MANUFACTURING TECHNOLOGY (MFG)

MFG100 Industrial Safety 2 credits (2 lec hrs/wk)
Students learn the essential skills needed to develop and maintain safe work habits in various industrial workplaces following OR-OSHA guidelines, including general accident prevention. Students demonstrate safe use of tools/equipment commonly found in a variety of manufacturing and construction industries. Emphasis will be put on safety procedures leading to sustainable practices and results.
This course may be taken 1 time for credit.
Course classification: CTE

MFG180 Internship: Manufacturing 1-12 credits (3 lab hrs/wk/cr)
Prerequisite(s): Instructor consent
Practical on-site experience that will allow students to test knowledge learned in the classroom and explore the variety of workplaces in which to apply that knowledge.
This course may be taken 12 times for credit.
Course classification: LDC

MFG280 CWE: Manufacturing 1-12 credits (3 lab hrs/wk/cr)
Prerequisite(s): Instructor consent
The student is required to be employed in a manufacturing-related position for an organization or company utilizing manufacturing principles, methods, techniques, and/or skills.
This course may be taken 12 times for credit.
Course classification: LDC

MFG4101 Electrical Systems Troubleshooting I 3 credits (2 lec, 2 lec lab hrs/wk)
This course covers information on basic DC and AC electrical theory, definitions, basic component identification and analysis of series, parallel and combination circuits. Emphasis is placed on practical application, troubleshooting and problem solving. Students learn to troubleshoot common electrical problems in industry, such as low voltage, high voltage, open circuits, high resistance shorts to ground and current/voltage unbalance. Emphasis is on prevention of electrical energy waste.
This course may be taken 1 time for credit.
Course classification: CTE

MFG4102 Mechanical Systems 3 credits (2 lec, 2 lec lab hrs/wk)
This course focuses on learning the fundamentals of mechanical power. Students learn common mechanical components from nuts and bolts to gears, gear boxes, shafts and bearings. Students perform common mechanical tasks, and learn to fine-tune drive systems involving belts, chains, etc. This course demonstrates the importance of lubrication in maintaining gears and other movable parts, and emphasizes operations to reduce friction and wasted motion, which are major contributors to energy inefficiency.
This course may be taken 1 time for credit.
Course classification: CTE

MFG4103 Fluid Power 3 credits (2 lec, 2 lec lab hrs/wk)
This course provides an introduction to hydraulic schematics, troubleshooting common hydraulic problems and maintaining hydraulic systems used in a variety of production applications. It also provides an introduction to operating a pneumatic system, including maintenance and troubleshooting procedures. Students learn to read, interpret, and construct fluid systems schematic diagrams containing pneumatic and hydraulic component systems. Emphasis will be on operation of fluid power systems for energy savings and pollution controls.
This course may be taken 1 time for credit.
Course classification: CTE