**University of the Pacific**  
**Graduate Course Approval Form**

Please fill in all information. After all required signatures are obtained on page two, send to Research and Graduate Studies, Knoles Hall, 2nd Floor. Research and Graduate Studies will then forward to the Academic Affairs Committee, Office of the Provost, Anderson Hall, 2nd Floor.

<table>
<thead>
<tr>
<th>Date: March 5, 2006</th>
<th>Select below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Person: Randy Koper</td>
<td>Addition ☒</td>
</tr>
<tr>
<td>Department: Communication</td>
<td>Revision ☐</td>
</tr>
<tr>
<td>Phone: 946-3050</td>
<td>Deletion ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School or College: COP</th>
<th>Department: Communication</th>
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<tbody>
<tr>
<td>Course Number: 295</td>
<td>Title: Applied Statistics in Comm Research</td>
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<tr>
<td>Minimum Number of Students: 8</td>
<td>Units: 4</td>
</tr>
<tr>
<td>Prerequisites: no</td>
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</tbody>
</table>

If replacing a course, old course title and number:

Catalog Description (attach additional paperwork if necessary):
Please see attached catalog description and syllabus.  
Please attach a syllabus.

What are the reasons for the new course (e.g., student needs, major, etc.), program changes or deletion of the program?  
Revision and enhancement of our graduate curriculum

If approved, when will this be implemented?  
Fall ☒  Spring ☐  Year 2006

**RECEIVED**  
MAY 9 2006  
RESEARCH & GRADUATE STUDIES

**U.O.P.**  
MAY 12 2006  
REGISTRAR
What is the anticipated impact on resources (faculty, funds, library, materials, etc.)
none
Describe any specific facilities or technology needs.
no

APPROVAL PROCESS

1. Action by department requesting addition/change:
   Approved by: [Signature]
   Date: 3/2/06

2. Action by the Curriculum and/or Graduate Studies Committee of the School/College:
   Approved by: M. Kelly
   Date: 3/9/06

3. Action by the Dean of the School/College:
   Approved by: M. Kelly
   Date: 3/2/06

4. Action by the Dean of the Library:
   Approved by: [Signature]
   Date: 5/19/06

5. Action by the Director of Educational Technology Services (if computer lab, software needed):
   Approved by: [Signature]
   Date: [Blank]

6. Action by the Registrar:
   Approved by: [Signature]
   Date: 5/19/06

7. Action by the Graduate Studies Committee (as appropriate):
   Approved by: [Signature]
   Date: 7/8/06

8. Action by the Academic Affairs Committee:
   Approved by: [Signature]
   Date: [Blank]

After approval by the Academic Affairs Committee, information regarding new, revised, or deleted programs and courses is sent to the Registrar for listing in or modifying the catalog.

Form revised 9/4/03
COMM 295e  
Applied Statistics in Communication Research

INSTRUCTOR
Dr. R.J. Koper  
8 PSYCOM Bldg.  
ph. 946-3050  
email: rkoper@pacific.edu

OFFICE HOURS
TBA

COURSE DESCRIPTION
This course is designed to prepare Master's and Doctoral students in Education and the Social Sciences for the completion of their thesis/dissertation. Three characteristics make the course unique. First, it focuses primarily on the conceptual, rather than the mathematical, aspects of statistical applications; there is very little "number crunching" (however, students will need a calculator). Second, the course provides a comprehensive look at the General Linear Model and covers topics ranging from "What is a Statistic?" to "Multivariate Applications". Third, the course is developed around a Mastery Learning Model, which rewards both immediate understanding and persistence. In other words, all students will master the course content, but probably at different rates. Finally, the last phase of the course provides a laboratory for students to learn the fundamentals of SPSS (Statistical Package for the Social Sciences). Each student will conduct a series of computer analyses on real data in which they begin with a simple FREQUENCY analysis and move on to RELIABILITY, CORRELATION, ANOVA, and REGRESSION analyses. Students will be expected to make both statistical and conceptual interpretation of the SPSS output.

COURSE OBJECTIVES
1. To increase knowledge and understanding of statistical applications in social science research.
2. To provide a review of the conceptual relationships among different statistical tests, e.g. t-test and ANOVA.
3. To offer a laboratory in which students will acquire competence in writing, running, and interpreting SPSS programs.

REQUIRED TEXT
Readings for the course are drawn from several sources, providing a broad perspective on the course topics. Students are provided with a packet of information including handouts at the beginning of the course.

COURSE OUTLINE
I. Why do research?
   A. Parameter estimation
   B. Hypothesis testing
   C. Error
   D. Biased (systematic)
   E. Unbiased (random)

II. Measurement and observation
   A. Accuracy and precision
   B. Levels of measurement
1. Nominal
2. Ordinal
3. Interval
4. Ratio
C. Reliability
D. Validity
E. Data and statistics

III. Descriptive statistics
A. Univariate - distribution
   1. Central tendency
      a. Mode
      b. Median
      c. Mean
   2. Variability
      a. Range
      b. Variance
         (1) Standard Deviation
         (2) Z scores
         (3) Standard error
         (4) Confidence intervals
B. Bivariate - covariance
   1. Scatterplot
   2. Correlation
   3. Regression
      a. Unstandardized
      b. Standardized
      c. Multiple predictors
      d. Dummy and effect coding
   4. Path Analysis - theory building
   5. Factor Analysis
      a. Exploratory
      b. Confirmatory
         (1) Cronbach's alpha and reliability estimates

IV. Inferential statistics
A. Type I and Type II error
B. Tests of association and tests of differences
C. Nonparametric
   1. Chi-square
D. Parametric
   1. t-test
   2. F test - ANOVA
      a. One way
      b. Factorial designs and interaction effects
      c. Multiple comparisons

V. Multivariate statistics
A. MANOVA
B. Multivariate Multiple Regression
C. Discriminant Analysis
D. Canonical Correlation

COURSE REQUIREMENTS AND EVALUATION
Exams (Three) 60%
SPSS Laboratory 40%
COURSE GRADE 100%

It should be noted that successful completion of all exams and SPSS lab exercises is required in order to receive a grade in the course.
POLICIES

The University Honor Code is an essential element in academic integrity. It is a violation of the Honor Code to give information or receive information from another student during an examination, or to submit all or part of someone else's work or ideas as one's own. If a student violates the Honor Code, the faculty member may refer the matter to the Office of Student Life. If found guilty, the student may be penalized with failure of the assignment or failure of the course. The student may also be reprimanded or suspended by the University. A complete statement of the Honor Code may be found in the Student Handbook, Tiger Lore.