

COMPUTER SCIENCE 317 (3)—Database Management

(Alternate years)

Prerequisites: *Computer Science 210 and 211.* Entity-relationship, network, hierarchical, and relational database models. Theory of functional dependencies and normal forms for relational database design. A major project to design and implement a database using a commercial package. *Whaley.*

*Fall***[COMPUTER SCIENCE 330 (3)—Operating Systems]**

(Winter 1999 and alternate years)

Prerequisites: *Computer Science 210 and 211.* Procedure initiation, environment construction, re-entrancy, kernel functions, resource management, input/output, file structures, security, process control, semaphores and deadlock, and recovery procedures. The laboratory includes the opportunity to examine and modify the internals of an operating system. *Staff.*

COMPUTER SCIENCE 332 (3)—Compiler**Construction**

(Alternate years)

Prerequisites: *Computer Science 210, 211, 312, and 313.* Lexical analysis, parsing, context dependence, translation techniques, optimization. Students are expected to produce a compiler for a suitably restricted language. *Staff.*

*Winter***[COMPUTER SCIENCE 340 (3)—Interactive Computer Graphics]**

(Fall 1998 and alternate years)

Prerequisite: *Computer Science 211.* A study of the underlying techniques and algorithms used in the display and manipulation of graphics images in an interactive environment. Topics include programming with Motif and the X-window system, two- and three-dimensional viewing and transformations, color models, and realistic rendering of images. A major component of the course is the development and programming of a variety of projects which demonstrate the topics discussed in class. *Vermeer.*

[COMPUTER SCIENCE 395 (1), 396 (2), 397 (3)—Seminar]

(Offered when interest is expressed and departmental resources permit.) Prerequisite: *Permission of the instructor.* Readings and conferences for a student or students on topics agreed upon with the directing staff. May be repeated for degree credit with permission and if the topics are different. A maximum of six credits may be used toward the major requirements.

COMPUTER SCIENCE 401 (1), 402 (2), 403 (3)—Directed Individual Study

(Offered when interest is expressed and departmental resources permit.) Prerequisite: *Permission of the department.* Individual conferences. May be repeated for degree credit with permission and if the topics are different.

COMPUTER SCIENCE 423 (3)—Senior Project

The senior project is required of all majors in computer science. Under exceptional circumstances it may be completed during the junior year. The student must obtain approval of a project proposal, from a department member, before registering for this course. The project requires planning, design and implementation of a computer application, in such a way as to integrate the material from other computer science courses and courses outside computer science. Students who have a second major are encouraged to design a project which makes use of material from the other major.

COMPUTER SCIENCE 493 (3-3)—Honors Thesis

Prerequisites: *Senior standing and honors candidacy. Staff.*

*Fall-Winter***EAST ASIAN LANGUAGES AND LITERATURES**

(See Chinese, Japanese, and Literature in Translation)

The Department of East Asian Languages and Literatures does not offer a major, but two years of Chinese or Japanese are required as part of the East Asian Studies major (see entry under that heading).

Students are urged to begin their East Asian language study as early as possible, preferably in their freshman year.

Chinese and Japanese language students may apply for participation in Washington and Lee's exchange programs in Hong Kong and Japan. By arrangement with the University of Massachusetts, qualified students of Chinese may study for the summer in Taiwan and/or may spend a semester or an academic year or both in Taiwan or in the People's Republic of China.

EAST ASIAN STUDIES

ASSOCIATE PROFESSOR ROGERS*

MAJOR

A major in **East Asian studies** leading to a Bachelor of Arts degree requires the completion of 38 credits as follows:

1. Chinese 111-112 and 261-262 or Japanese 111-112 and 261-262
2. East Asian Studies 190 or another bibliographical resources course, with the approval of the head of the East Asian Studies Committee
3. One course from seven of the following eight groups (21 credits total):
Art 240 or 241
Economics 285 or 286
History 103 or 104
History 380 or 383
Literature in Translation 218 or 221
Philosophy 168
Politics 224 or 225
Religion 103 or 208

In addition, all East Asian studies majors are expected to participate in exit interviews to be scheduled during the spring term of their senior year.

