Introduction to Advanced Manufacturing

Instructor: Chad LeDune

Room: 316

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Course Number: 4796 (INT ADV MFTG)

Course Description;

Introduction to Advanced Manufacturing and Logistics focuses on manufacturing systems and their relationship to society, individuals, and the environment. Students apply the skills and knowledge of using modern manufacturing processes to obtain resources and change them into industrial materials, industrial products and consumer products. Students investigate the properties of engineered materials and study major types of material processes. After gaining a working knowledge of these materials, students are introduced to advanced manufacturing, logistics, and business principles that are utilized in today's advanced manufacturing industry. Students gain a basic understanding of tooling, electrical skills, operation skills, inventory principles, chart and graph reading, and MSSC concepts. There is also an emphasis placed on the flow process principles, material movement, safety, and related business operations. Students have the opportunity to develop the employability skills employers seek.

Recommended Grade Level: 10, 11

Recommended Prerequisites: none

Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

Counts as a Directed Elective or Elective for all diplomas

Course Objectives;

- Students will develop an understanding of the relationships among manufacturing technologies and the connections between technology and other fields of study
- Students will develop an understanding of the characteristics and scope of manufacturing.
- Students will develop an understanding of the role of manufacturing in society and in the development and use of manufacturing technology.

- To engage the students in computer software that will aid in problem solving activities to encourage creativity and initiative.
- To support and foster interest in various aspects related to manufacturing; in particular, computer automated design
- Students learn teamwork, leadership, engineering/product, design problem solving, strategy, self confidence, manufacturing career opportunities

Technology/Software used in Class;

- Laser cutter
- Laser Engraver
- 3D Printers
- Vinyl Cutters
- Heat Press
- CAD programs
- Laser Engraving Software

Projects Completed during 2 Semester Course;

- 4 grade period TinkerCAD/CAD projects
- 4 grade period 3D printer projects
- 4 grade period vinyl cutting projects
- 4 grade period laser engraving projects
- 4 grade period laser cutting projects
- 4 grade period heat press projects
- 4 grade period coding goals

Grading and Evaluation:

Students are graded on the Southwest School Corporation adopted grading scale;

A = 100-93%
A- = 92-90%
B+ = 89-87%
B = 86-83%
B- = 82-80%
C+ = 79-77%
C = 76-73%
C- = 72-70%
D+ = 69-67%
D = 66-63%
D- = 62-60%
F = 59-0%