REQUEST TO COLLEGE CURRICULUM COMMITTEE FOR CURRICULAR IMPROVEMENTS

DEPARTMENT: MATH  PROPOSED EFFECTIVE SEMESTER: Fall 2014  COLLEGE: COAS

PROPOSED IMPROVEMENTS

Academic Program
☐ New degree*
☐ New major*
☐ New curriculum*
☐ New concentration*
☐ New certificate
☐ New minor
☐ Revised major
☐ Revised minor
☐ Admission requirements
☒ Graduation requirements
☐ Deletion ☐ Transfer
☐ Other (explain**)

Substantive Course Changes
☐ New course
☐ Pre or Co-requisites
☐ Deletion (required by others)
☐ Course #, different level
☐ Credit hours
☐ Enrollment restriction
☐ Course-level restriction
☐ Prefix ☐ Title and description
☐ General education (select one)
☐ Other (explain**)

Misc. Course Changes
☐ Title
☐ Description (attach current & proposed)
☐ Deletion (not required by others)
☐ Course #, same level
☐ Variable credit
☐ Credit/no credit
☐ Cross-listing
☐ COGE reapproval
☐ Other (explain**)

** Other: Revised Ph.D. program in Mathematics

Title of degree, curriculum, major, minor, concentration, or certificate: Doctor of Philosophy in Mathematics

Existing course prefix and #:  Proposed course prefix and #:  Credit hours:

Existing course title:

Proposed course title:

Existing course prerequisite & co-requisite(s):  Proposed course prerequisite(s):
☐ If there are multiple prerequisites, connect with "and" or "or". To remove prerequisites, enter "none."

Proposed course co-requisite(s):
☐ If there are multiple corequisites, they are always joined by "and."

Proposed course prerequisite(s) that can also be taken concurrently:

Is there a minimum grade for the prerequisites or corequisites?
☐ The default grades are D for undergraduates and C for graduates.

Major/minor or classification restrictions:
☐ List the Banner 4 character codes and whether they should be included or excluded.

For 5000 level prerequisites & corequisites: Do these apply to: (circle one)  undergraduates  graduates  both

Specifications for University Schedule of Classes:
a. Course title (maximum of 30 spaces):
b. Multi-topic course: ☐ No  ☐ Yes
c. Repeatable for credit: ☐ No  ☐ Yes
d. Mandatory credit/no credit: ☐ No  ☐ Yes
e. Type of class and contact hours per week (check type and indicate hours as appropriate)
   1. ☐ Lecture
   2. ☐ Lab or discussion
   3. ☐ Lecture/lab/discussion
   4. ☐ Seminar or ☐ studio
   5. ☐ Independent study
   6. ☐ Supervision or practicum

CIP Code (Registrar's use only):

Chair/Director

Chair, College Curriculum Committee

Dean

Graduate Dean:

Curriculum Manager: Return to dean ☐ Date  Forward to:

Date

Date

Date

Date

Date

Chair, COGE/ PEB / FS President

FOR PROPOSALS REQUIRING GSC/USC REVIEW:

☐ Approve ☐ Disapprove  Chair, GSC/USC  Date

☐ Approve ☐ Disapprove  Provost  Date

Revised May 2007. All previous forms are obsolete and should not be used.

CAS17-314 MATH
1. Explain briefly and clearly the proposed improvement.

This proposal revises and updates a Research Tools requirement for the Doctor of Philosophy in Mathematics. Students will need to demonstrate proficiency in mathematical typesetting, presentation tools, and literature search tools. In addition, they will choose between demonstrating a competency in a foreign language or with an appropriate mathematical research software tool.

2. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)

The listing of required tools needed to be updated to reflect the impact of technology on relevant research tools for mathematics. For example, students need to be able to use appropriate mathematical typesetting in submitting their research for publications and know how to use literature search engines to find the relevant published research for their current work.

3. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

This change should have no impact on other colleges, departments, or programs. This modification is specific to candidates in the Mathematics PhD program only.

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

The change does not impact the mathematics department programs. Math 6880 had been used to help students fulfill part of the research tools requirement. Given the proposed changes to the research tools requirement, the course description will be altered in a subsequent proposal. However, students will be able to meet the expectations of the research tools outside of any course work as they only need to demonstrate competency of any of the tools to their advisor. This competency does not require the completion of any course work.

5. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale.

The proposed modifications will not have any major effect on currently enrolled students meeting graduation requirements. Most of the proposed tools are already being used by the doctoral students as they are relevant to their research work. They can demonstrate competency to their advisors on the use of any of the tools at any time in their program of study.

6. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

This is a minor modification of the program. We do not anticipate that it will affect the enrollment in either direction.

7. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. If proposing a new program, include a letter and/or email of support from the university library affirming that the library resource issues have been reviewed. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

The proposed modifications should have no effects on resources. We are merely codifying what has been a practice.

8. General education criteria. For a general education course, indicate how this course will meet the criteria for the area or proficiency. (See the General Education Policy for descriptions of each area and proficiency and the criteria. Attach additional pages as necessary. Attach a syllabus if (a) proposing a new course, (b) requesting certification for baccalaureate-level writing, or (c) requesting reapproval of an existing course.)

NA
4. Demonstrate competence in research tools.

<table>
<thead>
<tr>
<th>Proposed Catalog Language</th>
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<tbody>
<tr>
<td>of MAT 6680 and &quot;B&quot; or better</td>
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Graduate Committee's Competency in computer usage as a research tool is usually demonstrated by completing 3 hours of MATTH 6680 with "B" or better.

4. Demonstrate competence in at least one foreign language.

<table>
<thead>
<tr>
<th>Current Catalog Language</th>
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<tbody>
<tr>
<td>(If possible, bold or otherwise note the key changes in the new proposed catalog language.)</td>
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</table>

Catalog changes may be added to the proposed catalog. Please discuss if changes are relevant to your current program. Please copy and paste relevant catalog description of a similar course in another program. For the "current" language, please copy and paste relevant catalog description of a similar course in another program. For "proposed" language, please copy and paste relevant catalog description of a similar course in another program.

10. How does this curriculum change result in effective and authentic assessment of student learning in the program? Describe. This proposal is to add courses to the current curriculum to reflect the changes in the proposed curriculum.

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