HONORS: An Honors Program in East Asian studies is offered for qualified students; see the program director for details.

East Asian studies courses are as follows; for course descriptions, see the appropriate departmental listings:

- Art 140—Asian Art
- Art 240—Arts of China
- Art 241—Arts of Japan
- Art 340—The History of Chinese Painting
- Art 341—The History of Japanese Painting
- Art 390—Seminar in East Asian Art
- Chinese 111-112—Elementary Mandarin
- Chinese 113—Elementary Conversation
- Chinese 261-262—Intermediate Chinese
- Chinese 263—Chinese Language and Culture
- Chinese 311—Advanced Chinese I
- Chinese 312—Advanced Chinese II:
Contemporary Fiction
- Chinese 401, 402, 403—Directed Individual Study
- East Asian Studies 100—Introduction to Chinese Culture
- East Asian Studies 190—Bibliographical Resources
- East Asian Studies 201—Supervised Study in China
- East Asian Studies 202—Supervised Study in Japan
- East Asian Studies 473—Senior Thesis
- East Asian Studies 493—Honors Thesis
- Economics 285—Japan's Modern Economy
- Economics 286—China's Modern Economy
- Economics 399—Special Topics in Economics (when on Asia)

- History 103—Modern China: The Road to Revolution
- History 104—The Rise of Modern Japan
- History 380—Japanese Civilization to 1800
- History 381—Seminar on Japan in World War II
- History 383—Chinese Civilization to 1800
- History 384—Seminar on the History of Chinese Communism
- Japanese 111-112—Elementary Japanese
- Japanese 261-262—Intermediate Japanese
- Japanese 301—Advanced Japanese I
- Japanese 302—Advanced Japanese II
- Japanese 311—Readings in Japanese Literature I
- Japanese 312—Readings in Japanese Literature II
- Japanese 401, 402, 403—Directed Individual Study
- Literature in Translation 218—Chinese Literature before the Republic
- Literature in Translation 221—Japanese Literature
- Literature in Translation 231—Seminar in Japanese Literature
- Philosophy 168—Chinese Philosophy
- Politics 224—The Japanese Political System
- Politics 225—The Chinese Political System
- Religion 103—Introduction to Asian Religions
- Religion 107—From Hinduism to Zen
- Religion 208—Japanese Religion and Society
- Religion 217—Religion, Wealth and Power (term paper to focus on Japan)
- Religion 218—Comparative Religious Ethics
- Religion 390—Seminar in Asian Religion
- Religion 396—Seminar in the Sacred and the Social (depending on topic for year)

EAST ASIAN STUDIES 100 (3)—Introduction to Chinese Culture

Prerequisite: Permission of the instructor. This non-language course is designed especially for freshmen and provides the student with basic tools for understanding the country, its people, and its history. It introduces the technical concept of culture as such and, inductively, through analysis and discussion of works of art and literature, the main elements that have informed Chinese culture and thought. It is intended to be of general interest and to supply background for further study of China. Audio-visual materials are used extensively throughout.

Hill.
Winter

[EAST ASIAN STUDIES 190 (1)—Bibliographical Resources]

(Not offered in 1997-98)

Prerequisite: Major standing or permission of the East Asian Studies Committee. An introduction to bibliographical tools useful in the study of China and Japan. This course is required of all majors and should be taken as soon as possible after declaring the major. Degree credit is awarded for only one 190 course regardless of academic discipline. *Staff.*

EAST ASIAN STUDIES 201 (6 or 3-3)—Supervised Study in China

Prerequisites: A G.P.A. of 2.500 and permission of the instructor. The grade-point average requirement may be modified at the discretion of the instructor. Courses on East Asia are recommended, particularly Chinese 111-112. The itinerary and specific content of this course will be announced early in the fall term of each year in which it is given. Travel will be to the People's Republic of China, Taiwan or Hong Kong, or to a combination of these. The program includes supervised academic projects, lectures by authorities on Chinese cultural history, and field trips to points of historical and cultural interest as well as to those related to the specific theme of the course. Students in majors other than East Asian studies are encouraged to apply. Credits may be split between East Asian Studies and other disciplines with approval of the departments involved. *Staff.*

