DD 110 - BASIC METALLURGY

Course Description

This course presents the making and forming of steel and the classification of steel and cast iron. Mechanical and physical properties are presented along with hardness and tensile testing labs. Principles of alloying, crystal structure, and the iron-carbon diagram help students understand how annealing, hardening, and tempering processes alter the mechanical properties of steel. Non-ferrous metallurgy is presented with an emphasis on aluminum. Group 2 course.

Credit Hours

3

Contact Hours

3

Lecture Hours

3

Lab Hours

0

Recommended Prerequisites or Skills Competencies

Placement into MTH 23 and ENG 99/108 recommended for entry.

Course Learning Outcomes

Knowledge:

- Identify the correct terminology used in metallurgy.
- Describe the different material properties of metals and their alloys.

Application:

- Select materials based on properties critical to function.

Integration:

- Analyze metal components to identify the important material properties.

Human Dimension:

- Relate the impact of metallurgy to their lives.

Caring - Civic Learning:

- Relate the importance of metallurgy to their quality of life.

Learning How to Learn:

- Identify metallurgical materials in industrial and consumer goods.