New Course Request

Indiana University

Check Appropriate Boxes:  Undergraduate credit [x]  Graduate credit  Professional credit

1. School/Division  College of Liberal Arts & Sciences  Academic Subject Code  MATH
2. Course Number  M467 (must be cleared with University Enrollment Services)
3. Instructor  Yi Cheng
4. Course Title  Advanced Statistical Techniques I

Recommended Abbreviation (Optional) (Limited to 32 Characters including spaces)

5. First time this course is to be offered (Semester/Year):  Fall 2004
6. Credit Hours: Fixed at 3 or Variable from  to
7. Is this course to be graded S-F (only)? Yes  No  X
8. Is variable title approval being requested? Yes  No  X
9. Course description (not to exceed 50 words) for Bulletin publication:  P: M366 or consent of instructor. Statistical techniques of wide application, developed from the least-squares approach: fitting of lines and curves to data, multiple regression, analysis of variance of one-way and two-way layouts under various models, multiple comparison.

11. Lecture Contact Hours: Fixed at 3 or Variable from  to
12. Non-Lecture Contact Hours: Fixed at  or Variable from  to
13. Estimated enrollment:  15 of which  50 percent are expected to be graduate students.
14. Frequency of scheduling: Every  Other  Will this course be required for majors? Yes - Math (Yes-Econ)
15. Justification for new course:  Replacement for ECON E470
16. Are the necessary reading materials currently available in the appropriate library? Yes
17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:  Yi Cheng  Date: 12/1/04  Dean of Graduate School (when required)  Date

Approved by:  William  Date: 2/3/04  University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

UPS 724  University Enrollment Services Final—White; Chancellor/Vice-President—Blue; School/Division—Yellow; Department/Division—Pink; University Enrollment Services Advance—White
When you become a student at Indiana University, you join an academic community internationally known for the excellence and diversity of its programs. Indiana University is one of the nation’s oldest and largest state universities, with eight campuses serving 96,000 students. IU also offers courses through facilities at Columbus, Elkhart, and many other sites.

Indiana University Campuses
Indiana University Bloomington
Indiana University–Purdue University Indianapolis
Indiana University East (Richmond)
Indiana University–Purdue University Fort Wayne
Indiana University Kokomo
Indiana University Northwest (Gary)
Indiana University South Bend
Indiana University Southeast (New Albany)
likelihood ratio, most powerful tests, minimum variance estimates, shortest confidence intervals, linear models and analysis of variance, non-parametric methods. II Sem.

M467 Advanced Statistical Techniques I (3 cr.) P: M366 or consent of instructor. Statistical techniques of wide application, developed from the least-squares approach: fitting of lines and curves to data, multiple regression, analysis of variance of one-way and two-way layouts under various models, multiple comparison. I Sem.

M468 Advanced Statistical Techniques II (3 cr.) P: M366 or consent of instructor. Analysis of discrete data, chi-square tests of goodness of fit and contingency tables, Behrens-Fisher problem, comparison of variances, nonparametric methods, and some of the following topics: introduction to multivariate analysis, discriminant analysis, principal components. II Sem.

M471-M472 Numerical Analysis I-II (3-3 cr.) P: M301 or M303, M311, M343, and knowledge of a computer language such as FORTRAN, C, C++, etc. (Students with other programming backgrounds should consult the instructor.) Interpolation and approximation of functions, numerical integration and differentiation, solution of nonlinear equations, acceleration and extrapolation, solution of systems of linear equations, eigenvalue problems, initial and boundary value problems for ordinary differential equations, and computer programs applying these numerical methods. M471, I Sem.; M472, II Sem.

M482 Mathematical Logic (3 cr.) Construction and study of formal mathematical languages. Definitions, of, and relationships between, the notions of "truth" and "probability" of a formal sentence. Capabilities and limitations of first-order languages. Alternative formal systems. Introductions to model theory and the decision problem. Additional topics chosen by the instructor.

M490 Problem Seminar (3 cr.) P: M301 or M303, M413 (M413 may be concurrent), and consent of the instructor. Introduction to research techniques for advanced undergraduate and beginning graduate students, based on problems from parts of the regular curriculum, such as linear algebra, topology, probability, and analysis. Emphasis will be on problems of both current and historical interest but usually not in the standard literature.

M491 Putnam Exam Seminar (1 cr.) P: Approval of the director of undergraduate studies. The Putnam Examination is a national mathematics competition for college undergraduates at all levels of study. It is held in December each year. This problem seminar is designed to help students prepare for the examination. May be repeated twice for credit.

