Course Name: History of Western Sciences

Course Number: HIS* 258

Credits: 3

Catalog description: Western civilization has been impacted by science as deeply as by philosophical, military, or political movements. This course seeks to examine that influence through the lens of history. This approach will enable students to understand the dynamic interaction between science and other areas of intellectual endeavor such as economics, religion, art, and politics. The course will begin with a brief background section on science in European history, but will concentrate on the figures, theories, and developments in the Renaissance, Enlightenment, Industrial Revolution, adnt he current age, which is so heavily reliant on technology and science.

Prerequisite or Parallel: ENG* 101

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

None

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

☒ SSCI **Social Science elective**

Course objectives:

Course Specific Objectives:

1. Understand the background of the development of Western Sciences as a process having technological, philosophical, economic and social aspects;

2. Interpret the various developments that made Europe a unique region, vis-à-vis the development of an entirely secular and linear approach to science.
3. Examine some of the major theories and theorists in Western Science;
4. Utilize both written and on-line materials to form a more in-depth perspective on the figures, theories, and inventions of Western Science;
5. Analyze the reasons for the overarching triumph of Western sciences in creating a technologically-centered society, both in the West and in other regions of the world.

Course Content:

1. Introduction
    a. The origins of science in general
    b. The role of Western sciences
    c. The equivocal nature of Western sciences
2. Background
    a. Greece and Rome – and in large part, Aristotle and Ptolemy
    b. The Arab infusion of scientific knowledge and research
    c. Christianity – its advantages and disadvantages as a religion that can lead to science
3. The lead-in to the Scientific Revolution
    a. The Medieval Factors
        i. Scholasticism
        ii. The Medieval University
    b. The Renaissance and Humanism
    c. The Discovery of the New World
    d. The Reformation and its Effects
        i. Secularism
        ii. The growth of vulgate languages
    e. The Printing Press
        i. Standardization of languages and spelling
        ii. The dissemination of scientific material
4. The Scientific Revolution
    a. The inadequacy of western knowledge in the face of the discovery of the New World and observation of the heavens
    b. Copernicus
    c. Tycho Brahe and Johannes Keppler
    d. Galileo
    e. Sir Isaac Newton
5. The Englightenment
    a. Science as statecraft
    b. Setting out scientific research methogs

   c. The concerted collection of knowledge – encyclopedias and the development of modern writing
   d. The development of discrete sciences
   e. Ray, Linnaeus, and the development of taxonomy
6. Science expands into everyday life
   a. The Agricultural Revolution
   b. Industry as an engine for scientific development
   c. Warfare as a motivator for science
   d. Newcomen, Watt, and the steam engine
7. The Age of Progress
   a. The concept of progress
   b. The Social Sciences
   c. Inventions make life easier
   d. Progress? – Eugenics, Social Darwinism, and Race Theory
8. The Age of Technology
   a. The atomic bomb
   b. IBM and computers
   c. The micro-chip
   d. Genetics
   e. Questions as to science's ultimate benefit and directions
9. What does the future hold?

Date Course Created:

Date of Last Revision: 3/02/2017