CHEMICAL SCIENCE (CHS)

CHS 111. Energy and the Environment. 3 Credit Hours.
This course, intended for non-science majors, examines a range of environmental topics, which fall under the headings of energy and atmospheric chemistry. The treatment of energy examines several technologies in use and under development for generating energy and the effects of these technologies on the environment. Examination of the atmosphere considers topics such as the ozone layer, acid rain and the greenhouse effect. The primary focus of the course is scientific; however, social, economic and political considerations are also introduced. This course may not be used to fulfill chemistry major or minor requirements.

CHS 113. Scientific Thought. 3 Credit Hours.
What is the nature of scientific investigation and the scientific method? How do scientists reason? What counts as good evidence in the practice of science? How does one explanation win acceptance by the scientific community while others languish or are rejected? This course will examine the development of a number of scientific ideas (drawn mainly from chemistry) in an attempt to answer these questions. This course will treat these cases primarily from a scientific perspective, but some attention will also be paid to external factors (for example, social, economic or technological factors). This course may not be used fulfill chemistry major or minor requirements.

CHS 115. Biotech: Wonder Drugs to Mutant Bugs. 3 Credit Hours.
This course will introduce concepts important to the biotechnology revolution. Topics will include drug development, DNA fingerprinting, genetically engineered bacteria and recent technological developments. Social, ethical, legal and economic aspects of various technologies will be discussed. This course may not be used to fulfill chemistry major or minor requirements.

CHS 117. Drugs: Curse Or Cure. 3 Credit Hours.
Drugs used by humans can eliminate pain, modulate mood and cure diseases. The scientific basis of biological activity will be studied for several types of drugs. The historical relevance of each representative drug will be discussed, along with the economic and political impact of drug use.

CHS 119. The Science of Forensic Investigations. 3 Credit Hours.
This course introduces the role of quantitative science in the field of forensic science. Techniques used to analyze biological evidence, drugs, trace evidence, fingerprints, arson, and tool marks will be explored from a chemical perspective. Ethical and legal considerations of evidence will be explored. This course may not be used to fulfill chemistry major or minor requirements.

CHS 339. Science and WWII. 3 Credit Hours.
The course will explore the relationship between science, scientific advances and the progress and outcome of the Second World War. Chemistry, physics and medicine will be among the sciences discussed. The effectiveness of weapons/explosives, treatment of disease, access to raw materials, and other topics will be presented. Scientific content will be discussed at a level appropriate for non-science majors.Does not carry chemistry major or minor credit. Fulfills core requirement: Interdisciplinary Studies (IDS).

CHS 342. Bitter/Sweet: Stimulating Human History With Caffeine and Sugar. 3 Credit Hours.
This course will introduce students to the chemistry, biochemistry, and history of natural stimulants such as caffeine and sugar. Caffeine or related compounds are found in tea, coffee and cacao; sugar (sucrose) is produced in sugar cane and sugar beet. Physiological responses in humans to these stimulants will be studied, including metabolism and addiction. The historical uses of these plant products will be explored, leading to investigations of the social, political, and economic effects of changes in their production, consumption, and trade. Does not carry chemistry major or minor credit. Fulfills Core Requiremen(s):Interdisciplinary Studies (IDS)and Diversity (DIV). Prerequisite: HST 111.