

APPLICATION FOR CHANGE IN EXISTING COURSE: MAJOR and MINOR

1. Submitted by the College of Arts and Sciences Date: 9/3/2008
 Department/Division offering course: Statistics

2. What type of change is being proposed? Major Minor*
 *See the description at the end of this form regarding what constitutes a minor change. Minor changes are sent directly from the dean of the college to the Chair of the Senate Council.

If the Senate Council chair deems the change not to be minor, the form will be sent to the appropriate Council for normal processing and an email notification will be sent to the contact person.

PROPOSED CHANGES

Please complete all "Current" fields.
 Fill out the "Proposed" field only for items being changed. Enter N/A if not changing.
 Circle the number for each item(s) being changed. For example: (6.)

3. Current prefix & number: STA 532 Proposed prefix & number: STA 606

4. Current Title Theory of Statistical Inference I
 Proposed Title[†] _____
[†]If title is longer than 24 characters, offer a sensible title of 24 characters or less: _____

5. Current number of credit hours: 3 Proposed number of credit hours: _____

6. Currently, is this course repeatable? YES NO If YES, current maximum credit hours: _____
 Proposed to be repeatable? YES NO If YES, proposed maximum credit hours: _____

7. Current grading system: Letter (A, B, C, etc.) Pass/Fail
 Proposed grading system: Letter (A, B, C, etc.) Pass/Fail

8. Courses must be described by at least one of the categories below. Include number of actual contact hours per week for each category.
 Current:
 () CLINICAL () COLLOQUIUM () DISCUSSION () LABORATORY (3) LECTURE
 () INDEPEND. STUDY () PRACTICUM () RECITATION () RESEARCH () RESIDENCY
 () SEMINAR () STUDIO () OTHER – Please explain: _____

Proposed:
 () CLINICAL () COLLOQUIUM () DISCUSSION () LABORATORY () LECTURE
 () INDEPEND. STUDY () PRACTICUM () RECITATION () RESEARCH () RESIDENCY
 () SEMINAR () STUDIO () OTHER – Please explain: _____

9. Requested effective date (term/year): Fall / 2009

10. Supplementary teaching component: N/A Community-Based Experience Service Learning Both
 Proposed supplementary teaching component: Community-Based Experience Service Learning Both

11. Cross-listing: N/A or _____ / _____

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Current Prefix & Number printed name Current Cross-listing Department Chair signature

a. Proposed – REMOVE current cross-listing: _____ / _____
printed name Current Cross-listing Department Chair signature

b. Proposed – ADD cross-listing: _____ / _____
Prefix & Number printed name Proposed Cross-listing Department Chair signature

12. Current Distance Learning (DL) status: Already approved for DL Please Add Please Drop
 If PROPOSING, check one of the methods below that reflects how the majority of the course content will be delivered.
 Internet/Web-based Interactive Video Extended Campus

13. Current prerequisites:
 MA471G and concurrent registration in STA531

Proposed prerequisites:
 STA 623

14. Current Bulletin description:
 Sampling distributions, sufficiency, exponential families, likelihood and information, Consistency, efficiency, point and interval estimation, Neyman-Pearson Lemma, Likelihood ratio

Proposed Bulletin description:
 Convergence concepts (Central Limit Theorem), Sampling from a Normal Distribution, Order Statistics, Methods for finding point and interval estimates, methods for finding hypothesis tests, sufficiency principle, methods for evaluating point estimators (mean square error, unbiasedness, Cramer-Rao lower bound), Asymptotics of point estimates, interval estimates, and hypothesis testing procedures.

15. What has prompted this change?
 To accommodate a more applied focus in the M.S. program in statistics, the course no longer emphasizes the same degree of theory as in previous versions. In addition, the theoretical courses are being spread out in the revised M.S. program in statistics thus we are not expecting students to register for STA531/532 concurrently (proposed 531 in Fall, 532 in Spring). In addition, course is intended solely for graduate students, hence the number change. Finally, the current STA531 is to be STA623

16. If there are to be significant changes in the content or teaching objectives of this course, indicate changes:
 See question 15

17. Please list any other department that could be affected by the proposed change:
 None

18. Will changing this course change the degree requirements for ANY program on campus? YES NO
 If YES[‡], list below the programs that require this course:

[‡]In order for the course change to be considered, program change form(s) for the programs above must also be submitted.

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19. Is this course currently included in the University Studies Program? Yes No

20. Check box if changed to 400G or 500. If changed to 400G- or 500-level, you must include a syllabus showing differentiation for undergraduate and graduate students by (i) requiring additional assignments by the graduate students; and/or (ii) the establishment of different grading criteria in the course for graduate students. (See SR 3.1.4)

21. Within the department, who should be contacted for further information on the proposed course change?

Name: Kert Viele Phone: 257-4803 Email: viele@uky.edu

22. Signatures to report approvals:

2/6/2008	Arnold J. Stromberg	/
DATE of Approval by Department Faculty	printed name	Reported by Department Chair
11/7/08	Leonidas G. Bachas	/
DATE of Approval by College Faculty	printed name	Reported by College Dean
1-20-2009	/	/
*DATE of Approval by Undergraduate Council	printed name	Reported by Undergraduate Council Chair
/	/	/
*DATE of Approval by Graduate Council	printed name	Reported by Graduate Council Chair
/	/	/
*DATE of Approval by Health Care Colleges Council (HCCC)	printed name	Reported by Health Care Colleges Council Chair
/	/	/
*DATE of Approval by Senate Council	Reported by Office of the Senate Council	
/	/	
*DATE of Approval by the University Senate	Reported by the Office of the Senate Council	

*If applicable, as provided by the *University Senate Rules*. (<http://www.uky.edu/USC/New/RulesandRegulationsMain.htm>)

Excerpt from *University Senate Rules*:

SR 3.3.0.G.2: **Definition.** A request may be considered a minor change if it meets one of the following criteria:

- a. change in number within the same hundred series;
- b. editorial change in the course title or description which does not imply change in content or emphasis;
- c. a change in prerequisite(s) which does not imply change in content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s);
- d. a cross-listing of a course under conditions set forth in SR 3.3.0.E;
- e. correction of typographical errors.

STA532 (to be renumbered STA606)

Theory of Statistical Inference I

Learning Objectives

Instructor : To be taught by any member of the graduate faculty in Statistics

Overview : Course continues where STA623 (Theory of Probability) leaves off, taught at the level of Casella and Berger, Statistical Inference. The course follows the middle of this text fairly faithfully, with some slight topic omissions. Students will take their probability knowledge and learn the basics of point estimation, interval estimation, and hypothesis testing.

Format : 3 hours lecture

Prerequisite : STA623 (Theory of Probability)

Learning objectives :

- 1) Sampling for the Normal Distribution, Order Statistics, Convergence Concepts (emphasize Central Limit Theorem) (3.5 weeks)
- 2) Methods of Finding Point Estimators (2 weeks)
- 3) Methods of Finding Tests (2 weeks)
- 4) Methods of Finding Interval Estimators (1.5 weeks)
- 5) Partial Coverage of sufficiency principle (1.5 weeks)
- 6) Partial Coverage of evaluating point estimators (1.5 weeks) – mean square error, unbiasedness, Cramer-Rao lower bound.
- 7) Asymptotics (3 weeks) – efficiency and consistency of point estimators, hypothesis testing, interval estimators

Grading : Students will be graded on a mix of homework, exams, and projects at the discretion of the instructor. A standard grading scale of (≥ 90 at least an A, ≥ 80 at least a B, ≥ 70 at least a C, ≥ 60 at least an E) should be used.