

Common Course Outline
EMET 120
Introduction to Fabrication
3 Credits

The Community College of Baltimore County

Description:

EMET 120 –3 credits—Introduction to Fabrication introduces students to methods of metal fabrication and the tools and equipment used to engineer various products. Students focus on a variety of skills needed in the fabrication industry. Students will complete individual projects which focus on metal and metal tube fabrication manufactured for use in regional industries such as: aerospace, transportation, construction and medical devices.

3 credits; 2 lecture hours and 2 lab hours per week

Prerequisite: None

Overall Course Objectives

Upon completion of this course students will be able to:

1. identify safe working practices and safety gear used in the fabrication industry;
2. categorize tools used in fabrication;
3. describe the capabilities and functions of the fabricating tools;
4. demonstrate accurate use of basic measuring device;
5. select the proper materials for the job;
6. calculate bends for various materials;
7. create fabricated parts to print specifications;
8. inspect fabricated parts;
9. set-up and operate shears, brakes, cut-off saw, tube bender, tube notcher, and iron worker; and
10. evaluate finished lab projects as per specifications and list deficiencies and improvements needed.

Major Topics:

- I. Safe working practices
- II. Personal Protective Equipment
- III. Material Selection
- IV. Forming Techniques
- V. Sheet Metal Shear
- VI. Sheet Metal Brake

- VII. Tube Bender
- VIII. Tube Notcher

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member and will be provided on the first day of class. The following will be required for this course:

- Written paper on material selection related to a project
- Midterm Exam
- Comprehensive Final
- A minimum of 5 quizzes or assessed activities
- A minimum of 1 project
- Homework link Assignments
 - Safety
 - Materials
 - Forming
 - Shear
 - Brake

Students are required to utilize appropriate academic resources.

Other Course Information:

This course is taught in a laboratory environment and is an elective in the Mechanical Engineering program.