MANUFACTURING ENG TECH (2880)

2880:100. Basic Principles of Manufacturing Management. (4 Credits)
A survey of basic concepts of management and their interrelationships to a manufacturing environment. Includes production control, quality control, work measurement, and employee motivation.

2880:101. Introduction to Advanced Manufacturing. (2 Credits)
This course defines advanced manufacturing and provides students with an overview of the knowledge, skills, and abilities necessary to succeed in an advanced manufacturing career.

2880:110. Manufacturing Processes. (3 Credits)
Study of the machines, methods, and processes used in manufacturing.

2880:130. Work Measurement & Cost Estimating. (3 Credits)
Prerequisite: 2030:152. Time and motion study. Development of accurate work methods and production standards, and their relationship to manufacturing cost estimates.

2880:140. Computer Aided Drawing. (3 Credits)
Drafting procedures and techniques used for creating drawings using AutoCAD software. Topics include basic components, drawing, editing, dimensioning, layers, text, blocks, plotting, and hatch.

2880:151. Industrial Safety & Environmental Protection. (2 Credits)
A contemporary overview of the science and management of occupational health and safety programs, policies, and procedures in an industrial and business type environment.

2880:201. Robotics & Automated Manufacturing. (3 Credits)
Prerequisite: 2880:100 or permission of instructor. Study of manufacturing automation and the computer-based products and processes available for this task. Robots, machine controllers, and machine/process interfaces are investigated.

2880:211. Manufacturing Operations. (3 Credits)
A study of all functions involved in a manufacturing production system. Areas covered include product design, forecasting, capacity planning, scheduling, materials management, and project management.

2880:225. Computer Aided Tool Design. (3 Credits)
Prerequisites: 2880:140 or 2920:121. The study of standard tool design practices and procedures utilizing industry-standard computer-aided design software.

2880:230. 3-D Modeling & Design. (3 Credits)
Prerequisite: 2940:210. This course covers advanced topics in the use of AutoCAD. These topics include 3-D modeling. Laboratory.

2880:232. Labor Management Relations. (3 Credits)
Prerequisite: 2880:100. Study of historical background of labor movement, management viewpoints, legal framework for modern labor organizations and collective bargaining process.

2880:241. Introduction to Quality Assurance. (3 Credits)
Prerequisite: 2030:152. Theory and practice of inspection and sampling techniques for measurement of quality, QC charts, sampling plans, mill specs, checking machine capabilities, and setting tolerances.

2880:248. Introduction to CNC and Additive Manufacturing. (3 Credits)
Prerequisites: 2030:153 and [2880:140 or 2920:121] or permission. This course provides an overview of CNC manual programming utilizing the G-code programming language along with an introduction to additive manufacturing processes.

2880:290. Special Topics: Industrial Technology. (1-2 Credits)
(May be repeated for a total of four credits) Prerequisite: Permission. Selected topics or subject areas of interest in industrial technology.