen administration, pulmonary rehabilitation, pediatric pulmonary function testing, and critical care.
Prerequisites: RT 201, RT 202, RT 211 (minimum grade C for all)

SET Software Engineering Technology

SET 151 C Programming 1 3-2-4
An introduction to the C and C++ computer programming languages. Topics include: decision statements, loops, functions, arrays, strings, pointers, and simple classes.
Prerequisites: IT 101

SET 191	Part-Time Cooperative Education 1: Software Engineering Technology	1-20-1
Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CIT 190		
SET 252	C Programming 2	3-2-4
A continuation of SET 151. Topics include: classes, object-oriented programming techniques, polymorphism, inheritance, encapsulation, pointers, memory management, overloading, templates, and advanced data structures. Prerequisites: SET 151		
SET 253	C Programming 3	3-2-4
A continuation of SET 252. Topics include: C#, advanced database programming techniques using stored procedures and views with SQL Server, and ASP.NET with C#. Prerequisites: IT 111, SET 252		
SET 290	Software Engineering Technology Capstone	1-4-3
Students combine their programming and database skills to complete a software application. Prerequisites: IT 103, IT 111, SET 252		
SET 291	Full-Time Cooperative Education 1: Software Engineering Technology	1-40-2
Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CIT 190		
SET 294	Internship 1: Software Engineering Technology	1-40-2
Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory. Prerequisites: CIT 190		

SOC Sociology

SOC 100	Survey of Social Issues	3-0-3
Study of societal issues such as divorce, immigration, welfare, crime, terrorism, and other topics. Prerequisites: None		
SOC 105	Introduction to Sociology	3-0-3
A course on concepts and theories of contemporary sociology. Topics include: sociology as a science, culture, socialization, social change, deviance, and major social institutions such as family, religion, education, and government. Prerequisites: AFL 085 or appropriate placement score Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		
SOC 110	Social Problems	3-0-3
A course on concepts and theories related to social problems in contemporary society. Topics include: poverty, race, immigration, urbanization, aging, politics and economy, media and technology, and war and terrorism. Prerequisites: SOC 105 and ENG 101 Ohio Transfer Assurance Guide Approved		
SOC 115	Marriage and the Family	3-0-3
A course on concepts and theories related to marriage and family as social institutions. Topics include: historical perspectives on marriage, male and female roles, parenting, impact of family on the individual, and impact of society on marital roles. Prerequisites: SOC 105 and ENG 101 Ohio Transfer Module Approved Ohio Transfer Assurance Guide Approved		

SOC 120	The African American Family	3-0-3
A course on interdisciplinary concepts and theories related to contemporary African American families. Topics include: family life and social stratification; dynamics of middle class, working class, and low income families; and social and economic support structures for families. Prerequisites: SOC 105 and ENG 101		
SOC 130	Sociology of Aging	3-0-3
A course on concepts and theories of aging. Topics include: the aging process and the impact of an aging population on individuals and social institutions. Prerequisites: SOC 105 and ENG 101 Ohio Transfer Module Approved		
SOC 140	Sociology of Gender	3-0-3
A course on concepts and theories of gender. Topics include: development of sex roles, how sex roles affect individuals and social institutions, and changing role patterns in the United States and elsewhere. Prerequisites: SOC 105 and ENG 101 Ohio Transfer Module Approved		
SOC 200	Race, Ethnicity, and Minorities	3-0-3
A course on concepts and theories of race and ethnicity within society. Topics include: the effects of prejudice and discrimination on individuals and social institutions. Prerequisites: SOC 105 and six credits of English Composition Ohio Transfer Assurance Guide Approved		

