

MCET205C : Material Science

This course studies the structures, properties, and behavior of engineering materials as well as how they can be altered through mechanical working and heat treating. Materials considered are ferrous and nonferrous metals and their alloys, plastics, and ceramics. Consideration is also given to the selection of these materials to meet manufacturing and design criteria. Lab experiments will complement the classroom presentations.

Credits 4

Lab/Practicum/Clinical Hours 2

Lecture Hours 3

Recommended Prerequisites

MCET 150C

Prerequisites

Students are required to pass prerequisite courses with a grade of C or higher. Exceptions apply; please consult your department chair.

CHEM105C

Learning Outcomes

- Understand the major concepts in the overview of metals, polymers, and ceramics; testing materials; polymers; ceramics; Fe-Fe₃C phase diagram and alloying elements in steel; types of steel; heat treatment of steel; and nonferrous metals.