New Course Request **Indiana University** South Bend Campus

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

1. School/Division Liberal Arts and Sciences 2. Academic Subject Code MATH
3. Course Number ~~M266~~ M261 (must be cleared with University Enrollment Services) 4. Instructor Faculty/Staff
5. Course Title Statistical Inferences

   Recommended Abbreviation (Optional) _____
   (Limited to 32 Characters including spaces)
6. First time this course is to be offered (Semester/Year): Spring 2004
7. Credit Hours: Fixed at 2 or Variable from _____ to _____
8. Is this course to be graded S-F (only)? Yes _____ No X
9. Is variable title approval being requested? Yes _____ No X
10. Course description (not to exceed 50 words) for Bulletin publication: P: M260. Estimates for population parameters, estimation judged by unbiasedness and mean square error, t-distribution, chi-square distribution, philosophy of hypothesis testing, probabilities in making conclusions after testing, estimation and hypothesis testing, linear and nonlinear least square regression equation for prediction and forecast. (Credit not given for both M266 and M366.)
11. Lecture Contact Hours: Fixed at 2 or Variable from _____ to _____
12. Non-Lecture Contact Hours: Fixed at 0 or Variable from _____ to _____
13. Estimated enrollment: 30-40 of which 0 percent are expected to be graduate students.
14. Frequency of scheduling: Annual-Spring Will this course be required for majors? No
15. Justification for new course: An elementary statistics course to meet the needs of computer science majors.
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 10/15/02
Department Chairman/Division Director

Approved by:

_____ Date 11/22/02
Dean

_____ Date 2/02/03
~~Dean of Graduate School (when required)~~ Chair, Senate Curriculum Committee

_____ Date _____
Chancellor/Vice-President

_____ Date 3-17-03
University Enrollment Services

Linda Marie Ashley Acting Associate Vice Chancellor for Academic Affairs

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

M266 – Statistical Inferences (2 Credits)
An elementary statistics course to meet the needs of computer science majors.

Prerequisite: M260 - Combinatorial Counting and Probability

Instructors: Mathematical Sciences department faculty

Suggested Text: Not identified at this time

Course Description:

Statistics, the subject of data analysis and data-based reasoning, is playing an increasingly vital role in virtually all professions. Some familiarity with this subject is now an essential component of any college education. This course provides students with first exposure to the powerful ideas of modern statistics. The topics are: point and interval estimates for population parameters, goodness of estimation judged by unbiasness and mean square error, t-distribution, chi-square distribution, the philosophy of hypothesis testing, probabilities of two types of error in making conclusion after testing, applications of estimation and hypothesis test for parameters in normal population and binomial population, and linear and nonlinear least square regression equation for prediction and forecast.

19. The only departments, schools, or division affected by the creation of this course are the Department of Mathematical Sciences and the Department of Computer and Information Sciences at Indiana University South Bend, both of which cooperated in the design of the course.