

11/14/2016



Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE: Establish a Graduate Minor in Statistics, Department of Statistics, College of Liberal Arts and Sciences

SPONSOR: Professor Douglas Simpson, Head- Department of Statistics, dgs@illinois.edu

COLLEGE CONTACT: Karen Carney, Associate Dean, College of Liberal Arts and Sciences, kmcarney@illinois.edu

BRIEF DESCRIPTION: The Department of Statistics wishes to establish a Graduate Minor (12 graduate hours) for graduate students in good standing at UIUC. It will allow students to choose from a variety of courses in mathematical statistics and applied statistics that will strengthen their skills in applying statistics in their primary disciplines. The total hours required are far fewer than for the MS in Statistics degree, but the courses are at the same level and can be chosen to meet the particular statistical needs of the student.

JUSTIFICATION: *(Please provide a brief but complete rationale for your request.)* Graduate students from fields other than Statistics frequently take graduate level statistical methodology courses because they need this knowledge for their research. Although the Department of Statistics currently offers a secondary degree, MS in Applied Statistics, the time commitment for completing such a program is more than many PhD students can afford. The new graduate minor in Statistics will enable students to obtain a rigorous credential in Statistics based on a well-defined core of courses. This will enhance both their graduate education and their future prospects for employment as researchers in an increasingly data intensive world.

The Minor consists of the following requirements:

One of the following (4 graduate hours):

Stat 424 (Analysis of Variance), Stat 425 (Applied Regression and Design), Stat 426 (Sampling and Categorical Data), Stat 428 (Statistical Computing), Stat 429 (Time Series Analysis), Stat 430 (Topics in Applied Statistics), Stat 440 (Statistical Data Management), Stat 443 (Professional Statistics), Stat 448 (Advanced Data Analysis), Stat 480 (Data Science Foundations)

AND

Two of following (8 graduate hours):

Stat 510 (Mathematical Statistics I), Stat 511 (Mathematical Statistics II), Stat 525 (Computational Statistics), Stat 530 (Bioinformatics), Stat 542 (Statistical Learning), Stat 571 (Multivariate Analysis), Stat 575 (Large Sample Theory), Stat 578 (Topics In Statistics), Stat 587 (Hierarchical Linear Models), Stat 588 (Covariance Structures and Factor Models)

The expected enrollment in the minor is roughly 30 students at a time. This number is derived from approximate enrollments of out of department students who are currently in the required courses. A much greater number take 400-level courses, and fewer take the required 500-level courses. By the enrollment in these courses, and assuming that students who meet the requirements would desire the credential, and total of 25-35 at a time is our expectation.

A graduate student who elects Statistics as a minor must complete an application get approval from the department and from his/her home department. Applicants must be in good standing in a graduate program at the University of Illinois and should demonstrate an interest in Statistics. Students enrolled in the MS or PhD program in Statistics are not eligible to receive the minor.

Students should apply for the Minor upon completion of the required courses. Approval is contingent on having grade point average of 3.0 or better in the Minor.

The Director of Graduate Studies or designee will serve as adviser of students in the graduate minor.

BUDGETARY AND STAFF IMPLICATIONS:

1) Resources

- a. How does the unit intend to financially support this proposal?

The anticipated budgetary and staff implications will be minimal. Many non-majors already take the required courses, and this will be a formal way for them to receive credit. The staff and advising involvement will be rather straightforward with a simple form for admission and no graduate college petitions required.

- b. How will the unit create capacity or surplus to appropriately resource this program? If applicable, what functions or programs will the unit no longer support to create capacity?

The program is not expected to require additional capacity because the students who will be interested in the minor are likely to be taking the courses already.

- c. Will the unit need to seek campus or other external resources? If so, please provide a summary of the sources and an indication of the approved support.

The Department of Statistics is not seeking campus or other external support for this minor.

- d. Please provide a letter of acknowledgment from the college that outlines the financial arrangements for the proposed program.

