THEME-BASED COURSES

Students are required to complete 12 credit hours within a single thematic cluster. If they choose to change to a different thematic cluster, they will have to satisfy all the requirements of that cluster. The Dean of University Studies will consider exceptions to this rule if the course is communication intensive (oral and written) and motivated by societal issues and problems. Course descriptions of ap departments outside of University Studies can be found in the requisites of each department.

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Courses in this cluster will help students understand the complex interactions of science, technology, and society. Students will also explore the implications of contemporary scientific research, examine how technology shapes society, and the arts, and evaluate the frequently made claim that better lives are possible.

**UNST 201. Inventing America: Science, Technology, and Progress**
This course explores the complex relations among scientific discovery, societal change, and technological advances. Students will debate the ethical issues related to innovation, examine how technology is portrayed in literature and the arts, and consider the role of science and technology in shaping our lives.

**UNST 203. Technology, the Real, the Fake and the Authentic**
This course encourages students to analyze and compare cultural systems and authentic works with personal experiences studied from the standpoint of communities that produced and consumed them. These case studies of artifacts and other experiences will help students understand the role of technology in society.

**UNST 206. Scientific Revolutions and Social Change**
This course highlights the complex connections between science, technology, social, political, and economic change. Students will explore the impact of the 18th Century Revolution on society and the current revolution in nanotechnology. Students are encouraged to discover the role of science in history and explore competing interpretations of the role of science and technology.

**UNST 207. Ethics and Technology**
This course examines ethical issues arising from scientific and technological advance. Students will consider questions such as: What is the role of science and technology in our lives? After exploring various standards of morality, students analyze issues related to the role of science and technology in society.
cloning, genetic engineering, stem-cell research, life-span extension, and concerns within nanotechnology.

UNST 210. Ethics in Information Technology
This course will explore moral, ethical, and legal problems associated with issues such as security and privacy. Students will critique ethical dilemmas and ideas for reducing ethical problems and coping with their effects.

UNST 213. Evolution and Social Implication of Technology. Then and Now
This course examines diverse technology systems such as biotechnology, manufacturing, medical, and transportation. Discussion focuses on the health, the environment, the global economy, and politics, as well as the assessment.

UNST 219. Technology and Public Wellness
This course describes, reviews, and challenges issues arising from the implications for public health policy. Students explore the relationship between technology and cultural factors such as religion, policy. It also examines how technology influences health and wellness in local and global settings and how technology policies of the industrialized world may impact the non-industrialized nations.

UNST 221. Thematic Writing and Speaking: Technology and Society
This course is designed to improve students’ abilities to write, speak, and think critically in the contemporary world by focusing on the rhetoric of science, technology, and society as represented in fiction and nonfiction: essays, short stories, and speeches. It also explores popular science writing and journalism, and speech.

AGEN 216. Geographic Information Systems in Engineering and Environmental Science
This course will introduce the student to a Geographic Information System (GIS) using Arc/Info software. Management and techniques for data input, storage, manipulation, and retrieval will be covered in a computerized laboratory (GPS) will also be included.

CHEM 100/110. Physical Science/Physical Science Laboratory
This is a one semester introductory course designed to make clear the significance of chemical principles. Learning experiences are designed to approximate real life situations where one has to solve problems. It is recommended that students who have received credit for CHEM 101, 102, 104, 105, 110, or 110 Laboratory.

CHEM 100/110. Physical Science/Physical Science Laboratory
This is a laboratory course designed to bring students into working conditions in the laboratory. This course develops concrete ideas, problem solving. Corequisite: CHEM 100. This course will receive credit for CHEM 114, 115, 116, or 117.

