

University of Arkansas Fort Smith
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General Syllabus

HIST 3053 History of Modern Science

Credit Hours: 3

Lecture Hours: 3

Laboratory hours: 0

Prerequisite: Junior standing or consent of instructor

Effective Catalog: 2019-20

I. Course Information

A. Catalog Description

Addresses the major events and personalities in the history of science beginning with Copernicus and continuing to the present. Discusses the high points in the physical and biological sciences that have contributed significantly to the way we view our world. Subjects will be viewed in light of how they have affected mankind and society.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Distinguish the major events, personalities and issues involved in the development of modern science.
2. Examine the ways in which science has shaped modern society.
3. Discuss major themes in the history of modern science, such as science and society, science and religion, science and politics, scientific institutions, and national science.
4. Analyze a particular episode or topic in the history of science and write a coherent historical research paper.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Communication Skills (written and oral)

Students will read historical works, write research papers and make oral presentations.

Global and Cultural Perspectives

Students will reflect upon the contributions made by various cultures to the history of science and how those cultures affected the way science was perceived.

Analytical Skills

Critical Thinking Skills

Students will analyze historical texts, both primary and secondary.

III. Major Course Topics

- A. The Scientific Revolution
- B. Newton and science in the Enlightenment
- C. Nineteenth-Century natural and physical sciences
- D. Science and religion
- E. Scientific institutions
- F. The impact of science in the twentieth century
- G. The rise of mechanical science
- H. Natural history in the Enlightenment
- I. Darwin and evolution
- J. The rise of probabilistic thinking in science
- K. Modern medicine and the rise of the germ theory of disease
- L. Twentieth century physics
- M. Politics and twentieth century science