SPN Spanish

SPN 100	Spanish for the Professions	2-0-2
A course that prepares non-Spanish-speaking students to use Spanish language commands and phrases related to their careers, and to understand cross-cultural concerns that affect interactions with native Spanish speakers. No prior knowledge of Spanish is necessary. Prerequisites: None		
SPN 101	Elementary Spanish 1	4-0-4
A course on Spanish language and culture that provides the foundation for understanding, speaking, reading, and writing Spanish. Prerequisites: None		
SPN 102	Elementary Spanish 2	4-0-4
A continuation of SPN 101. Topics include: developing skills in understanding, speaking, reading, and writing Spanish. Prerequisites: SPN 101 or Spanish Department chair consent		
SPN 200	Spanish Conversation and Composition	3-0-3
A course on developing fluency in conversational and written Spanish while examining contemporary topics relevant to diverse elements of Hispanic/Latino culture. Prerequisites: SPN 102 or Spanish Department chair consent		
SPN 201	Intermediate Spanish 1	4-0-4
A continuation of SPN 102. Topics include: developing fluency in Spanish grammar and syntax through reading short literary pieces, composition, and conversation. Prerequisites: SPN 102 or Spanish Department chair consent		
SPN 202	Intermediate Spanish 2	4-0-4
A continuation of SPN 201. Topics include: developing additional skills and fluency in Spanish through reading short literary pieces, composition, and conversation. Prerequisites: SPN 201 or Spanish Department chair consent		
SPN 221	Spanish 1 for Business and Finance	4-0-4
A course on developing fluency in Spanish grammar and syntax through reading, writing, and speaking about business and finance-related topics. Prerequisites: SPN 102 or Spanish Department chair consent		
SPN 222	Spanish 2 for Business and Finance	4-0-4
A continuation of SPN 221. Topics include: developing additional skills and fluency in Spanish through reading, writing, and speaking about business and finance-related topics. Prerequisites: SPN 221 or Spanish Department chair consent		

SPT Sport Management

STFA Surgical Technology First Assistant

SPT Sport Management

- SPT 100 Introduction to Sport Management 3-0-3**
A course on the sport industry and the role of sport management. Topics include: the functions of sport in society, athletic administration, and educational and career pathways in sport management.
Prerequisites: AFL 085 or appropriate placement test score
- SPT 105 Sport in Society 3-0-3**
A course on the scope and effect of sport and physical activity in society. Topics include: business of sport, media and sport, sporting behavior, diversity and sport, and women and sport.
Prerequisites: None
- SPT 110 Principles of Coaching 3-0-3**
A course on the role of the coach and coaching in sport. Topics include: concepts, functions, and techniques related to coaching athletes in various team and individual sports.
Prerequisites: None
- SPT 115 Ethics in Sport 3-0-3**
A course on ethical concerns in the sport industry. Topics include: moral reasoning, values in sport, sportsmanship, and ethical dilemmas and legal issues in sport.
Prerequisites: SPT 100
- SPT 120 Sport Marketing 3-0-3**
A course on principles and techniques for sport marketing. Topics include: fundamental marketing concepts, advertising, public relations, sponsorships, promotions, and merchandizing.
Prerequisites: SPT 100

ST Surgical Technology

- ST 100 Introduction to Surgical Technology 2-0-2**
A course on the history and development of surgical technology. Topics include: the perioperative environment, surgical instrumentation, the surgical technician's role and attributes for success, professional organizations, and legal terms related to the profession.
Prerequisites: None
- ST 101 Surgical Foundations and Procedures 1 8-0-8**
A course on concepts and skills for surgical technology. Topics include: professional and workplace management; patient care; surgical asepsis and infection control; decontamination, disinfection, and reprocessing methods; instrumentation; sterile storage and distribution; basic pharmacology; anesthesia; specimen care; and surgical supplies and equipment.
Prerequisites: BIO 220, MCH 101, PHY 110, ST 100 (minimum grade C for all), and admitted to Surgical Technology Program
Instructor Consent Required
- ST 102 Surgical Foundations and Procedures 2 8-0-8**
A continuation of ST 101. Topics include: wound classifications; wound healing; tissue approximation; sutures; abdominal incisions; and procedural steps for abdominal wall hernia repairs, gastrointestinal and accessory organs, breast, gynecological, obstetrical, and plastic/reconstructive surgery.
Prerequisites: BIO 152, ST 101, (minimum grade C for both), ST 111
- ST 111 Surgical Principles and Practice 1 1-3-2**
A course that prepares students to perform assistant circulating skills through activities conducted in a simulated operating room setting on campus.
Prerequisites: ST 100 (minimum grade of C), and admitted to the Surgical Technology Program
Instructor Consent Required
- ST 112 Surgical Principles and Practice 2 1-3-2**
A course that prepares students to perform first scrub role skills through activities conducted in a simulated operating room setting on campus.
Prerequisites: ST 101 (minimum grade C), ST 111
- ST 181 Surgical Technology Clinical Skills Application 1 1-5-3**
Students participate in uncompensated clinical experiences performing beginning-level assistant circulating skills in the operating room of an affiliate hospital, and attend a weekly seminar.
Prerequisites: ST 101 (minimum grade C), ST 111