2) Resource Implications

- a. Please address the impact on faculty resources including the changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

The department does not anticipate needing any additional resources as many non-majors already take the required courses, and this will be a formal way for them to receive credit.

- b. Please address the impact on course enrollment in other units and provide an explanation of discussions with representatives of those units.

All courses are controlled by the Department of Statistics. For those courses that are cross-listed with other units any of the cross-listed versions is allowed for credit.

- c. Please address the impact on the University Library (*A letter of estimated impact from the University Librarian must be included for all new program proposals. If the impact is above and beyond normal library business practices, describe provisions for how this will be resourced.*)

- d. Please address the impact on technology and space (e.g. computer use, laboratory use, equipment, etc.)

DESIRED EFFECTIVE DATE: Spring 2017

Statement for the catalog:

Overview tab (edit):

<http://www.stat.illinois.edu>

Chair of the Department: Douglas G. Simpson
Director of Ph.D. Program: Yuguo Chen, Annie Qu
Director of M.S. Program: Jeff Douglas
Contact: Matt Abbott
101 Illini Hall
725 South Wright Street
Champaign, IL 61820
(217) 333-2167
stat-office@illinois.edu

Major: Statistics
Degrees Offered: M.S., Ph.D.
Graduate Concentrations: Analytics (M.S. only), Applied Statistics (M.S. only)

Graduate Minor: Statistics

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Statistics and Doctor of Medicine (M.D.) through the [Medical Scholars Program](#)

Graduate Degree Programs

The Department of Statistics offers graduate study leading to the Master of Science in Statistics, the Master of Science in Statistics with specialization in various areas of application, and the Doctor of Philosophy in Statistics.

Admission

Graduate College admission requirements apply. Students are expected to have a strong undergraduate mathematics background, but need not have an undergraduate statistics or mathematics degree. Students may be admitted with deficiencies, which are to be removed during the first year of graduate work. A minimum Test of English as a Foreign Language (TOEFL) score of 590 for the paper-based test or 243 for the computer-based test is required for students whose native language is not English. The Graduate Record Examination (GRE) is required. The department offers Ph.D. admissions for the fall only. Admission to the Graduate Minor in Statistics requires concurrent enrollment in a PhD program outside of the Department of Statistics.

Medical Scholars Program

The Medical Scholars Program permits highly qualified students to integrate the study of medicine with study for a graduate degree in a second discipline, including Statistics. Students may apply to the Medical Scholars Program prior to beginning graduate school or while in the graduate program. Applicants to the Medical Scholars Program must meet the admissions standards for and be accepted into both the doctoral graduate program and the College of Medicine. Students in the dual degree program must meet the specific requirements for both the medical and graduate degrees. On average, students take eight years to complete both degrees. Further information on this program is available by contacting the Medical Scholars Program, 125 Medical Sciences Building, (217) 333-8146 or at www.med.illinois.edu/msp.

Graduate Teaching Experience

Although teaching is not a general Graduate College requirement, experience in teaching is considered an important part of the graduate experience **for the Ph.D. program in Statistics.**

Financial Aid

Financial aid is available primarily in the form of teaching assistantships, research assistantships, and fellowships. For further information write to the Graduate Admissions Committee, Department of Statistics.

Masters and Doctoral tabs (NO EDITS)

New Minor tab:

The Graduate Minor in Statistics is designed for doctoral students pursuing degrees in other fields who wish to enhance their statistical knowledge and credentials. Students within the major cannot minor in the same program. The Minor is taken in conjunction with, and is intended to complement the student's work in their primary disciplines.

Admission to the minor requires an application to the Department and admission to a PhD program (MS track to PhD cannot apply until they are in the PhD program) in another field at the University of Illinois. Applications for the Minor are submitted upon completion of the required courses. Approval is contingent on having grade point average of 3.0 or better in the Minor.

A total of three courses, constituting 12 graduate credit hours, are required for the minor in Statistics degree. At least 8 credit hours must be taken at the 500 level. No course substitutions allowed.

