

Freshman Seminars Spring 1999

Cathedral and Monastery

Cecil L. Striker, Professor of History of Art

The cathedral (the church housing the seat of the bishop) and the monastery (the house of a religious community) are the most characteristic and distinctive architectural creations of the Middle Ages in both the Latin West and Egyptian, Greek and Syro-Palestinian East. These words--cathedral and monastery--evoke images in our minds of the towering urban Gothic architecture of Notre Dame in Paris or Reims on the one hand, and of the secluded abbeys of Iona in Ireland, Qal'at Sim'an in Syria, or Meteora in Greece on the other.

Underlying these architectural expressions are the institutions that had them built, each with its own set of spiritual, social, political, and economic intentions, possibilities, and constraints. The seminar inquires about the nature of these institutions, attempting to explain how and why they built what they built. Arts and Letters Distribution

ARTH(033) 100.301 Thurs 1:30-4:30

The Big Bang and Beyond

Jordi Miralda-Escude, Assistant Professor of Physics and Astronomy

An introductory course for freshmen who do not intend to major in a physical science or engineering. Theories of the origin, evolution, and structure of the universe ranging from the ancient perspective to the contemporary hot big bang theory to the provocative inflationary model of the universe. Topics will include the solar system, galaxies, and large-scale structures in the universe. Elementary algebra will be used. ASTR 007 and ASTR 001 cannot both be taken for credit. General Requirement in the Physical World

ASTR(037) 007.301 Mon/Wed/Fri 11:00-12:00

What Every Lawyer, Businessman, and Citizen Needs to Know about Molecular Biology

Sally H. Zigmond, Professor of Biology

This freshman seminar is intended for students who do not plan to take any additional biology courses, but would like to know what "all the excitement" of modern biology is about. We will cover both the basics of molecular biology and how biotechnology affects our lives. Specific topics will include: DNA fingerprinting, environmental and health applications of genetic engineering, and the human genome project. General Requirement in the Living World

BIOL(053) 003.301 Tues/Thurs 1:30-3:00

Structural Biology

Stanley J. Opella, Professor of Chemistry

Structural biology is the scientific method of describing, predicting, and changing the properties of plants, animals, and humans, based on obtaining and analyzing detailed 3-dimensional images of proteins. It is a direct outgrowth of the intellectual and technical revolutions that occurred during the last decade and is emerging as the most powerful approach to understanding biology and solving problems in medicine. General Requirement in the Physical World

This seminar is a continuation from the Fall semester and is intended for students pursuing the Vagelos Scholars Program. Admittance for the Spring semester will be made at the discretion of

the instructor. Each semester is counted as 1/2 credit unit.
CHEM(081) 022.301 Thurs 2:00-3:30

Introduction to Economics: Macroeconomics (General Honors)

Introduction to economic analysis and its application. An examination of a market economy to provide an understanding of how the size and composition of national output are determined. Elements of monetary and fiscal policy, international trade, economic development, and comparative economic systems. General Requirement in Society
Freshman General Honors Recitation: Must register for both the lecture (ECON 002.001) and one of these recitations:

ECON(169) 002.224 Fri 10:00-11:00

ECON (169) 002.225 Fri 11:00-12:00

Photographic Composition as the Grammar of Photography

David Wells, Lecturer in Fine Arts

This class is for students interested in all of the visual arts, particularly photography. Since composition is the essential grammar of visual communication a good grounding in image composition is basic to all of the visual arts and especially photography. Students will explore photographic composition through a regular schedule of shooting and critiquing film.

FNAR(217) 171.201 Thurs 6:00-9:00 p.m.

Earth Through Time

Charles Thayer, Associate Professor of Geology

Origin of Earth, continents, and life. Continental movements, changing climates, and evolving life. General Requirement in the Physical World

Freshman Recitation: Must register for both the lecture (001) and the lab (201).

GEOL(289) 125.001 Mon/Wed 11:00-12:00

GEOL(289) 125.201 Mon 1:00-2:00

Oceanography

A study of the two-thirds of the earth covered by water. Composition, structure, motions, and effects of ocean water. The ocean bottom, including sea floor spreading and continental drift.

Ocean resources. General Requirement in the Physical World

Freshman Recitation: Must register for both the lecture (001) and the lab (201).

GEOL(289) 130.001 Mon/Wed 2:00-3:00

GEOL(289) 130.201 Mon 10:00-11:00

Picturing Asia: Western Images of East Asia, 1549-1999

Frederick R. Dickinson, Assistant Professor of History

From "Oriental despotism" to the Asian "economic miracle" to Asia in "crisis," this seminar will examine Western images of East Asia from the sixteenth century to the present. How have Western observers recreated our image of East Asia over time? How does this compare with the images generated by East Asian writers for consumption in the West? We will study the problem of cross-cultural analysis and consider changes in the image of Asia as an integral component of national development in the West. History and Tradition Distribution

HIST(317) 106.301 Wed 2:00-5:00

Introduction to Mathematical Analysis

Gerald J. Porter, Professor of Mathematics

This 1/2 credit course is a continuation of MATH 200, and it is an introduction to mathematical reasoning by discussion of the basic theorems encountered in calculus. It is intended for those students who might like to study more advanced mathematics by giving a more balanced view of what mathematics is actually like than calculus courses alone can provide. Two sections of this course are offered.

