

Program Name: Mechanical Engineering Technology	Outcomes	CAD 153 Computer-Aided Design I	CAD 153 Computer-Aided Design II	INT 113 Instrumentation and Process Control I
Outcome #1	Apply for an entry level position at an engineering firm or manufacturing facility	Upon completion of this course, students will be able to identify, apply, and discuss the principles and elements of computer-aided design, create new CAD drawings using the fundamental drawing and modifying commands, edit and modify existing CAD drawings, utilize the CAD layering system to organize data and control display, plot CAD drawings to create a portfolio of original work, be familiar with the field of mechanical engineering and architectural drafting, and apply appropriate industry standards to the computer-aided design process. Each of these outcomes will prepare a student for an entry level position as a computer-aided designer/drafter at an engineering or manufacturing facility.	Upon completion of this course, students will be able to accurately and completely dimension multi-view drawings according to ASME standards, create and apply different dimensioning styles according to drawing needs, apply tolerances to a drawing, draw a section view and apply a hatch pattern to the view, draw and dimension a variety of 3D problems, and create an electronic portfolio of their best works. Each of these outcomes will prepare a student for an entry level position as a computer-aided designer/drafter at an engineering or manufacturing facility.	
Outcome #2	Transfer to an applied engineering technology/manufacturing baccalaureate degree major	Upon completion of this course, students will be able to identify, apply, and discuss the principles and elements of computer-aided design, create new CAD drawings using the fundamental drawing and modifying commands, edit and modify existing CAD drawings, utilize the CAD layering system to organize data and control display, plot CAD drawings to create a portfolio of original work, be familiar with the field of mechanical engineering and architectural drafting, and apply appropriate industry standards to the computer-aided design process. Each of these outcomes will prepare a student for transfer to a four-year school.	Upon completion of this course, students will be able to accurately and completely dimension multi-view drawings according to ASME standards, create and apply different dimensioning styles according to drawing needs, apply tolerances to a drawing, draw a section view and apply a hatch pattern to the view, draw and dimension a variety of 3D problems, and create an electronic portfolio of their best works. Each of these outcomes will prepare a student for transfer to a four-year school.	
Outcome #3	Have all the skills necessary to function as a contributing member of an engineering team.	Students will have worked in teams to create a series of mechanical and/or architectural drawings.	Students will have worked in teams to create a series of mechanical drawings.	
Outcome #4	Apply current knowledge and practices to solve specific technical problems.	Upon completion of this course, students will be familiar with the field of mechanical engineering and architectural drafting and be able to apply appropriate industry standards to the computer-aided design process.	Upon completion of this course, students will be familiar with the field of mechanical drafting and be able to apply appropriate industry standards to the computer-aided design process.	
Outcome #5	Create, modify, and apply current industry standards to CAD drawings.	Upon completion of this course, students will be able to identify, apply, and discuss the principles and elements of computer-aided design, create new CAD drawings using the fundamental drawing and modifying commands, edit and modify existing CAD drawings, utilize the CAD layering system to organize data and control display, plot CAD drawings to create a portfolio of original work, be familiar with the field of mechanical engineering and architectural drafting, and apply appropriate industry standards to the computer-aided design process.	Upon completion of this course, students will be able to accurately and completely dimension multi-view drawings according to ASME standards, create and apply different dimensioning styles according to drawing needs, apply tolerances to a drawing, draw a section view and apply a hatch pattern to the view, draw and dimension a variety of 3D problems, and create an electronic portfolio of their best works.	
Outcome #6	Design, troubleshoot, and maintain basic mechanical systems.	N/A	N/A	
Outcome #7	Develop, run, and troubleshoot basic CNC programs.	N/A	N/A	
Outcome #8 Mechanical Engineering				1

Program Name: Mechanical Engineering Technology	Outcomes	CAD 153 Computer-Aided Design I	CAD 153 Computer-Aided Design II	INT 113 Instrumentation and Process Control I
Outcome #9				
Outcome #10				

Course Name/Section Number				
Program Name: Mechanical Engineering Technology	Outcomes	EGT 101 Computerized Spreadsheets	EGT 136 Mechanics	EGT 150 Intro to CNC Programming
Outcome #1	Apply for an entry level position at an engineering firm or manufacturing facility	Students will have gained the skills necessary to prepare them to effectively use Microsoft Excel and the graphing calculator in an industry environment.	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in an industry environment.	Students will have gained the skills necessary to prepare them for an entry-level position in a manufacturing environment as a CNC machinist.
Outcome #2	Transfer to an applied engineering technology/manufacturing baccalaureate degree major	Students will have gained the skills necessary to prepare them to effectively use Microsoft Excel and the graphing calculator in a four-year transfer program.	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in a four-year transfer program setting.	
Outcome #3	Have all the skills necessary to function as a contributing member of an engineering team.	Students will have worked in a team to create an Excel workbook that solves a common engineering problem.	Students will have worked in a team to solve Mechanics problems.	
Outcome #4	Apply current knowledge and practices to solve specific technical problems.	The student should be able to read and understand technical information/textbook, apply mathematical concepts across broad ranges or classes of problems, identify the correct approach to solve particular math problems, categorize different types of problems that are solved by the same techniques, categorize different techniques that may be used to solve the same problem, utilize current technology to reinforce mathematical concepts, demonstrate proficiency at the use of a graphing calculator, and utilize an Excel spreadsheet for data analysis and decision-making.	Upon successful completion of this course, students will be able to solve triangles, solve two and three simultaneous equations, add two-dimensional vectors, find force resultants in two dimensions, solve for external reactions using equilibrium, find forces in trusses, solve for forces on two-dimensional frames, analyze friction problems including dry, belt, and screw friction, solve problems with concurrent spatial force systems, find the centroid of a body, find the center of gravity of a body, and find the area moment of inertia.	
Outcome #5	Create, modify, and apply current industry standards to CAD drawings.	Students will create tables in Microsoft Excel that can be used to transfer data to AutoCAD drawings.	Students will use current industry standards and reference tables of industry-standard technical data to solve engineering problems.	
Outcome #6	Design, troubleshoot, and maintain basic mechanical systems.	N/A	Students will be able to apply foundational engineering principles to troubleshoot and maintain mechanical systems.	Students will be able to apply foundational engineering principles to troubleshoot and maintain mechanical systems.
Outcome #7	Develop, run, and troubleshoot basic CNC programs.	N/A	N/A	Upon successful completion of this course, the student will be able to demonstrate an understanding of the role of "M" codes, be able to use "G" codes for linear and circular interpolation, understand the coordinate systems for tool movement on a CNC lathe and mill, run a Haas-VF3 milling machine, and program a CNC mill using drill and milling methods.
Outcome #8 Mechanical Engineering				

