

ENMF - ENGINEERING MANUFACTURING (ENMF)

***Course Fees are Per Credit Hour**

ENMF 250. Manufacturing Systems and Processes. (3 Credits)

The course will provide an overview of different manufacturing techniques used in modern industrial settings. Topics include polymer/plastics processing methods, manufacturing systems, primary manufacturing processes such as casting, forging, rolling, and extrusion; secondary manufacturing processes such as bending, forming, and drawing; the mechanics of metal cutting; modern machining; and special processes such as powder metallurgy. Prerequisite: EG 202.

Course Fees: \$60

ENMF 350. Quality Control. (3 Credits)

This course covers the fundamental concepts of quality control, including statistical process control and process capability. Topics include various quality control tools, such as control charts for monitoring continuous and discrete quality characteristics, inspection plans, acceptance sampling, and quality control plans. Prerequisites: MA 125, MA 345.

Course Fees: \$60

ENMF 360. CAD/CAM for Manufacturing. (3 Credits)

This course covers the fundamental concepts of CAD and CAM as applied to the design and control of the production of products. Topics include modeling parts and assemblies, geometric dimensioning and tolerances, NC code for milling, turning, and grinding, programming and control of manufacturing systems, process planning, tool path generation, and CNC part programming. Hands-on laboratory sessions will provide students with the opportunity to apply the concepts and tools learned in the class to industry-realistic scenarios. Prerequisites: EG 110, MA 125.

Course Fees: \$60

ENMF 450. Manufacturing Automation and Robotics. (3 Credits)

This course covers the concepts, techniques, and methods of automation and robotics in the manufacturing industry. Topics include dynamics and control algorithms, robotic system design and programming, integration of robots into manufacturing processes, and the use of sensors, actuators, and PLCs. Hands-on laboratory sessions will provide students with the opportunity to apply the concepts and tools learned in the class to industry-realistic scenarios. Prerequisites: EG 120, EG 130, EG 390.

Course Fees: \$60