Engineering Technology (ET)

ET 301 - ENGINEERING TECH FNDNS I
Semester Hours: 3

An introduction to the Engineering Technology profession, resources and skills. Students will learn about engineering design, communication, professional ethics, and basic principles and physical laws used to understand and solve engineering related problems. Prerequisites: MA 113 or higher, EH 102 or EH 105 and PH 102 or higher.

ET 302 - ENGINEERING TECH FNDNS II
Semester Hours: 3

A follow-on to ET 301, the course introduces the Engineering Technology profession, resources and skills. Students will learn about computational engineering tools, graphical communication, characteristics of materials, in addition to the mathematical and statistical methods used to understand and solve engineering-related problems. Co-requisite: ET 301 (Grade of C- or better).

ET 305 - ENGINEERING COMMUNICATION
Semester Hours: 3

Students will learn to communicate professionally in an engineering/technical environment. Students will develop written communication such as letters, memos, reports and proposals, create clear process descriptions and instructions, and deliver persuasive and effective oral presentations. Prerequisite: EH 102 or EH 103 or EH 105.

ET 310 - COMPUTER-AIDED DESIGN
Semester Hours: 3

An introduction to Computer-Aided Design (CAD) using Creo Parametric. Covers basic concepts of 3D modeling techniques and frequently used commands required to advance from a novice to an intermediate user level of Creo Parametric. Prerequisite: ET 302 or PRO 332 (grade of C- or better), or special permission. MAE 211 accepted as a substitute. PRO 333 or ET 310 does not substitute for MAE 211.

ET 314 - QUALITY CONTROL TECHNIQUES
Semester Hours: 3

This course will blend statistical quality control concepts and hands-on training in the methods, standards and guidelines currently being used for industrial quality control includes quality management systems such as ISO 9000 and Six Sigma and the design and application of control charts. Prerequisite: MSC 287 or equivalent (grade C- or better).

ET 334 - PRINCIPLES OF STATICS
Semester Hours: 3

Develop an undertaking of the principles of statics. Topics include resultant and equilibrium of noncurrent and concurrent forces, force analysis of structures and machines, force systems in space, friction, centers of gravity, centroids, and movement of inertia of areas. Prerequisites: ET 302 or PRO 332, MA 171, ENG 101 or equivalent and PH 101. PRO 334 or ET 334 can not be used as a substitute for MAE/CE 271.

ET 335 - STRENGTH OF MATERIALS
Semester Hours: 3

Comprehend and compare the behavior of solid objects subjected to various stresses and strains. Topics include stress and strain for axial loads, shear stresses and strains in torsion members, bending and deflection of beams, combined stress using Mohr’s circle columns, and structural connections. Prerequisite: ET 334 or PRO 334 or MAE 271 or CE 271 (all with grades of C- or better).

ET 336 - PRINCIPLES OF DYNAMICS
Semester Hours: 3

Learn the principles of Dynamics based on two broad areas of study, Kinematics and Kinetics. Kinematics is the study of the geometry of motion. Kinetics is the study of the relation between the forces acting on a body, the mass of the body, and the motion of the body. Prerequisite: ET 334 or PRO 334 or MAE 271 or CE 271 (all with grades of C- or better).

ET 341 - ELECTRICAL CIRCUITS & SYSTEMS
Semester Hours: 3

This course introduces the major topics related to electrical circuits and systems and demonstrates how electrical engineering concepts are applied in other fields and everyday products. Topics include basic circuit analysis, digital systems, electronic devices and circuits, and electromechanics. Prerequisites: ET 302 or PRO 332 (grade of C- or better), MA 171, PH 102, ENG 101 or equivalent, MSC 287 or equivalent.
ET 431 - FUNDAMENTALS OF MANUFACTURING
Semester Hours: 3
This course introduces the fundamentals of manufacturing, examining the selection and use of various materials, processes, and systems. Prerequisites: (ET 310 or PRO 333 or MAE 201) and (ET/PRO 341 or EE 213) and (ET/PRO 335 or MAE 370 or CE 370).

ET 433 - INSTRUMENTATION & MEASUREMENT
Semester Hours: 3
This course introduces valuable topics that an engineering technologist needs to master in order to design measurement and instrumentation systems. Topic areas include the essential general characteristics of instruments, electrical measurement systems, and computerized data acquisition systems. Prerequisites: (ET/PRO 335 or CE 270 or MAE 370) and (ET/PRO 341 or EE 213). Co-Requisite: ET 434 lab required.

ET 434 - INSTRUMENT & MEASUREMENT LAB
Semester Hour: 1
Prepares students to design experimental projects and measurement systems. Topics include the essential characteristics of instruments, electrical measurement systems, and computerized data acquisition systems. Co-requisite: ET 433.

ET 495 - INTERNSHIP FOR ENG TECHNOLOGY
Semester Hours: 1-3
Provides hands-on experience in an engineering-technology field. The experience must include a suitable academic component evaluated by a faculty-advisor. Students must complete the internship approval process and be registered for the internship prior to the start of the internship. Prerequisites: ET 305, ET 335.

ET 498 - PROJECT MANAGEMENT FOR ET
Semester Hours: 3
Acquire the basics of project management including planning, managing cost, schedule, and scope of a project in a risk-filled environment over a project lifecycle. This is the first of a two-semester capstone progression. ET 498 must be taken the semester before ET 499. Prerequisites: PRO 310, ET 305, ET 310, ET 314, ET 335, ET 341 (All with grades of C- or better).

ET 499 - CAPSTONE FOR ENGINEERING TECH
Semester Hours: 3
In this capstone course students demonstrate their ability to apply both technical and non-technical skills in solving problems appropriate to the discipline including: designing components, systems and/or processes, conducting tests, communicating results, and functioning effectively on teams. Prerequisite: ET 498.