



SCI 116: Science, Technology, and Society: The Chemistry of Hazardous Toxic Materials

This course explores the theories and fundamentals of how and why fires start, spread and are controlled. The course includes an examination of the chemical requirements for combustion, the chemistry of fuels and explosive mixtures. Also, the various methods of stopping combustion, and an analysis of the properties affecting fire behavior. Three lecture hours and three laboratory hours per week. Instructional Support Fee applies. (FESHE Approved) Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

Course Student Learning Outcomes

1. Identify physical properties of three states of matter.
2. Categorize the components of a fire.
3. Explain the chemical and physical properties of fire.
4. Describe and apply the process of burning by explaining the fundamental theories of fire behavior and combustion.
5. Define and use the basic terms and concepts associated with the chemistry and dynamics of fire.
6. Discuss various materials and their relationship to fires as fuel.
7. Demonstrate knowledge of the characteristics of water as an agent for suppressing fire.
8. Articulate the differences between the various types of extinguishing agents.
9. Compare other agents and strategies that can be used for fire suppression.

Credits: 4

Program: Science