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Program Name: Mechanical Engineering Technology	Outcomes	EGT 101 Computerized Spreadsheets	EGT 136 Mechanics	EGT 150 Intro to CNC Programming
Outcome #9				
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Program Name: Mechanical Engineering Technology	Outcomes	EGT 231 Strength of Materials	EGT 234 Machine Design	EGT 235 Fluid Power
Outcome #1	Apply for an entry level position at an engineering firm or manufacturing facility	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in an industry environment.	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in an industry environment. These problems include the design of shafts, springs, fasteners, power transmission threads, welded and riveted connections, and gear trains.	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in an industry environment.
Outcome #2	Transfer to an applied engineering technology/manufacturing baccalaureate degree major	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in a four-year transfer program setting.	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in a four-year transfer program setting.	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in a four-year transfer program setting.
Outcome #3	Have all the skills necessary to function as a contributing member of an engineering team.	Students will have worked in a team to solve Strength of Materials problems.	Students will have worked in a team to solve Machine Design problems.	Students will have worked in a team to solve Fluid Power problems.
Outcome #4	Apply current knowledge and practices to solve specific technical problems.	Upon successful completion of this course, students will be able to calculate bearing stresses and find shear stresses from shearing forces, understand strain and Hooke's law, find shear stresses from applied torque, draw shear and bending moment diagrams, use the flexure formula to find stresses in beams, find transverse shear stresses, analyze composite beams, select beams for external load conditions, calculate the deflection of beams from point and continuous loads, use Mohr's circle to find combined stresses, and design axially loaded columns.	Upon successful completion of this course, students will be able to calculate and apply Mohr's circle failure theories and other failure theories to stressed parts, Work with principle stresses, design shafts, select and analyze springs, select and analyze fasteners, size power transmission threads, calculate loads on clutches and brakes, analyze welded and riveted connections, and analyze gear trains.	Upon successful completion of this course, students will be able to understand the hazards of hydraulic and pneumatic circuits and be able to work safely, Understand the concepts of fluid statics and dynamics as applied to commercial and industrial control, recognize standard schematic symbols for common fluid power components, understand and troubleshoot basic fluid power, electro-hydraulic, and electro-pneumatic circuits using schematic diagrams, understand the operation, application, and maintenance of common fluid power components such as pumps, compressors, valves, cylinders, motors, rotary actuators, accumulators, pipe, hose, and fittings, be able to find component application data online, and be able to select components from manufacturer's catalogs.
Outcome #5	Create, modify, and apply current industry standards to CAD drawings.	Students will use current industry standards and reference tables of industry-standard technical data to solve engineering problems.	Students will use current industry standards and reference tables of industry-standard technical data to solve engineering problems.	Students will use current industry standards and reference tables of industry-standard technical data to solve engineering problems.
Outcome #6	Design, troubleshoot, and maintain basic mechanical systems.	Students will be able to apply foundational engineering principles to troubleshoot and maintain mechanical systems.	Students will be able to apply foundational engineering principles to troubleshoot and maintain mechanical systems.	Students will be able to apply foundational engineering principles to troubleshoot and maintain hydraulic systems.
Outcome #7	Develop, run, and troubleshoot basic CNC programs.	N/A	N/A	N/A
Outcome #8 Mechanical Engineering				

Program Name: Mechanical Engineering Technology	Outcomes	EGT 231 Strength of Materials	EGT 234 Machine Design	EGT 235 Fluid Power
Outcome #9				
Outcome #10				

Program Name: Mechanical Engineering Technology	Outcomes	INT 110 Fundamentals of Electricity		
Outcome #1	Apply for an entry level position at an engineering firm or manufacturing facility	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in an industry environment.		
Outcome #2	Transfer to an applied engineering technology/manufacturing baccalaureate degree major	Students will have gained the skills necessary to prepare them to apply foundational engineering concepts to solve technical problems in a four-year transfer program setting.		
Outcome #3	Have all the skills necessary to function as a contributing member of an engineering team.			
Outcome #4	Apply current knowledge and practices to solve specific technical problems.	Upon successful completion of this course, students will be able to explain the operation and application of common components such as AC and DC motors, relays, switches, power supplies, overload devices and lighting.		
Outcome #5	Create, modify, and apply current industry standards to CAD drawings.			
Outcome #6	Design, troubleshoot, and maintain basic mechanical systems.	Students will be able to trouble-shoot basic electrical circuits using schematic diagrams		
Outcome #7	Develop, run, and troubleshoot basic CNC programs.	N/A		
Outcome #8 Mechanical Engineering				

Program Name: Mechanical Engineering Technology	Outcomes	INT 110 Fundamentals of Electricity		
Outcome #9				
Outcome #10				