

Principles of Manufacturing Syllabus

2017-2018

Teacher Information

Teacher

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General Information

Description of Course

Principles of Manufacturing is designed to provide you with exposure to various occupations and pathways in the Advanced Manufacturing career cluster, such as Machining Technology, Electromechanical Technology, Mechatronics, and Welding. In order to gain a holistic view of the advanced manufacturing industry, you will complete all core standards, as well as standards in the focus areas. Throughout the course, you will develop an understanding of the general steps involved in the manufacturing process and master the essential skills to be an effective team member in a manufacturing production setting. Standards in this course are aligned with Tennessee State Standards for English Language Arts & Literacy in Technical Subject and Tennessee State Standards in Mathematics.

Attendance Policy

Students are expected to be present and on time for all scheduled classes. The purpose of this course is to better prepare you to enter the workforce, and in the workforce all employees are expected to be present, on time, and ready to work. Remember to follow the school's reporting policy if it is necessary for you to be absent from class

Course Objectives

Upon completion of this course, you will advance with a basic understanding of how manufacturing combines design and engineering, materials science, process technology, and quality, which will be prepare you to enter the next level of coursework in the Mechatronics/Electro-Mechanical program of study.

Coursework

The following subjects will be covered during the course:

- Overview of Manufacturing
- Career Exploration
- Soft skills
- Safety and Orientation
- Measurements
- Introduction to Blueprint Reading

- Introduction to Mechatronics
- Introduction to Electro-Mechanical
- Introduction to Welding
- Introduction to Machining

Course Materials

Textbook

“Core Curriculum: Introductory Craft Skills”, NCCER, Pearson Education, 2015

“Manufacturing and Automation Technology”, R. Thomas Wright, G-W Publishing, 2006

Other

Course Subjects will be delivered using a combination of electronic textbooks, written handouts, and practical application exercises using classroom trainers. Some subjects will be taught as a stand-alone topic. Others will be blended in will all subjects. For example, drawings and schematics are used in all technologies. Industrial safety is covered in general and included with each topic as a reinforcement.

Grading Policy

This course will following the state approved uniform grading policy for grades 9-12 as follows:

Grade	Percentage Range	
A	93	100
B	85	92
C	75	84
D	70	74
F	0	69

Grades will be based on completing work assignments as described below. Attendance is very important since the majority of work for this class is completed in class. Refer to the student handbook for information on attendance policy and how it can affect grades.

Area	Type of Work
Homework	Occasional homework will be assignments to be completed outside of class. Most of the work will be done in class.
Assignments	Activities that are provided in class and expected to be completed before the end of class or turned in at the assigned time. This will include lab activities.
Projects	Projects will be work like research projects that will require work outside of class and some amount of time to complete.
Quizzes	Quizzes will be conducted frequently to verify that basic concepts have been understood or applied.
Tests	Tests will be administered to cover blocks of work and verify that concepts have been mastered

Behavior Expectations

Students will be expected to adhere to policies and expectations outlined in the Student Handbook. Behaviors in this course will be based on the same standards that are outlined by employers in the local area. Specifically, students are expected to be in attendance, to be on time, to be engaged in the classroom discussion and activities, to follow all safety guidelines, to work with others in a cooperative manner/spirit of teamwork, and to respect all equipment used in the lab.

Course Pacing

Week	Standard/Topic
1-9	Overview, Careers, Industrial Safety
10-18	Processes, Materials
19-27	Measurements, Print Reading
28-36	Product development, production, marketing and distribution