

Modern Manufacturing Work Study ►

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dVfWbgdg[fzFZWagdeW` UgVWS` adWfSf[a`
fa La^VWVWgdUW ba^UWfS` VbchZUWVz

COMM 2204 Technical Writing 3 credits

In this class, students will explore the principles and practices used in preparing common technical communications such as scientific reports, detailed instructions, and product/process descriptions. Students will create and deliver an oral presentation and prepare job search documents.

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77F \$\$% 6SfS3Ucg[ef[a` EkefW e%UdMfeThis
course will focus on electronic systems that extract
data from their surroundings for statistical analysis.
The digital data is catalogued, stored and sometimes
utilized to make improvements on the object being
measured. Through a combination of external
hardware and/or software, such systems facilitate the
collection of data in biomedical applications,
aerospace products, automation processes, and
robotics. "Human Machine Interface" (HMI),
"Distributed Control Systems" (DCS) and "Supervisory
Control and Data Acquisition" (SCADA) systems will
be studied

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7? 75 #S #5a` fch^>aYUS VB>5e&UdMfe
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ENGL 1100 Composition I 3 credits

English 1100 is a beginning composition course which
develops processes for critically reading, writing, and
responding to a variety of texts in order to compose
clear, concise, expository essays. The course facilitates
an awareness of purpose, audience, content, structure
and style, while also introducing research and
documentation methods. Course reading and writing
assignments may be thematically organized.

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ENGT 1115 Engineering Graphics 3 credits

This course covers basic blueprint reading, sketching and drafting, and beginning AutoCAD.

ENGT 2260 Basic Mechanisms & Drives 4 credits

This course covers the kinematic motion of machines as well as basic machine components such as gears, belts, chains, sprockets, bearings, clutches, and couplings. In addition it examines the basic drive systems (electric motors and hydraulic & pneumatic actuators) used to power these components

HUMXXXX Humanities 3 Credits

Humanities courses consider the arts, history, and philosophy, together with a full range of critical thought about these subjects.

ITST 1101 Industrial Applications & Software 2 credits

An introductory Industrial Applications and Software (computers) course as it relates to the Engineering Department Students and Industry. The course introduces computer technology critical to the subsequent success in studies related to Information Technology, Computer Science, Engineering, Logistics, Manufacturing, Distribution, and Automation Industries.

ITST 1102 Industrial Network Communications 2 credits

An introductory Industrial Network + Data Communication course as it relates to the Information Technology, Computer Science, Logistics, Distribution, Engineering, Electrical Mechanical and Mechanical Industries. The course introduces communication technologies critical to the subsequent success in studies related to Manufacturing, Distribution and Automation Industries. Topics include, but not limited to: PLC communications, Data Highway, Machine Communication and Security.

MATH 1113 Technical Mathematics 5 credits

This is a technical mathematics course which covers rules for measurement; the study of rational expression arithmetic and simplification; operations on radical expressions and expressions containing rational exponents; the complex number system; solving rational, radical, and quadratic equations; solving polynomial inequalities in one variable; solving compound inequalities in one and two variables; graphs, relations and functions including quadratic and trigonometric functions, the distance and midpoint formulas and circles. Emphasis is on technically oriented applications and activities to build skills in applied problem solving.

MATH 1148 College Algebra 4 credits

This course is a continuation of the study of functions. The concept of transformations is used to graph and analyze functions including quadratic, higher degree polynomial, power, piecewise, rational, exponential, and logarithmic functions. The function concept is applied to solving equation inequalities, and applications regarding these types of functions. Factor and remainder theorems and roots of polynomial functions are included. The concept of functions is extended to include composition of functions and inverse functions. Systems of linear and non-linear equations are solved using algebraic and graphical methods. Trigonometric functions of right angles are defined and used in problem solving.

MECH 1145 CAD I 3 credits

This course will cover nonparametric-based CAD in 2D and 3D. Course presents fundamental and intermediate Computer Aided Design concepts to produce detailed mechanical drawings and models.

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MECH 1150 Manufacturing Materials & Processes 3 credits

This is a course that will acquaint the technician with the nature, properties, performance, characteristics, manufacturing processes, and practical uses of various engineering materials. Materials such as ferrous and nonferrous metals as well as polymers, ceramics, and composites will be covered.

MECH 1240 Machine Tools 3 credits

This course features hands-on operation of mills, lathes, and grinders in addition to instruction in safety practices and related theory needed for operating these machines. Additional instruction will be given on cutting tool materials and geometry, feeds and speeds, and associated bench practices.

MECH 2243 Robotics 2 credits

This course presents robotic operations and system configurations. Students are required to flowchart, code, compile, and debug programs using the Fanuc Karel programming language. Hands-on experience with robotic systems is gained through teaching and executing the programs on an articulated 6-axis Fanuc robot.

PHYS 1200 Algebra-Based Physics I 5 credits

This is a laboratory course in classical mechanics (kinematics, Newton's laws, gravitation, energy, momentum, rotational motion, and angular momentum) as well as fluids, harmonic motion, waves, and sound.

SBS XXXX Social Behavioral Science 3 credits

The social and behavioral sciences help you to understand yourself and how you relate to others in both your personal and professional lives. These courses help you gain an understanding of the political, economic, geographic, cultural, and social factors that influence everyday life.

SKTR 1180 Welding: Intro to Stick 2 credits

This course introduces the learner to the welding profession, welding tools, welding safety, OxyFuel setup, cutting, and heating, base metal preparation, weld quality, and several aspects of Shielded Metal Arc Welding (SMAW) (known as "Stick Welding") including equipment setup, and basic electrode selection. Through this course the learner will be able to assess what other welding skills and knowledge they desire and/or need for the work place.