# MANUFACTURING (MFG)

**MFG 135 (6 credit hours)**
**Fundamentals of Mechatronics**
Introduces the student to the basics of Mechatronic systems and the operation of electrical, mechanical, pneumatic/hydraulic, and Programmable Logic Control components in an advanced manufacturing system. Combines basic operational and analytical skills with critical thinking and applied troubleshooting. Teaches the students to troubleshoot a multitude of problems involved in typical electrical, mechanical, and hydraulic/pneumatic systems. (Credit may not be earned for this course if the student has earned credit for MFG 125 or MFG 130.) Lecture/ Lab: 6.0 credit hours (120 contact hours).
**Pre-requisite:** ENGT110 and at least five other hours of approved technical electives (see Manufacturing Engineering Technology technical elective list) or consent of instructor.
**Attributes:** Technical
**Components:** LEC: Lecture

**MFG 175 (2 credit hours)**
**Lean Operations**
Introduces students to the principles and practices of lean operations. Employs a lean simulation and examples from Toyota and other lean practitioners to introduce students to lean practices. Discusses Total Productive Maintenance. Lecture/Lab: 2.0 credit hours (30 contact hours).
**Attributes:** Course Also Offered in Modules, Technical
**Components:** LEC: Lecture

**MFG 256 (3 credit hours)**
**Production Management**
Procedures and techniques employed in a manufacturing plant, analysis of production planning and control, time and motion study, quality control, plant layout, and budgetary control. Lecture: 3 credits (45 contact hours).
**Attributes:** Technical
**Components:** LEC: Lecture

**MFG 265 (4 credit hours)**
**Robotics and Industrial Automation**
A study of principles and techniques used in automated industrial systems are studied. Emphasis is placed on programming, applications, and interfacing of automated machinery to manufacturing workcells. Lecture: 3 credits (45 contact hours)n Laboratory: 1 credit (30 contact hours).
**Pre-requisite:** ET 256 or consent of instructor.
**Attributes:** Technical
**Components:** LAB: Laboratory, LEC: Lecture

**MFG 295 (1 credit hours)**
**Manufacturing Engineering Technology Capstone**
Serves as the capstone course for the Manufacturing Engineering Technology degree program. Integrates prior learning outcomes into a single integrated learning experience. Includes preparation for an exit exam that all program graduates must take. Lecture: 1 credit (15 contact hours).
**Pre-requisite:** Manufacturing Engineering Technology Program Declaration or Consent of Instructor.
**Attributes:** Technical
**Components:** LEC: Lecture