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| Department | | Math | College | Science | |
| Date | April 8, 2018 | | | |

**FORM A**

**ADMINISTRATIVE**

**USE ONLY**

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|  | UACM |  | UPRE |
|  | UREL |  | NOLIJ |
|  | CAT |  |  |

Effective: \_\_\_\_\_\_\_\_\_\_\_

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| Proposed Course Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rubric & No. | Math 3050 | | Title | Interest Theory | | | | | | | | | | | | | | | | | | | | | | | | | |
| Short Title (≤ 19 characters) | | | | | I | N | T | E | R | E | | S | T |  | T | | H | E | O | | R | Y | | |  | |  |  |  |
| Semester Hours of Credit | | | | | 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| If combination course type, # hrs. of **CREDIT** for | | | | | Lecture: | | | | | | | Lab/Sem/Rec: | | | | | | | | | | | | | | | | | |
| Repeat Credit Max. (if repeatable): | | | | | | credit hours | | | | | Graduate Credit? | | | | | Yes | | | | | | | \_\_X\_\_No | | | | | | |
| Credit will not be given for this course and: | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | |
| Course Type (Indicate **CONTACT** hours in the appropriate course type.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lecture \_\_5\_\_ | Lab | | Seminar | Recitation | | Lec/Rec       / | | | Lec/Sem       / | | | Lec/Lab       / | | | | Res/Ind | | | | Clin/Pract | | | | | | Intern | | | |
| Maximum enrollment per section: (use integer, e.g. 25 not 20-30) | | | | | | | | | | | 30 | | | | | | | | | | | | | | | | | | |
| Grading System: | | Letter Grade\_\_X\_\_ | | | | Pass/Fail | | | | | | Final Exam:\*\* | | | | | Yes \_\_X\_\_ | | | | | | | No | | | | | | |
| \*\*(**Attach justification if the proposed course will not hold a final exam during examination week.)\*\*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Course Description:**  **(Concise catalog statement exactly as you wish it to appear in the *General Catalog)***  Math 3050 **Interest Theory (5)** Prereq.: MATH 1552 or MATH 1553. Measurement of interest (including accumulated and present value factors), annuities certain, yield rates, amortization schedules and sinking funds, bonds and related securities, derivative instruments, and hedging and investment strategies. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Budget Impact (iF ANSWER TO ANY QUESTION IS “YES”, ATTACH EXPLANATION. | | | |
| If this course is approved, will additional staff be needed? | | Yes | No \_\_X\_\_ |
| Will additional space, equipment, special library materials or other major expense be involved? | | Yes | No \_\_X\_\_ |
| Academic Affairs Approval: |  | (Date) | |

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| Attachments (attach the following to your proposal) |
| **JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?**  **SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria**  **(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).** |

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| Approvals | | | |
| Department Faculty Approval Date |  | College Faculty Approval Date |  |

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Department Chair Signature (date) College Dean Signature (date)

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Graduate Dean Signature (date) Chair, FS C&C Committee (date)

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College Contact E-mail Academic Affairs Approval (date)

**Submit one original copy** of each complete request. The course proposal will be delayed until the form is filled out completely and correctly. Proposals should be submitted early enough to obtain final approval before the desired effective date.

A **free number** must be chosen for the course. The number of a course which has been officially dropped cannot be reused until ten years have passed from the date the course was last offered in the *General Catalog*.

The **course title** appears in the *General Catalog*. Course titles should be as brief as possible. The **short title** of a course appears in the *Schedule of Classes* and on students' transcripts. The length is limited to 19 characters, including spaces between words.

Departments may opt to allow students to receive **graduate credit** for 4000 level courses.

The semester **hours of credit** must be indicated. Courses including a laboratory/seminar/recitation component should indicate the distribution of credit hours between them. Two or more lab contact hours are required to support each lab credit hour. Seminar and recitation contact hours are equal to semester credit hours.

If a course may be **repeated** for credit, the maximum number of credit hours allowed under that course rubric and number must be given.

If credit may not be given for both this course and another course, list courses for which credit will not be awarded. (Note: The catalog statement for both courses should mention this incompatibility.)

**Grading system** may be letter grades or pass/fail. Courses are required to hold a **final exam** during final week. If the proposed courses will not hold a final examination, a justification must be attached explaining why such an exam would be inappropriate for the proposed course.

**Course type** indicates whether a course consists of regular meetings of a group of students (in a lecture, laboratory, seminar, or recitation setting) or whether students enroll individually and work independently under faculty supervision (research/independent study, clinical practicum, or internship). Guidelines for the classification of course types are available in PS-45. Guidelines for credit for off campus experiences can be found in PS-38 “Off Campus Course Credit”.