4 Credit Hours in Statistics at the 400 level from approved departmental list	4
8 Credit Hours in Statistics at the 500 level from approved departmental list	8
Total Hours	12

Students wishing information beyond that provided here should contact the Director of MS Studies in Statistics.

CLEARANCES:

Signatures:

Douglas G. Simpson

4-5-16

Unit Representative:

Date:

Karen M Carney

5-19-16

College Representative:

Date:

[Handwritten Signature]

9-29-16

Graduate College Representative:

Date:



**Senate Educational Policy Committee
Proposal Check Sheet**

PROPOSAL TITLE (Same as on proposal): Establish an Graduate Minor in Statistics

PROPOSAL TYPE (select all that apply below):

A. Proposal for a NEW or REVISED degree program. Please consult the Programs of Study Catalog for official titles of existing degree programs.

1. Degree program level:

Graduate Professional Undergraduate

2. Proposal for a new **degree** (e.g. B.S., M.A. or Ph.D.):

 Degree name, "e.g., *Bachelor of Arts or Master of Science*": _____

3. Proposal for a new or revised **major, concentration, or minor**:

New or Revised **Major** in (name of existing or proposed major):

New or Revised **Concentration** in (name of existing or proposed concentration): _____

New or Revised **Minor** in (name of existing or proposed minor): Statistics

4. Proposal to rename an existing major, concentration, or minor:

Major Concentration Minor

 Current name: _____

 Proposed new name: _____

5. Proposal to terminate an existing degree, major, concentration, or minor:

Degree Major Concentration Minor

 Name of existing degree, major, or concentration: _____

6. Proposal involving a multi-institutional degree:

New Revision Termination

 Name of existing Illinois (UIUC) degree: _____

Name of non-Illinois partnering institution: _____

Location of non-Illinois partnering institution:

State of Illinois US State: _____ Foreign country: _____

- B. Proposal to create a new academic unit (college, school, department, program or other academic unit):

Name of proposed new unit: _____

- C. Proposal to rename an existing academic unit (college, school, department, or other academic unit):

Current name of unit: _____

Proposed new name of unit: _____

- D. Proposal to reorganize existing units (colleges, schools, departments, or program):

1. Proposal to change the status of an existing and approved unit (e.g. change from a program to department)

Name of current unit including status: _____

2. Proposal to transfer an existing unit:

Current unit's name and home: _____

Proposed new home for the unit: _____

3. Proposal to merge two or more existing units (e.g., merge department A with department B):

Name and college of unit one to be merged: _____

Name and college of unit two to be merged: _____

Proposed name and college of new (merged) unit: _____

4. Proposal to terminate an existing unit:

Current unit's name and status: _____

- E. **Other educational policy proposals** (e.g., academic calendar, grading policies, etc.)

Nature of the proposal: _____

Revised 10/2012

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

EP.17.21

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



October 4, 2016

Bettina Francis, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Francis:

Enclosed is a copy of a proposal from the College of Liberal Arts and Sciences to establish a Graduate minor in statistics.

Sincerely,

A handwritten signature in black ink that reads 'Kathryn A. Martensen'.

Kathryn A. Martensen
Assistant Provost

Enclosures

c: K. Carney
A. Elli
Z. Gille
J. Hart
A. McKinney

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

College of Liberal Arts and Sciences
Office of the Dean

2090 Lincoln Hall
702 S. Wright Street, MC-448
Urbana, IL 61801



April 19, 2016

Wojtek Chodzko-Zajko
Dean, Graduate College
204 Coble Hall MC-322

Dear Dean Chodzko-Zajko:

The Committee on Courses and Curricula, on behalf of the Faculty of the College of Liberal Arts and Sciences has voted to approve the following proposal:

Establish a Graduate Minor in Statistics

Please let me know if you have any questions on this proposal. This proposal is now ready for review by the Graduate College for proposed implementation upon approval.

Sincerely,

A handwritten signature in cursive script that reads "Karen M. Carney".

Karen M. Carney
Associate Dean

enclosure

C: Professor Douglas Simpson