

# Engineering Technology/CADD Track Year 1

## Semester 1

Class Number	Class Name	Class Description	Credit Hours
ETEC 152	Engineering Graphics and CADD I	Introduction to engineering communications and basic computer aided drafting/design (CADD). Emphasis on technical sketching, orthographic projection, drawing layout, drafting and CADD standards and conventions, dimensioning, sectioning, annotation and basic design principles. Foundation for computer aided drafting/design including file management, basic drawing commands, basic editing commands, layering, blocks and wblocks, dimensioning, polylines, hatching and plotting.	5
CIMM 101	Machine Shop Safety	This course covers the safe use of basic shop power equipment and hand tools. The student will learn precision measurement methods. This course is designed for students in engineering disciplines.	1
CIMM 102	Basic Lathe Operation	This course covers the safe use and proper operation of a manual lathe. This course is designed for students in engineering disciplines.	1
CIMM 103	Basic Mill Operation	This course covers the safe use and proper operation of a manual mill. This course is designed for students in engineering disciplines.	1
COLL 100	First-Year Seminar	The course is designed to help students adjust to the MCC community, develop a better understanding of the learning process, and acquire essential academic survival skills.	1
EHSS 111	Introduction to Health and Safety for General Industry	This course provides the participants with an overview of the Occupational Safety and Health Administration (OSHA) standards relevant to general industry. Among the subjects covered in the program are: an introduction to OSHA, fire protection, electrical safety, hazard communication, bloodborne pathogens, walking and working surfaces, personal protective equipment, machine guarding and safety and health programs. Students will receive a 10-hr General Industry Safety and Health Outreach Card.	1

## Semester 2

Class Number	Class Name	Class Description	Credit Hours
ETEC 269	Computer Aided Design II	Advanced computer aided drafting and design (CADD). Advanced dimensioning and tolerancing techniques, attributes, advanced drawing aids, file management and basic customization. Effective use of model space, paper space and viewports. An introduction to three-dimensional wire frames, surface models, solid models and rendering tools.	4
INTE 107	Industrial Electrical Safety	This course will introduce the student to electrical safety rules and procedures in the industrial arena. The student will learn the NFPA 70E requirements, meter safety and how to safely work around electrical circuitry in the workplace. Student will complete CPR certification.	2
CSMG 101	Introduction to Construction Management	Overview of construction as a profession and of the construction industry, including safety, types of construction, professional organizations, contract delivery systems, ethics, communication and software applications within construction.	3

# Engineering Technology/CADD Track Year 2

## Semester 3

Class Number	Class Name	Class Description	Credit Hours
ETEC 270	Parametric Modeling, Inventor	An in-depth introduction to three-dimensional parametric modeling. A current release of an industry parametric modeler will be used to produce three-dimensional part files, assemblies, presentations and orthographic production documents. Students will work on individual and group projects to solve simulated industry design problems.	3
ETEC 272	Advanced Parametric Modeling and Prototyping, Inventor	Advanced parametric modeling using Inventor. Topics include advanced part modeling, sheet metal models and flat patterns, weldments, plastic parts, drawing standards, adaptive parts and assemblies, iParts, iMates and iFeatures.	3
ETEC 258	Introduction to Machine Design	An introduction to machine design with an emphasis on current materials and standard machine parts. Topics include advanced dimensioning, basic tolerancing, gearing, threads and thread notes, welding and weld symbols, bearings, adjustment and the drawing set. Course includes a comprehensive design project with drawing set.	3
ETEC 240	Design Project	An engineering technology research course in which students work in teams to research, design and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses.	3

## Semester 4

Class Number	Class Name	Class Description	Credit Hours
ETEC 211	Building Information Modeling - Revit	An introduction to Building Information Modeling using Revit. Building design, layout and components of residential and commercial buildings will be created. Topics will also include levels, views, detailing, scheduling, elevations and sections.	3
ETEC 213	Revit - Mechanical, Electrical, and Plumbing	This course is intended to introduce students to the software user's interface and the basic HVAC, electrical and piping/plumbing components.	3
HVAC 111	Principles of Heating, Ventilation, and Air Conditioning	Introduction to the basic elements of heating, ventilation, and air conditioning systems. Heat laws, psychometrics, heating and cooling load estimating, design, and distribution.	3
WELD 100	Introduction to Welding/Cutting Processes	Student will develop an awareness of oxy-fuel cutting and of the more common welding processes in the welding industry. An emphasis will be placed on GMAW welding with student experiencing the process in the laboratory setting.	1