ENGINEERING TECHNOLOGY (ETEC)

ETEC 1010. Engineering Foundations. 1-2 Hours.
This course focuses on leadership and study skills necessary for succeeding in the many career options available to professionals in industrial technology, business, and engineering education. Variable Credit (1 to 2).

ETEC 1371. Descriptive Geometry. 3 Hours.
This course emphasizes problems of space relations of points, lines, surfaces, intersections, and developed surfaces, and their application to the graphical solution of engineering problems.

ETEC 2382. Manufacturing Processes. 3 Hours.
Students examine a broad range of manufacturing processes with an emphasis on understanding manufacturing procedures and changes of physical properties of material during these processes. Topics may include forming and shaping processes, material removal processes, joining processes, casting and solidification processes, engineering metrology and instrumentation, and other aspects of manufacturing.

ETEC 2396. Special Topic. 3 Hours.
This course of faculty-led study is designed to provide exposure of undergraduate students to new engineering technology topics and concepts in a course setting. This course is designed to be a multi-topic course. The student can take the course under various special topics being offered.
Prerequisite: ETEC 1010.

ETEC 3300. Technology Innovations. 3 Hours.
This course provides a study of societal technologies and their effects on the daily lives of consumers. The course presents the pervasive nature of technology innovations and increases the awareness of the promises of uncertainty associated with the use of technology as a human enterprise.
Prerequisite: ETEC 1010 and Sophomore standing.

ETEC 3340. Solar and Wind Energy Systems. 3 Hours.
This course will examine grid-connected and stand-alone solar photovoltaic and wind energy systems. System components including batteries, PV modules, charge controllers, maximum power point trackers, vertical and horizontal axis turbines, aerodynamics of wind turbines, wind farms and sighting, and inverters will be discussed. A comprehensive review of power production methods from solar and wind resources will be included, along with site surveying, commercial development, economics and environmental impacts.
Prerequisite: ETEE 1340 and Junior Standing.

ETEC 3360. Related Sci Mth & Tech In Occ. 3 Hours.
This is the written portion of an 18-hour segment of proficiency examinations. Consent of department chair.
Prerequisite: Sophomore standing.

ETEC 3361. Related Science, Mathematics, and Technology in Occupations. 3 Hours.
This is the written portion of an 18-hour segment of proficiency examinations.
Prerequisite: Consent of department chair.

ETEC 3362. Manipulative Skills In Occuptn. 3 Hours.
This segment is for the manipulative portion of the proficiency examination. Consent of department chair.
Prerequisite: Sophomore standing.

ETEC 3363. Manipulative Skills in Occupations. 3 Hours.
This segment is for the manipulative portion of the proficiency examination.
Prerequisite: Consent of department chair.

ETEC 3364. Rel Subj In Occupntl Pers Qual. 3 Hours.
This is the oral portion of the proficiency examination. Consent of department chair.
Prerequisite: Sophomore standing.

ETEC 3365. Knowledge of Related Subjects in Occupations and Personal Qualifications. 3 Hours.
This is the oral portion of the proficiency examination.
Prerequisite: Consent of department chair.

ETEC 3367. Engineering Materials Techn. 3 Hours.
This course consists of the principles and techniques involved in designing and drawing machine parts and other items normally required in an industrial setting. Topics include sectioning, dimensioning, view rotation, symbols, legends, developments, and blueprint details. Junior standing.
Prerequisite: ETDD 1390 or ETEC 1361.

ETEC 3374. Time And Motion Study. 3 Hours.
A study of the principles of motion economy, work measurement and improvement of production methods as they apply to modern industry. Attention is given to human relations, work simplification, and selected charting procedures.
Prerequisite: Sophomore standing.
ETEC 3375. Statics. 3 Hours.
This course examines qualitative and quantitative treatments of forces and moments. Designing trusses, constructing free body diagrams, and performing equilibrium analysis for coplanar systems are included.
Prerequisite: PHYS 1301, PHYS 1101, and MATH 1316 or MATH 1430 or MATH 2399.

ETEC 3376. Microcontroller Applications. 3 Hours.
This course introduces microcontroller architecture and microcomputer systems, including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, interrupts, and other related topics. The functional and technological characteristics of microcontroller structures, memory components, peripheral support devices, and interface logic will be examined. Various hardware configurations and interfacing techniques will be discussed.
Prerequisite: ETEE 1340 and ETEE 2320 and Junior Standing or Consent of Instructor.

ETEC 3376. Statics. 3 Hours.
This course examines qualitative and quantitative treatments of forces and moments. Designing trusses, constructing free body diagrams, and performing equilibrium analysis for coplanar systems are included.
Prerequisite: PHYS 1301, PHYS 1101, and MATH 1316 or MATH 1430 or MATH 2399.

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Prerequisite: ETEE 1340 and ETEE 2320 and Junior Standing or Consent of Instructor.

ETEC 3376. Microcontroller Applications. 3 Hours.
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Prerequisite: ETEE 1340 and ETEE 2320 and Junior Standing or Consent of Instructor.

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