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, minimum grade of C-.

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). Covers basic concepts of 3D modeling techniques. Includes assemblies and design for additive manufacturing. MAE 211 accepted as a substitute.

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. (ISE 423 accepted as a substitute), Prerequisite: MSC 287 or MA 281 or MA 181 or PY 300 or SOC 303 or ISE 390 all with minimum grade of C-.

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. MAE 271 or CE 271 may be used as substitute. Prerequisites: ET 302, MA 171, (PH 101 or PH 111 & PH 114), minimum grade of C- for all prerequisites. 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, structural connections and factors of safety. ET 335 can not be used as a substitute for MAE 370. Prerequisite:(ET 310 or MAE 211) and (ET 334 or MAE 271 or CE 271), all with minimum grade of C-.

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. MAE 272 and CE 272 can be substituted for ET 336. Prerequisite: ET 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. EE 213 can be substituted for ET 341. ET 341 can not be substituted for EE 213. Prerequisites: ET 302, MA 171, PH 102 or PH 112 & PH 115 minimum grade of C- for all prerequisites.
ET 395 - SPECIAL TOPICS IN ENGINEERING TECHNOLOGY
Semester Hours: 1-3
This is a variable credit course, depending on topic chosen to be covered. Most courses will be offered as 3 credits. Topics chosen will be relevant to Engineering Technology and will focus on emerging technologies and possible future concentration offerings. Prerequisites will vary depending on topic chosen. Instructor approval.

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 MAE 211) and ET 314 and ET 335 or MAE 370 or CE 370).

ET 433 - INSTRUMENTATION & MEASUREMENT
Semester Hours: 3
Prepares students to design experiments and measurement systems. Topics include the essential characteristics of instruments, electrical measurement systems and computerized data acquisition systems. Prerequisites: ET 314 and (ET 341 or EE 213) minimum grade of C-. 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, with minimum grade of C-.

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: ET 305 and (ET 310 or MAE 211) and (ET 314 and ET 335 or MAE 370 or CE 370) and (ET 341 or EE 213) (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 minimum grade of C-. 