COMP 390. Social Implications of Computing
This course examines the increasingly complex interaction between computing and ethics. Software and microprocessors control automobiles, banks, brokering equipment, and just about every other device used in industrialized society today. This includes the impact of personal privacy and citizen involvement in governance are examined. Questions of the day. The role and opportunity for historically under-represented groups are stressed, along with required written and oral presentations. Prerequisites: ENGL 331

ENGL 206. Film and Culture
This course examines film as a legitimate form of artistic expression within the culture. Consequently, film will be studied as history (including its relationship to society), aesthetic theory, ideology, and cultural artifact. Particular attention will be paid to the ways in which film reflects, but also shapes, contemporary culture.

ENGL 231. World Literature II
This course surveys selected major world writers from about 1600 to the present. Prerequisite: ENGL 101.

**ENGL 331. Writing for Science and Technology**
This course includes the study and practice of the basic techniques of technical materials for both the general audience and the specialist. Prerequisite: GEOM 210.

**GEOM 210. Cartography**
This course will examine the evolution of cartography by presenting basic cartographic techniques. Cartographic methods, design, and basic map elements will be examined. Professional quality maps that adhere to basic cartographic standards of design and layout, data symbolization, and mapping theory will be produced.

**HIST-307. The Historical Origins of Environmental Crises Credit**
This course will deal with man's changing philosophical and technological environment since the start of the Industrial Revolution.

**ITT 385. Economic and Social Implications of Information Technology**
This course is designed to assess critically the institutional forces that shape information technology (IT). It will also discuss how the consumption of information technology affects the way information is used and how the two are consumed, who consurs them, and how they are consused, who consurs them, and how they are consumed, who consurs them, and how they are consumed.

**MATH 111. College Algebra and Trigonometry**
This course is a review of basic algebra, first and second degree equations, systems of equations, inequalities, right triangle trigonometry. Prerequisites: Mathematics 099 or two units of high school algebra, or a satisfactory score on the mathematical portion of the Scholastic Aptitude Test.

**MATH 112. Calculus for Non-Mathematics Majors**
This course includes a brief treatment of basic concepts of differential and integral calculus, business, economics, social and behavioral sciences; polynomial, rational, trigonometric, and logarithmic functions. Prerequisite: MATH 102, 110, or 111.

**PHIL-266. Contemporary Moral Problems**
This course begins with an examination of various ethical theories and moral challenges faced by today's society. Topics include the environment, sexually transmitted diseases, pornography, hate speech, euthanasia, famine relief, affirmative action, and multiculturalism.

**PHYS 101. Introduction to Astronomy**
The fundamentals of astronomy with emphasis on methods of observing and instruments including optical and radio telescopes; and the nature and structure of the solar system will be studied.

**PHYS 105. Physics for Non-Scientists**
This course is intended for non-science students. It is a qualitative introduction to modern physics, with an emphasis on conceptual understanding. Mathematical aspects of the course will be minimal. The course stresses the major role physics plays in our everyday life and the importance of the new scientific developments and their technological applications. It covers a wide variety of topics such as the building blocks of matter, the theory of superconductivity and superfluidity, MRI and medical imaging techniques, magnetism in semiconductors and transistors, nanoscience and nanotechnology, and the effects of these developments on the environment.

**POLI 410. Public Policy and Technology**
This course is designed primarily for students in sciences and engineering students in other disciplines, especially business and economics. Students will examine the human, and environmental impact of technological development. The selected policy choices will be examined.

**POLI 448. Politics of Transportation**

http://www.ncat.edu/~univstud/theme-courses.html

9/3/2009
This course includes an analysis of the political roots of various transport location issues, mass transit issues, and the interest group struggle of mechanisms of federal, state and local transportation related units will local, regional and national issues will be included. Prerequisite: Recent

**SOCI 473. Introduction to Population Studies**
This course includes a review of demographic processes; growth, fertility, populations. Focus on causes and consequences of demographic changes and economic development.

**SOWK 415. Medical Sociology**
This course includes sociological analysis of medical services, the role of health and quasi-professional groups; socialization structure of hospitals; social variables in relation to modern societies. Cultural and cross-cultural concepts toward health and the healing art will also be studied.

*Use of these courses as theme-cluster electives in subsequent semesters*

(more theme-based courses...)

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