MATH(409) 201.301 Tues 12:00-1:30

MATH(409) 201.302 Thurs 12:00-1:30

Introduction to Modern Algebra

Peter Freyd, Professor of Mathematics

This 1/2 credit course is a continuation of MATH 204, the introduction to mathematical reasoning. Topics include the principle of mathematical induction, the notion of an equivalence relation, and the properties of the ring of integers. It is intended for students who might like to study more advanced math. It provides an introduction to the basic 300-level course in algebra. The instructor acts as the advisor for the students and assists them in choosing the appropriate 300-level course for the following year. Two sections of this course are offered.

MATH(409) 205.301 Tues 9:00-10:30

MATH(409) 205.302 Thurs 9:00-10:30

The Music of the Spheres: Music and the Medieval Worldview

Thomas H. Connolly, Professor of Music

The geocentric model of the universe accepted by earlier times, from Antiquity through the Renaissance, was not simply a matter of deficient science. It permeated human thought, providing assumptions that profoundly affected all life, all literature, all the arts. One of its common and highly influential tenets was that the celestial bodies emitted a celestial music as they revolved in their crystalline spheres; and that this music was intimately involved with all change—physical, emotional, spiritual—that occurred in the natural world. This seminar will examine the roots and the development of this ancient understanding of music, and of music's place in the ancient worldview. The seminar will also compare the earlier with the current worldview, and the position of music in each, and in so doing will examine the assertion of C.S. Lewis that "no model is a catalogue of ultimate realities...each reflects the prevalent psychology of an age almost as much as it reflects the state of that age's knowledge." Readings will include C.S. Lewis, *The Discarded Image*; excerpts from classical and medieval authors, including Plato, Chalcidius, Macrobius and Boethius; and an informed consideration of music's place in Dante's *Divine Comedy* and Chaucer's *Canterbury Tales*. There will be three required papers, and a final exam. Arts and Letters Distribution

MUSC(441) 016.301 Tues/Thurs 9:00-10:30

Constitution Making

William Harris, Associate Professor of Political Science

This is a seminar in constitutional theory which will focus on the problems of creating or restructuring a political order by writing and adopting the design of that order in a set of words contained within a text. The course will have a large component of political and interpretive theory, as well as American political thought. There may be some materials from other

constitutional systems besides the U.S.; however, the course is primarily a way of looking analytically at the founding of the American Constitution by considering how a new Constitution would be written, argued for, and ratified 200 years later—then questioning the nature of its authority. After two centuries of interpreting the existing constitutional document, how might a constitutional convention draft a new one to take into account the problems of interpretation we have discovered?

Requirements: Extensive reading and active scholarly discussion; one medium-length paper; and a final essay. This is a General Honors course; however, half of the seats are reserved for students who are not in the General Honors program. Society Distribution
PSCI(505) 187.301 Tues/Thurs 3:00-4:30

America in the 1960's

Ivar E. Berg, Professor of Sociology

A social scientific appraisal of an era in which virtually "everything was politicized"—race, sex, foreign policy, selective service, higher education, The Bill of Rights, scientific research, religion and "American Culture". Society Distribution

SOCI(589) 041.301 Tues 5:30-8:30

Altruism, Evolution, and Society

Paul D. Allison, Professor of Sociology

This course will explore the origin, maintenance and consequences of altruistic behavior from the perspectives of evolutionary biology, anthropology, psychology, sociology, and economics. A central agreement will be that while altruistic behavior is extremely desirable for the common good of human groups, there is an inherent tendency for altruism to erode over time. How is this erosion prevented? Other topics will include social learning processes, trends in altruism, collective action, and the relationship between altruism and key social institutions. Society Distribution

SOCI(589) 041.302 Tues/Thurs 9:00-10:30

1999 Global Influences in Local Contexts

Ewa Morawska, Professor of Sociology

Whereas few inhabitants of the contemporary world would disagree that, far from being an "out there" phenomenon, globalization is rapidly becoming an "in here" matter, little is known about the specific ways in which various combinations of global and local elements shape people's social relations, cultural practices, and identities. How do virtual social interactions compare with "grounded" relationships? What kinds of global-local blends do contemporary ethnic or national identities represent and how do these mixings occur? How effective is it for those without economic and military power to ignore, like New Guinea Aborigines, intrusions from the outside as a strategy of resistance to sociocultural globalization? The course attempts to answer these and similar questions. Society Distribution

SOCI(589) 041.303 Thurs 2:00-5:00

Urban Analysis with Computers

Robert C. Douglas, Director, Social Science Computing

The objective of this seminar is to help students develop their inductive research skills through the analysis of factors influencing the spatial structure of US metropolitan areas. Students are

introduced to the use of computers in data collection and display (graphs and maps), hypothesis formulation, and testing, as well as communication of research results in oral and written forms.
Society Distribution

SOCI(589) 041.401 Tues/Thurs 3:00-4:30