UNIVERSITY OF KENTUCKY
APPLICATION FOR NEW COURSE

1. Submitted by College of Medicine .................................................. Date February 26, 2002

   Department/Division offering course School of Public Health ..................................................

2. Proposed designation and Bulletin description of this course
   a. Prefix and Number SPH 535 .................................................. b. Title* Databases and SAS Programming
      *NOTE: If the title is longer than 24 characters (including spaces), write
      A sensible title (not exceeding 24 characters) for use on transcripts Databases and SAS

c. Lecture/Discussion hours per week 2 ........................................ d. Laboratory hours per week 2

e. Studio hours per week 0 .................................................. f. Credits 3

   g. Course description
      Students will learn how to construct and maintain databases with applications to public health. They will also learn how
      to program in SAS, the leading statistical analysis system. SAS skills include report writing, MACRO writing, and
      Programming using SAS Intranet.

   h. Prerequisites (if any)
      STA 291 or equivalent ..................................................

   i. May be repeated to a maximum of n/a (if applicable) ..................................................

4. To be cross-listed as

   Prefix and Number ..................................................
   Signature, Chairman, cross-listing department ..........................

5. Effective Date Fall 2003 (semester and year) ..................................

6. Course to be offered ☒ Fall ☐ Spring ☐ Summer ..........

7. Will the course be offered each year?
   (Explain if not annually) ☒ Yes ☐ No ..................................

8. Why is this course needed?

   This is one of four selective courses in the Biostatistics track of the MPH degree program. Students must complete three of the
   four selectives. The SAS programming and database management skills are expected of most applied biostatisticians.

9. a. By whom will the course be taught? Ziyad Mahfoud, Marta Mendiondo ..................................

   b. Are facilities for teaching the course now available?
      If not, what plans have been made for providing them?
      ☒ Yes ☐ No ..................................
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10. What enrollment may be reasonably anticipated? ____________

11. Will this course serve students in the Department primarily? 
   Yes No
   Will it be of service to a significant number of students outside the Department? 
   Yes No

   Although primarily serving SPH students, some students in Medicine, Agriculture, and Statistics will find this course useful.

12. Check the category most applicable to this course
   ☑️ traditional; offered in corresponding departments elsewhere;
   ☐ relatively new, now being widely established
   ☐ not yet to be found in many (or any) other universities

13. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? 
   Yes No

14. Is this course part of a proposed new program: 
   If yes, which? 

15. Will adding this course change the degree requirements in one or more programs?* 
   If yes, explain the change(s) below 
   Yes No

16. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.

17. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has been consulted.

18. Within the Department, who should be contacted for further information about the proposed course?
   Name ___________________________ Phone Extension ___________________________

*NOTE: Approval of this course will constitute approval of the program change unless other program modifications are proposed.
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Signatures of Approval:

________________________________________  __________________________
Department Chair  Date

________________________________________  __________________________
Dean of the College  Date

________________________________________  __________________________
Date of Notice to the Faculty

________________________________________  __________________________
*Undergraduate Council  Date

________________________________________  __________________________
*University Studies  Date

________________________________________  __________________________
*Graduate Council  Date

________________________________________  __________________________
*Academic Council for the Medical Center  Date

________________________________________  __________________________
*Senate Council (Chair)  Date of Notice to University Senate

*If applicable, as provided by the Rules of the University Senate

________________________________________
ACTION OTHER THAN APPROVAL

Rev 8/02
Proposed Course: SPH 535 Databases and SAS Programming

Prerequisite:
- STA 291 or equivalent

Course Description:
Students will learn how to construct and maintain databases with applications to public health. They will also learn how to program in SAS, the leading statistical analysis system. SAS skills include report writing, MACRO writing, and programming using SAS Intranet.

Major Teaching Objectives:
- **Data Management and variable manipulation**: read, create and combine data sets; become proficient in data manipulation.
- **Reporting Techniques**: Efficient use of PROC TABULATE, PROC REPORT, SAS Graph as well as ODS to create printouts and graphs.
- **Macros and Intranet**: Learn how to program SAS macros, the use of SAS variables, and introduction to SAS Intranet.
- **Elementary Statistical Analysis**: ANOVA, Regression, and Correlation.

Topics:
- **Data Management**
  - Data Entry/Validation/Checks/Clean up
  - Data Tables/Centralized Data Bases
  - Security/Focus Design/Electronic Transfer
- **Variable Manipulation**
  - Int-trunc-round, Compress, Dequote, Substr, Scan, Indeq, where, if, = ;, low case, up case, length, etc.
- **Data Manipulation and Reporting Techniques**
  - Data Statement, Infile, Libname, Set,
  - PROC CONTENTS, PROC SORT, PROC FREQ, PROC MERGE, PROC FORMAT, PROC TRANSPOSE, PROC REPORT, PROC TABULATE, PROC PRINT, PROC UNIVARIATE
- **ODS, SAS Intranet, SAS Macros and Macro Variables**
- **Elementary Statistical Analysis**

Possible Texts (bibliography):
7. A textbook designed from SAS publications containing selected topics used in this course.

Course Grading Criteria:
Grades will be based on two exams (midterm and final) and a lab grade, all equally weighted. The weekly lab assignments concentrate on learning programming skills. The midterm exam will emphasize concepts and principles used in designing databases. The final exam will determine how well SAS skills were mastered throughout the course and will emphasize troubleshooting SAS programs and selection of programs to meet novel applications in public health.

Course Instructors:
Ziyad Mahfoud, Marta Mendiondo