TO: T. D. Sands, Executive Vice President for Academic Affairs and Provost
FROM: MJT Smith, Dean
DATE: March 22, 2013
SUBJECT: Graduate Certificate in Psychological Statistics, PWL

The enclosed proposal for a new Graduate Certificate in Psychological Statistics, to be administered by the Department of Psychological Sciences in the College of Science at Purdue University West Lafayette, was recommended for approval by the Graduate Council on February 21, 2013.

I am pleased to add my own endorsement to the proposal and hope that you can endorse it and transmit it to the president for approval by the Indiana Commission for Higher Education.

A few major points about the attached graduate certificate proposal:

- The purpose of this certificate is to fill a huge shortage of psychologists (and more generally, social scientists) trained in advanced quantitative methods.
- The courses comprising this certificate are more directly related to research in the social and behavioral sciences (e.g., Multilevel Theory, Measurement & Analysis; Structural Equation Modeling; Scaling & Measurement; Introduction to Classical & Modern Test Theory)
- With the imminent retirement of many senior quantitative faculty during the next decade, psychology programs are challenged to recruit Ph.D. students with methodological interests into psychology and to create curricular structures in which they can train intensively in quantitative methods, typically while also pursuing their substantive interests.

Please let me know if you have any questions about this recommendation for a Graduate Certificate in Psychological Statistics from the Department of Psychological Sciences at Purdue University.

Enclosure

Copies: Christopher Agnew, Diane Beaudoin, James LeBreton, Phil Pope, Candiss Vibbert

MJTS/tlp
GRADUATE CERTIFICATE PROGRAM
PSYCHOLOGICAL STATISTICS

SUBMITTED BY
DEPARTMENT OF PSYCHOLOGICAL SCIENCES
COLLEGE OF HEALTH AND HUMAN SCIENCES
PURDUE UNIVERSITY
WEST LAFAYETTE CAMPUS

RECEIVED IN THE GRADUATE SCHOOL
4/12/12
FINAL REVISIONS RECEIVED
1/28/13
Graduate Certificate Title:

Graduate Certificate in Psychological Statistics

Name of Department and College/School Offering the Graduate Certificate:

Department of Psychological Sciences/College of Health and Human Sciences

Campus:

West Lafayette

Approvals:

C. J.  
Signature of Department Head
Christopher R. Agnew, Department of Psychological Sciences

7/17/12  
Date

8/17/12  
Date

Signature of Academic Dean
Christine M. Ladisch, Health and Human Sciences
Signature Page cont.....

Graduate Certificate in Psychological Statistics:

[Signatures]

GRADUATE SCHOOL DEAN
MARK J. T. SMITH

[Signatures]

EXECUTIVE VICE PRESIDENT FOR ACADEMIC AFFAIRS AND PROVOST
TIMOTHY D. SANDS

[Signatures]

DATE

DATE

5/16/13
TITLE

Graduate Certificate in Psychological Statistics

STATEMENT OF PURPOSE

The purpose of this certificate is to fill a huge shortage of psychologists (and more generally, social scientists) trained in advanced quantitative methods. A recent article in the American Psychological Association's (APA) Monitor noted an “extreme shortage of psychologists trained in statistics, measurement and methodology. APA and the field as a whole worry that even as demand for experts in quantitative psychology is soaring, the number of students entering the subspecialty is decreasing” (Clay, 2005).

This concern has been echoed elsewhere, most notably in two papers published in the American Psychologist (one of the flagship journals of the APA). Specifically, Aiken, West, Sechrest, and Reno (1990) noted a number of concerns in quantitative training and these problems were recently confirmed in an updated report by Aiken, West, and Millsap (2008). These authors concluded:

- Even with “ideal training” in a first-year graduate sequence, supplementary training is required (Aiken et al., 1990, p. 730).
  - It is at best foundational for what is to follow in quantitative training. (Aiken et al., 2008, p. 43).

- “…measurement has declined substantially in the curriculum” (Aiken et al., 1990, p. 730).
  - We conclude that coverage in measurement remained inadequate a dozen years later and that most graduates lacked fundamental competency in measurement at the point of our current survey. (Aiken et al., 2008, p. 43).

- “…training in new techniques and methodologies is generally unavailable within the psychology curriculum (Aiken et al., 1990, p. 730).
  - In many instances, critical newer topics in methodology were included neither in the psychology curriculum nor elsewhere on campus. This was true for 42% of programs for [structural equation modeling], 48% for longitudinal data analysis, and 23% for multilevel models and [item response theory]. This same lack of available coverage prevailed for more basic topics as well (e.g., test construction)” (Aiken et al., 2008, p. 43).

- “With the imminent retirement of many senior quantitative faculty during the next decade, psychology programs are challenged to recruit PhD students with methodological interests into psychology and to create curricular structures in which they can train intensively in quantitative methods, typically while also pursuing their substantive interests. Beyond this, steps must also be taken within academic settings to nurture new PhDs hired to bear the responsibility of carrying out and enhancing the quantitative curriculum so that they can successfully achieve promotion and tenure. These steps must be taken to maintain and improve the quantitative training of PhDs in psychology in the service of advancing our science.” (Aiken et al., 2008, p. 48).

The proposed Graduate Certificate in Psychological Statistics is designed to address this critical training need. The certificate is specifically designed to address the types of gaps and concerns noted above allowing students to specialize in quantitative training and complete courses covering topics such as