ENGINEERING TECHNOLOGY (ENGT)

ENGT 23099 ENGINEERING TECHNOLOGY DESIGN PROJECT (ELR) 3 Credit Hours
A practical, hands-on experience that emphasizes the integration of analytical and design skills acquired in companion courses. Students work in teams under direct faculty supervision to pursue creative and challenging projects within the engineering discipline. Engineering communication (e.g., reports, oral presentations, portfolio development) are covered. The lecture sessions include discussions on professional and ethical responsibilities, including a respect for diversity.
Pre/corequisite: EERT 22014.
Schedule Type: Lecture, Project or Capstone
Contact Hours: 1 lecture, 2 other
Grade Mode: Standard Letter
Attributes: Experiential Learning Requirement

ENGT 30000 ADVANCED MANUFACTURING 3 Credit Hours
This course will introduce students to the concepts of advanced manufacturing technologies, processes and equipment. Covered topics include automation and process control, flexible manufacturing systems, and manufacturing using additive processes such as 3D printing. Students will learn hands on programming and operation of relevant equipment during the laboratory sessions.
Prerequisite: Junior standing.
Schedule Type: Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 32002 MATERIALS AND PROCESSES II 3 Credit Hours
Advanced study and practice in materials and processes. Emphasis will be upon developing skills and knowledge in producing a product and conducting problem solving activities.
Prerequisite: MERT 12005.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 32006 ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY 3 Credit Hours
Economic decision making for engineering technology with applications emphasis, estimating economic elements, interest and economic equivalence, methods of comparing alternatives and evaluating replacement alternatives using Benefit/Cost Analysis, Present and Future Worth, Annual Worth, Internal Rate of Return etc. Practical applications of cost concepts and the application towards the different phases of manufacturing or project implementation.
Prerequisite: MATH 11010.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
Attributes: TAG Engineering

ENGT 32101 POLYMERS I 3 Credit Hours
Description of various polymers, thermoplastics and thermosets. Processes used to produce products. Outline of polymer chemistry including methods of testing and identification.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter

ENGT 33000 INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS 3 Credit Hours
An introduction to Programmable Logic Controllers (PLC), focusing on understanding the principles of how PLCs work and providing practical information and skills about programming and troubleshooting a PLC system. Simulators relating to popular PLCs used in industry will be utilized for practicing programming and troubleshooting.
Prerequisite: EERT 12010 or EERT 22014 or EERT 32003.
Schedule Type: Laboratory, Lecture
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 33010 COMPUTER HARDWARE FOR ANIMATION 3 Credit Hours
Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer hardware. Throughout this course, students will learn the technical skills for PC configuration and troubleshooting. Finally, the students will be exposed to the concepts of Animation and Design through exploring Deep learning fundamentals of supporting and troubleshooting.
Prerequisite: Junior standing.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 33016 PC/NETWORK ENGINEERING AND TROUBLESHOOTING 3 Credit Hours
Covers the service, maintenance, upgrade and optimization of personal computers. Specification, installation and maintenance of local area networks are covered. Students learn communication protocols and network architecture.
Prerequisite: EERT 22014 or EERT 32003.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 3 other
Grade Mode: Standard Letter

ENGT 33016 SPECIAL TOPICS IN ENGINEERING TECHNOLOGY 1-4 Credit Hours
Special topics of immediate interest in engineering technology.
Prerequisite: Junior standing.
Schedule Type: Lecture
Contact Hours: 1-4 lecture
Grade Mode: Standard Letter

ENGT 33225 INDUSTRIAL CONTROL SYSTEMS 3 Credit Hours
The application of electronics to the control of industrial machines and processes. Includes laboratory.
Prerequisite: PHY 12202 or PHY 13002 or PHY 13012.
Schedule Type: Laboratory, Lecture, Combined Lecture and Lab
Contact Hours: 2 lecture, 2 lab
Grade Mode: Standard Letter

ENGT 42003 LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING 3 Credit Hours
Designed to provide a better understanding of the components and underlying philosophy of Theory of Constraints, Lean, and Six Sigma and how the elements and philosophies work together to support competitive manufacturing systems.
Prerequisite: None.
Schedule Type: Lecture
Contact Hours: 3 lecture
Grade Mode: Standard Letter
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<td>ENGT 42092</td>
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