- ST 182 Surgical Technology Clinical Skills Application 2 0-6-2**
A continuation of ST 181. Students perform uncompensated beginning-level scrub skills during assigned operative procedures at an affiliate hospital. Students' skills in relation to future employment are evaluated.
Prerequisites: ST 102 (minimum grade C), ST 112, ST 181
- ST 201 Advanced Surgical Procedures 1 5-0-5**
A course on specialized surgical procedures. Topics include: otorhinolaryngology procedures, including head/neck and oral maxillary; and ophthalmic, genitourinary, orthopedic, and pediatric procedures.
Prerequisites: ST 102 (minimum grade C), ST 112, ST 181
- ST 202 Advanced Surgical Procedures 2 5-0-5**
A continuation of ST 201. Topics include: perivascular, thoracic, cardiac, neurology, and transplant surgery.
Prerequisites: ST 201 (minimum grade C), ST 182
- ST 281 Surgical Technology Clinical Directed Practice 1 1-30-6**
Students demonstrate competency in scrub skills related to general and specialty operative procedures at an assigned affiliate hospital, and attend a weekly seminar on campus.
Prerequisites: ST 201 (minimum grade C), ST 182
- ST 282 Surgical Technology Clinical Directed Practice 2 1-30-6**
A continuation of ST 281. Students demonstrate competency in scrub skills while performing assigned procedures at an affiliate hospital, and attend a weekly seminar on campus. Students must complete the NBSTSA certification examination as a course requirement.
Prerequisites: ST 202 (minimum grade C), ST 281

STFA Surgical Technology First Assistant

- STFA 150 Perioperative Bioscience 3-0-3**
A course on concepts of perioperative bioscience. Topics include: advanced microbiology and pathology, surgical pharmacology, and anesthesia management.
Prerequisites: Admitted to STFA Certificate program
Instructor Consent Required
- STFA 155 Principles of First Assisting 2-3-3**
A course on the history and role of the first assistant. Topics include: performing perioperative functions; moral, ethical, and legal responsibilities; surgical interventions for specific patient groups; complications and surgical emergencies; and career options.
Prerequisites: Admitted to STFA Certificate program
Instructor Consent Required
- STFA 161 Surgical Specialties 1 7-0-7**
A course on the first assistant's role in a variety of surgical procedures. Topics include: general surgery; endoscopic procedures; and gynecological, obstetrical, genitourinary, plastic/reconstructive, otorhinolaryngologic, and pediatric procedures.
Prerequisites: STFA 150, STFA 155 (minimum grade C for both)
- STFA 162 Surgical Specialties 2 7-0-7**
A continuation of STFA 161. Topics include: orthopedic, ophthalmic, neurosurgical, perivascular, thoracic, cardiac, and pediatric surgical procedures.
Prerequisites: STFA 161 (minimum grade C)
- STFA 181 First Assisting Clinical 1 1-12-2**
Students complete an individualized clinical practicum to demonstrate manual and behavioral skills under the preceptorship of a surgeon at a facility of student's choice. Skills application includes: general surgery; and endoscopic, gynecological, obstetrical, genitourinary, plastic/reconstructive, otorhinolaryngologic, and pediatric procedures.
Prerequisites: STFA 150, STFA 155 (minimum grade C for both)
- STFA 182 First Assisting Clinical 2 1-12-2**
A continuation of STFA 181. Students must complete the required number of procedures, under the supervised preceptorship of a surgeon, in any combination of the following surgical specialties: pediatric, orthopedic, ophthalmic, neurosurgical, perivascular, thoracic, and cardiac surgical procedures.
Prerequisites: STFA 181

