

Industrial Processes (IND)

IND 106 Math for Metrology

3 Hours

Prerequisites: MAT 106 or equivalent
3 hours weekly (3-0)

This course will introduce students to basic concepts and principles of Metrology. During the course, students will apply mathematical principles to solve problems relevant to the field of Metrology.

IND 121 Manufacturing Processes I

2 Hours

Prerequisites: None
4 hours weekly (0-4)

This course is an introductory study of conventional machining processes. The student will become familiar with machine shop safety, hand tools, precision measurement, identification of materials, machinability, layout, metal cutting, drilling, turning, milling, and grinding machines. The students will also be introduced to computer numerical control (CNC) programming and machine processes.

IND 122 CAD/CAM Operations

2 Hours

Prerequisites: IND 121 or DRT 185
4 hours weekly (0-4)

This course is designed to provide advanced machining experience in the use of CAD/CAM machining processes. The students will develop the drawing, part program, text files, and document files using Auto-CAD and EZ-CAM software. The students will use their programs to produce various component parts as assigned. Various applications of 2D and 3D machining techniques will be emphasized as they apply to CNC machining operations.

IND 138 Industrial Seminar

1 Hour

Prerequisites: None
1 hour weekly (1-0) or block schedule

An orientation to the jobs available in the field. The class sessions include lectures by the instructor and representatives in related fields as well as class discussion, projects, and individual research.

IND 201 Metallurgy

2 Hours

Prerequisites: None
2 hours weekly (2-0)

A study of the fundamental characteristics and properties of metals and alloys, elementary theories of bonding, crystal structure, deformation phenomena, and phase relationships in binary alloys. Annealing and heat treatment of alloys with major emphasis on iron-carbon alloys.