New Course Request

Indiana University  [IPU] Campus

Check Appropriate Boxes: Undergraduate credit ☐ Graduate credit ☑ Professional credit ☐

1. School/Division: Informatics
2. Academic Subject Code: INFO

3. Course Number: E578 (must be cleared with University Enrollment Services)
4. Instructor: McDaniel

5. Course Title: Data Analysis for Clinical Administrative Decision-Making
   Recommended Abbreviation (Optional) (Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Summer 2006

7. Credit Hours: Fixed at ______ or Variable from ______ to ______

8. Is this course to be graded S-F (only)? Yes ☐ No ☑

9. Is variable title approval being requested? Yes ☐ No ☑

10. Course description (not to exceed 50 words) for Bulletin publication: Focuses on understanding, manipulating, and analyzing quantitative data in nursing and health care. Includes use of computer-based systems for data management and statistical analysis. Application and interpretation multivariate statistical models for decision-making.

11. Lecture Contact Hours: Fixed at ______ or Variable from ______ to ______

12. Non-Lecture Contact Hours: Fixed at ______ or Variable from ______ to ______

13. Estimated enrollment: ______ of which ______ percent are expected to be graduate students.

14. Frequency of scheduling: ______ Will this course be required for majors? ______

15. Justification for new course: Health Informatics elective

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: ___________________________ Date ___________  
Department Chairman/Division Director

Approved by: ___________________________ Date ___________  
Dean ___________ Date ___________

Chancellor/Vice-President

Dean of Graduate School (when required) Date ___________

University Enrollment Services Date ___________

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
INDIANA UNIVERSITY SCHOOL OF INFORMATICS

1578 Data Analysis for Clinical and Administrative Decision-Making

Course information:

- Credit Hours: 3
- Pre-requisite: Graduate level statistics course
- Corequisites: none
- Placement in the curriculum: Elective course in the Master of Science curriculum

Faculty:

Anna M. McDaniel, DNS RN FAAN
Professor
Campus address: NU483
Phone: (317)274-8095
E-mail: amcdanie@iupui.edu

Description:

Focuses on understanding, manipulating, and analyzing quantitative data in nursing and health care. Includes use of computer-based systems for data management and statistical analysis. Application and interpretation multivariate statistical models for decision-making.

Course competencies:

Upon successful completion of this course, the student will be able to:

1. Manage a set of data using a computerized database.
2. Utilize a computer-based statistical application to analyze data.
3. Interpret results of statistical analyses for decision making.
4. Use a decision model to answer clinical and administrative questions in nursing.

Texts/reading

Required


Required software

Statistical Package for the Social Science (SPSS) version 14.0. (Available for purchase at JAGS bookstore with JagTag)

Recommended


Teaching Strategies:

- Participation in class discussion (on-line and face-to-face),
- Lecture
- Required readings
- Oral and written presentations
- Computer exercises.

Evaluation:

- Class participation ..........................................................20%
- Research critique .............................................................10%
- Homework (Guided statistical analyses) .................................20%
- Midterm Examination .......................................................10%
- Project (See guidelines) ....................................................40%
Grading scale:

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Guidelines for Course Requirements

1. **Class Participation (20%)**

The purpose of this requirement is to promote the development of skills in expressing an informed opinion to a group of peers. Active participation (both in class and on-line) requires prior reading and critique of assigned readings. Each student is expected to contribute to on-line discussion forums during the week that topic is assigned and provide feedback to comments posted by fellow students.

2. **Homework (20%)**

These assignments will provide "hands on" experience in computer applications. Students will practice data entry, verification, and manipulation. Actual nursing data sets will be available for performance of common statistical analysis procedures. Students are expected to work independently in consultation with instructor to complete assignments.

3. **Midterm examination (10%)**

The purpose of this requirement is to assess student project in mastery of course content. This take-home examination will be distributed via Oncourse the week of June 23.

4. **Research Critique (10%)**

The purpose of this assignment is for students to refine skills in critique of scientific literature. Each student is to critique a research study that has used exploratory or multivariate analysis techniques provided by the instructor. An oral and written critique using the format provided is required (see guidelines).

5. **Project (40%)**

The purpose of the project is to provide an opportunity for students to apply techniques for data analysis to "real life" situations. Each student is expected to collaborate with a "decision maker" (e.g., manager, advanced practice nurse, clinical specialist, educator, researcher) in nursing or health care. The student will identify a problem or question that is pertinent to the decision maker's scope of practice. Using data provided by the decision maker, the student will create
and manage a data set, perform analyses, and present the results in a report. Students will give an oral presentation and submit a paper (see guidelines) describing the decision process and results of data analysis.

Topical Outline:

Using data for decision making
Decision Models
Representing Information for decision making
Graphical data display
Principles of data management
Exploratory data analysis
Applied statistical analysis:
  ANOVA
  Multiple regression
  Logistic regression
  Meta-analysis

Academic Integrity:

All IU Standards and Policies are in effect for this course, including standards for computing ethics, cheating and academic honesty policies, all provisions outlined in the Code of Student Rights, Responsibilities, and Conduct: http://www.dsa.indiana.edu/Code/, (IU Campus Bulletin, pp. 36 - 38) and the IU Academic Handbook: http://www.dsa.indiana.edu/Code/Part_2acad.html

Students who require accommodations should register with Adaptive Education Services and complete all documentation: http://life.iupui.edu/aes/, 317-274-3241, TTD/TTY 317-278-2050, Fax 317-274-2051.