SWK Social Work WEB Web and Multimedia Design

SWK Social Work

SWK 110 Introduction to Social Work 3-0-3
A course on the social work profession. Topics include: social work institutions, values, ethics, and modes of practice with varying systems and populations.
Prerequisites: ENG 101, SOC 105
Ohio Transfer Assurance Guide Approved

SWK 200 Social Welfare Policy 3-0-3
A course on the relationships between policy, practice, and problem solving that contribute to delivery of social services to alleviate human suffering and promote social justice.
Prerequisites: SWK 110
Ohio Transfer Assurance Guide Approved

SWK 205 Case Management for Human Services Professionals 3-0-3
A course on theoretical concepts and professional skills for providing social services within the social welfare system.
Prerequisites: SWK 200

SWK 215 Human Services Practicum 1-7-2
Students spend at least seven hours per week in a supervised experience in a social service setting.
Prerequisites: SWK 110

TC Technical and Professional Communication

TC 205 Scriptwriting: Short Forms 2-3-3
A course on developing scripts for short form electronic media messages such as commercials and public service announcements. Topics include: analyzing audiences and products; conducting research; preparing copy platforms, scripts, and storyboards; and persuasively presenting concepts.
Prerequisites: MKT 115 and 6 credits of English Composition (minimum grade C for all)

TC 210 Scriptwriting: Long Forms 2-3-3
A course on developing scripts for long form electronic media messages such as instructional and promotional video and documentaries. Topics include: analyzing audiences and products; conducting research; preparing documentation, scripts, and storyboards; and persuasively presenting concepts.
Prerequisites: MKT 115 and 6 credits of English Composition (minimum grade C for all)

TC 215 Copywriting 2-3-3
A course on developing promotional messages for print and online distribution. Topics include: analyzing audiences and products, conducting research, developing concepts, preparing copy platforms, selecting writing styles and formats, and designing materials.
Prerequisites: MKT 115 and 6 credits of English Composition (minimum grade C for all)

TC 220 Instructional Writing 2-3-3
A course on developing instructional materials for print and multimedia distribution. Topics include: analyzing audiences and tasks; creating and revising content; and applying best practices for print, online, and digital document design.
Prerequisites: 6 credits of English Composition, and IM 111 (minimum grade C for all)

TC 225 Proposal Writing 2-3-3
A course on developing effective proposals to obtain project funding. Topics include: developing strategy; conducting research; interpreting requirements; and organizing, designing, and writing proposals.
Prerequisites: 6 credits of English Composition and IM 111 (minimum grade C for all)

TC 230 Writing Online Content 2-3-3
A course on developing content for websites and web-supported publishing such as blogs and e-newsletters. Topics include: analyzing audiences and goals, choosing writing styles, creating and revising content, and applying best practices for online and digital document design.
Prerequisites: 6 credits of English Composition and WEB 111 (minimum grade C for all)

TC 235 User Experience Design and Usability Assessment 2-3-3
A course on concepts and techniques for designing and testing online products used by varied audiences. Topics include: principles of user experience design, developing qualitative and quantitative test materials, implementing tests, and reporting on test results.
Prerequisites: 6 credits of English Composition and WEB 111 (minimum grade C for all)

TC 240 Technical Editing 2-3-3
A course on editorial concepts and techniques. Topics include: editorial roles, editorial assessment processes, levels of edit, traditional and digital copymarking, and stylebooks and editorial resources.
Prerequisites: 6 credits of English Composition and IM 111 (minimum grade C for all)

THE Theater

THE 105 Theater Appreciation 3-0-3
Study of theater as a mode of human expression. Topics include: script analysis, acting styles, directing, and design elements and how these elements contribute to a successful production. Attending one live production is required.
Prerequisites: AFL 085 or appropriate placement test score
Ohio Transfer Module Approved