Spring

EAST ASIAN STUDIES 202 (6 or 3-3)—Supervised Study in Japan

Prerequisites: A G.P.A. of 2.500 and permission of the instructor. The grade-point average requirement may be modified at the discretion of the instructor. Courses on East Asia are recommended, particularly Japanese 111-112. The itinerary and specific content of this course will be announced early in the fall term of each year in which it is given. The program includes supervised academic projects, lectures by authorities on Japanese cultural history, and field trips to points of historical interest as well as to those related to the specific theme of the course. Students in majors other than East Asian studies are encouraged to apply. Credits may be split between East Asian studies and other disciplines with approval of the departments involved. *Staff.*

Spring

[EAST ASIAN STUDIES 403 (3-3)—Directed Individual Study]

Prerequisite: Permission of the East Asian Studies Committee. Limited to students who have unsuccessfully attempted an honors thesis.

EAST ASIAN STUDIES 473 (3)—Senior Thesis

Prerequisites: Senior standing as an East Asian studies major, cumulative grade-point average of 3.000 or higher, and permission of an East Asian studies faculty member serving as thesis director. This elective course provides an opportunity for original research on a topic selected with the thesis director. It is intended to allow the student to consolidate and apply knowledge of the East Asian field in an area of personal interest. Meetings are scheduled as the thesis director deems necessary. Though not required, it is desirable for the student to have completed a bibliographical resources course prior to enrollment. *Staff.*

Fall, Winter

EAST ASIAN STUDIES 493 (3-3)—Honors Thesis

Prerequisites: Senior standing and honors candidacy. *Fall-Winter: Individual conferences*

ECONOMICS

PROFESSORS HERRICK, CLINE, KAISER,
PEPPERS, PHILLIPS, WINFREY
ASSOCIATE PROFESSORS ANDERSON,
GOLDSMITH, SMITKA
ASSISTANT PROFESSORS HOLLIDAY, HOOKS

MAJOR

A major in **economics** is granted upon completion of:

1. *Basic courses.* Economics 101, 102; Politics 100, 101
2. *Advanced courses.* Economics 210 (Microeconomic Theory), Economics 345 (Economic Policy), Economics 360 (Money and Banking), and Economics 390 (Macroeconomic Theory), as well as 12 more credits in other economics courses numbered above 203
3. *Statistics and econometrics.* Economics 201 (Elementary Applied Statistics), and Economics 203 (Quantitative Models for Management and Economics)
4. *Mathematics.* Achievement in calculus at a level equivalent to Mathematics 101 is required. Additional courses in mathematics are recommended
5. *Grade-point average.* A grade-point average of at least 2.000 in the economics credits offered for the major, and a grade-point average of at least 2.000 in the total of all credits, from whatever department, offered for the major

Study in mathematics is vital for students planning to pursue graduate study in economics or business. Majors in economics who intend to study law or business are advised to take courses in accounting. In general, students headed for graduate school are urged to seek the advice of members of the economics faculty in shaping their courses of study.

HONORS: An Honors Program in economics is offered for qualified students; see department head before spring of junior year for details.

★ECONOMICS 101 (3)—Principles of Microeconomics

Survey of economic principles and problems with emphasis on microeconomic analysis. The first half of a two-term survey of economics. Should be followed by Economics 102. *Staff.*

Fall

★ECONOMICS 102 (3)—Principles of Macroeconomics

Prerequisite: Economics 101. Continuation of survey begun in Economics 101, with emphasis on macroeconomic analysis. *Staff.*

Winter

ECONOMICS 120 (3)—Economics, Ecology, and Resource Conservation

The rate of growth of the human population, economic development, preservation of a healthy environment, conservation of exhaustible resources, and the unequal distribution of income in the world today. The course is directed to freshmen and sophomores. No previous economics coursework required. *Gunn.*

Spring