The **enrollment maximum** per section is used to identify the correct size classroom when scheduling courses. This number must be an integer rather than a range. Maximum enrollment must meet or exceed the class minima speci­fied in PS-37, *Mini­mum Class Size*:

Courses 0001 to 4000, 15 students: Courses 4000-4999, 10 students: Courses over 5000, 5 students.

For individual type courses, the enrollment maximum is set by default to 99.

For group courses (lecture, lab, seminar, recitation) **contact hours** refer to the number of hours spent each week with faculty in a classroom or lab setting. For lecture, seminar, and recitation courses, contact hours are generally equal to semester credit hours. For laboratory courses, two or more laboratory contact hours are required to yield a single laboratory credit hour. For individual courses (such as research/ independent study, clinical practicum, or internships) contact hours are less well defined, as these courses may involve minimal contact with faculty in classroom settings. For these courses, contact hours are generally set to equal the maximum number of credit hours permitted for the course.

The **course description** should be exactly as it is to appear in the *General Catalog* in formal catalog format; although there is no specific word limit, course descriptions should be as concise as possible. If the course title provides sufficient information, no additional description is required. Also, the description should be general enough, so that new faculty may teach the course with a different emphasis without having to request a change in description. Finally, if a course will not be offered on a regular basis, an existing special topics course should be used, in lieu of proposing a new course.

**Dates** of college and departmental approval of the proposal must be recorded. The Faculty Senate Courses and Curricula Committee will not consider proposals that have not been approved by the departmental/college curriculum committees. Please provide the **college/division/departmental contact’s name and email address**, in case of further questions/concerns that may be related to the proposal.

Required **Attachments** to **FORM A** include:

A **justification** for the request for the new course should be included along with the course description. The justification should explicitly state how this course will fit into the current curriculum. The extent to which this proposed course will duplicate other courses offered on the campus must be addressed. Statements from other departments regarding any possible overlap between the proposed course and existing courses must be included.

Departments must attach **sample syllabus** for each component of the course type (ie. If the course is a lecture/lab then the syllabi should differentiate these requirements)including an **outline** of subject matter sufficient to fill a 14 week semester; **titles** of text(s), laboratory manuals, and/or other required readings; **grading criteria**; and relevant weighting and **grading scale** (i.e. what point/percentage range constitutes an “A+”, “A”, “A-“, “B+”, “B”, “B-“, “C+”, “C”, “C-“, “D+”, “D”, “D-“, or “F” with or without a grading curve). For 4000-level courses, for which graduate credit will be given, any differential expectations of performance **beyond** those already expressed in the University's definition of *good standing* for graduate and undergraduate students must be specified in the syllabus. If no additional requirements are specified, graduate students are assumed to follow the same grading criteria as undergraduates.

Attach an explanation if the course does not hold a **final exam** during exam week.

If the new course will require additional staff, space, equipment, special library materials, or any major expenses, a separate **explanation** must be attached to the form, and approved by the Office of Academic Affairs. Approval of the course is based on the course description and does not in itself constitute approval of any additional funds or personnel.

**Summary of and justification for reducing the prereq from Math 3355 to Math 1552,**

**and for changing the course number from Math 4050 to Math 3050**

1. The first request is to drop Math 3355 (Probability) as a prerequisite for Math 4050, and replace it by Math 1552 (Calc II) for Math 3050. Math 4050/3050 covers the material in the Society of Actuaries’ exam known as Exam FM (Financial Mathematics). Around 10 years ago the society dropped from the FM syllabus the material that required Math 3355, and we dropped that same material from the Math 4050 syllabus. But we never eliminated Math 3355 as a prereq. We are motivated to correct that oversight now, as dropping the prerequisite in concert with changing Math 4050 to Math 3050 (see below) will allow students to take the course earlier in the program, with benefits explained just below.

2. The second request is to change Math 4050 from a 4000-level class to a 3000-level class (Math 3050); see accompanying Form B, dropping Math 4050. This change will allow sophomore students who have completed Math 1552 (Calc II) and who meet the enrollment requirements of the College of Science to take the class. It is desirable to advance students through this class in the sophomore year; see the accompanying Form E for the Actuarial Science Concentration, which proposes moving Math 4050/3050 from Semester 7 to Semester 3. Students may then (1) pass the Exam FM earlier, and (2) be better qualified to compete for summer actuarial internships at insurance and consulting companies.

The change in level will also remove the option to enroll for graduate credit. Allowing undergraduates to take the course earlier in their program is an important matter that affects 20% to 25% of undergraduate mathematics majors. The course is primarily for undergraduates, with only three graduate students having taken the course in the last 5 years.

**Courses, Curricula, Colleges, Offices, Concentrations, and Minors that mention Math 3050**

A. *College of Science*

A.1. Minor in Math.

A.2. Concentration in Actuarial Science, Curriculum in Math (Department of Math); see accompanying Form E.