S499 Reading for Honors (12 cr. max.) P: Approval of departmental honors committee. I Sem., II Sem., SS.

Medieval Studies

Faculty

Director Professor Sheila Lindenbaum

Distinguished Professors Bruce Cole (Fine Arts), Edward Grant (Emeritus, History, History and Philosophy of Science), Thomas Mathieson (School of Music), Mark Musa (Emeritus, French and Italian), Denis Sinor (Emeritus, Central Asian Studies)

Professors Salih Altoma (Emeritus, Near Eastern Languages and Cultures), Theodore Andersson (Emeritus, Germanic Studies), Frank Banta (Emeritus, Germanic Studies), Christopher Beckwith (Central Eurasian Studies), Luis Beltran (Emeritus, Comparative Literature, Spanish and Portuguese), Lawrence M. Clopper (English), Henry Cooper (Slavic Languages and Literatures), Alfred David (Emeritus, English), Robert Fulk (English), Kari Gade (Germanic Studies), Kenneth R. R. Gros Louis (Comparative Literature, English), Paul Hillier (Early Music Institute), Olga Impy (Spanish and Portuguese), Sidney Johnson (Emeritus, Germanic Studies), Eugene Kintgen (English), W. Eugene Kleinbauer (Fine Arts), Karma Lochrie (English), Conceleo López-Morillás (Spanish and Portuguese), Fedwa Malti-Douglas (Comparative Literature, Gender Studies), Emanuel Mickel (French and Italian), William Newman (History), Samuel Rosenberg (French and Italian), William Shetter (Emeritus, Germanic Studies), Josep Sobrer (Spanish and Portuguese), Paul Spade (Philosophy), Suzanne Stetkewych (Near Eastern Languages and Cultures), Paul Strohm (Emeritus, English), Ian Thomson (Emeritus, Classical Studies), Stephen Wiles (Germanic Studies)

Associate Professors David Brakke (Religious Studies), Ann Carmichael (History, History and Philosophy of Science), Devin DeWeese (Central Eurasian Studies), Dyan Elliott (History), Wendy Gillespie (School of Music), Jeffrey Huntsman (English), Rosemarie McGerr (Comparative Literature), Bertolini Melil (History and Philosophy of Science), Jacques Merceron (French and Italian), Leah Shkopow (History), Kemal Silay (Near Eastern Languages and Cultures), Martha Vinson (Classics)

Assistant Professors Scott Alexander (Religious Studies), Paul Losensky (Near Eastern Languages and Culture), Jacques Merceron (French and Italian), Diane Reilly (Fine Arts), John Walbridge (Near Eastern Languages and Cultures)

Introduction

The Medieval Studies Institute (MEST) offers an undergraduate minor and a certificate. Students may elect to take either one or the other but not both. The program is organized around an interdisciplinary approach to the study of the Middle Ages. Students who are interested in the minor, the area certificate, or in receiving the institute's newsletter and announcements and becoming acquainted with other students and faculty studying the Middle Ages should contact the Medieval Studies Institute, located in Ballantine Hall 650, (612) 655-8201, medst@indiana.edu.

Minor in Medieval Studies

Requirements Students must complete 15 credit hours from at least three departments in the College of Arts and Sciences. At least two courses must be at the 300 level or above, and no more than one course can be at the 100 level. Eligible courses will be certified by the institute; students should consult with the director to confirm that the courses selected are eligible.

Area Certificate in Medieval Studies

Purpose The certificate is designed for undergraduates interested in the medieval period within their own majors who are seeking additional training in preparation for graduate work. The program also provides students majoring in the sciences, social sciences, and business with the opportunity to take a broad range of courses in the area and yet maintain focus in their work.

Requirements Students must complete a minimum of 24 credit hours from at least three departments, including:

1. 6 credit hours of language above the 100 level in Latin, Greek, Arabic, Hebrew, or Persian.
2. An historical survey.
3. 15 credit hours of electives, chosen either from the institute offerings or from those of participating departments approved by the director of the institute.
4. At least two courses must be at the 300 level or above, and no more than one course can be at the 100 level.

Course Descriptions

M200 Medieval Cultures (3 cr.) A & H, CSA Introduction to medieval cultures and life. May be repeated once with a different topic for a maximum of 6 credit hours.

M390 Studies in Medieval Culture (2-4 cr.) Examination and evaluation of various aspects, periods, and manifestations of medieval civilization. Study will be interdisciplinary, focusing on such subjects as Jews, Moslems, and Christians in the Middle Ages; Carolingian Renaissance; the eastern invasion of Europe. May be repeated once with a different topic.