THE 110 History of Theater 3-0-3
Study of the history of Western theater from classical antiquity through contemporary times and examination of each period's contribution to modern theatrical practices. Out-of-class viewing of plays on video is required.
Prerequisites: ENG 101
Ohio Transfer Module Approved

THE 115 Acting 3-0-3
Study and practice of creative expression through acting. Topics include: theatrical vocabulary, movement and vocal skills, and preparing for roles through script analysis.
Prerequisites: None

THE 120 Improvisational Acting 3-0-3
Study and practice of performance that uses quick response and teamwork to create an effective and entertaining result. Topics include: movement and vocal skills, stage presence, and spontaneity in improvisational scene work.
Prerequisites: None

THE 130 Children's Theater in the Classroom 3-0-3
A course on creating a performance for children using an original story or an adapted story. Topics include: creating characters and settings, classroom rehearsal techniques, and staging a production.
Prerequisites: None

THE 140 Oral Interpretation of Literature 3-0-3
A course on basic techniques for oral performance of literature. Topics include: content analysis of texts, movement and vocal skills, and performance in everyday lives.
Prerequisites: ENG 101

THE 240 Performance Practicum 1-7-2
Study and application of performance principles through faculty-supervised participation in a College production. May be repeated for credit.
Prerequisites: THE 140 or instructor consent

WEB Web and Multimedia Design

WEB 111 Web Development 1 2-3-3
An introduction to website design using XHTML and HTML5.
Prerequisites: MID 110, MID 115 (minimum grade C for both)

WEB 112 Web Development 2 2-3-3
A continuation of WEB 111. Topics include: advanced use of cascading style sheets, and ensuring multi-platform and cross-browser usability of websites.
Prerequisites: WEB 111 (minimum grade C)

WEB 130 Web Programming: JavaScript 2-3-3
A course on fundamentals of the JavaScript scripting language.
Prerequisites: WEB 111 (minimum grade C)

WEB Web and Multimedia Design**WEB 191 Part-Time Cooperative Education 1: Web & Multimedia Design 1-20-1**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190, WEB 200

WEB 200 Web Design Portfolio Review 1-0-1

An assessment of skills required to enter upper-level courses in the Web and Multimedia Design program, including a technical skills exam and presenting a portfolio to a panel of evaluators. Students receive grades of Satisfactory or Unsatisfactory, and must pass the course to be eligible for cooperative education assignments. Those who do not pass may make one additional attempt.
Prerequisites: Web and Multimedia Design Program Chair consent
Instructor Consent Required

WEB 220 Multimedia Design: Adobe Flash 2-3-3

A course on professional techniques for using Adobe Flash. Topics include: animating, creating and manipulating images; and creating interactive websites and menus.
Prerequisites: WEB 200

WEB 230 Web Programming: PHP 2-3-3

A course on using the PHP scripting language to produce dynamic web pages and stand-alone graphical applications.
Prerequisites: WEB 130 (minimum grade C)

WEB 240 Web Development: Emerging Topics 2-3-3

A course on current concepts and techniques used in web design. Topics include: content management systems, and mobile applications.
Prerequisites: WEB 230 (minimum grade C)

WEB 285 Web & Multimedia Design Independent Final Project 2-3-3

Qualified students work individually or with an approved team from concept to completion on a web and multimedia design project, and present the results to reviewers. Topic and outline must be presented to a jury of instructors, and approved prior to course registration. Students who do not successfully complete the course may make one additional attempt.
Prerequisites: Web & Multimedia Design Program Chair consent, and minimum 3.0 GPA
Instructor Consent Required

WEB 290 Web & Multimedia Design Capstone 2-3-3

Qualified students work in structured teams to develop web and multimedia deliverables for an external client, and present the results to reviewers. Activities include audience, client, and market analysis; and all phases of production of materials. Students who do not successfully complete the course may make one additional attempt.
Prerequisites: Web & Multimedia Design Program Chair consent, and minimum 2.5 GPA
Instructor Consent Required

WEB 291 Full-Time Cooperative Education 1: Web & Multimedia Design 1-40-2

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190, WEB 200

WEB 294 Internship 1: Web & Multimedia Design 1-40-2

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.
Prerequisites: MID 190, WEB 200

