COLLEGE OF SCIENCE
Proposed Catalog Changes

Effective Term (unless otherwise noted) = Summer 2015

Mathematics

1. Change the curricular requirements of Mathematics (M.S.):

Master of Science, Major in Mathematics. General M.S. requirements apply. An undergraduate major in mathematics or its equivalent is a prerequisite. There is both a thesis and a non-thesis option. Both options have the same credit requirements. Of the minimum of 30 credits required for this degree, at least 18 credits must be in mathematics at the 500 level (excluding Math 500, Math 510, Math 519, Math 599, seminars, and directed study); the remaining 12 credits may include 400 and 500 level courses in mathematics, and 300 or 400 level courses in supporting areas. Mathematics Education (MEd) credits may not be counted. For the non-thesis option, a thesis is not required, but a three-hour comprehensive written examination covering 6 mathematics courses chosen by the student (with at least 5 at the 500 level) is required. For the thesis option, the student writes a thesis (which may be expository in nature) under the guidance of a thesis committee. A final examination in the form of an oral defense of the thesis is required.

Rationale: Occasionally there are Masters Students that have sufficient course preparation early in their Master’s Degree program and are ready to begin research and write a thesis. Making it an option for students that would like to write a thesis would be beneficial to both the students and the department.

Physics

1. Change the curricular requirements of Physics (M.S.):

Master of Science, Major in Physics (Thesis Option). General M.S. requirements for a degree with thesis apply. The student must complete a total of at least 30 credits at 400 level or higher, 20 of which must be at the graduate level, including a maximum of 10 credits in research and thesis. Specific departmental graduate course requirements are 2 credits in Phys 501 and Phys 521, Phys 541, Phys 542, and Phys 550. If a student’s undergraduate preparation is considered deficient (e.g., if it lacks laboratory experience at the upper-division level), then certain undergraduate courses will be required in the study plan. Such remedial credits are not to be counted towards the total required for the degree. No departmental comprehensive exam is required. A final defense of the M.S. thesis is scheduled upon completion of the thesis. Full time students have to take this examination no later than two years after passing the comprehensive examination. The candidate is required to defend his or her work and show a satisfactory knowledge of the field in which the thesis research has been performed. The defense is oral and would typically last for one hour. The exam has to be announced to the physics faculty at least one week in advance. All members of the physics faculty are permitted to attend and ask questions. A recommendation of a majority of the student’s graduate committee is necessary to pass the defense. If the defense is failed, it may be repeated only once; the repeat defense must be taken within a period of not less than three months nor more than one year following the first attempt.

Rationale: The stricken sentence is eliminated because it is wrong.

Statistical Science

1. Change the curricular requirements of Statistical Science (M.S.):

All students who wish to do graduate work in statistics should have a background in quantitative methods including Math 275, Analytic Geometry and Calculus III, and 6 hours of statistics including Stat 431 or equivalent. Additionally, students should have knowledge of at least one higher level programming language.

Master of Science, Major in Statistical Science major. Students seeking admission to the MS program in Statistical Science should have completed at least two semesters in college calculus comparable to Math 170 and Math 175, and two classes in applied statistics including Stat 431 or a comparable course. Familiarity with programming is expected, and familiarity with numerical or statistical computing environments is desirable. Students are not required to have an undergraduate degree in statistics. Candidates must fulfill the requirements of the College of Graduate Studies and of the Department of Statistical Science. See the College of Graduate Studies section for the applicable general requirements for M.S. degree.

An individual graduate program is tailored for the student, but all students must complete a basic core requirement of 24 credits and either i) a thesis (Stat 500), ii) an internship report (Stat 598), or iii) a research course (6 credits of Stat 597). The core requirements are Stat 422, Stat 451, Stat 452, Stat 501 (1 credits), Stat 507, Stat 519, Stat 550, Stat 565, and Stat 597 (2 cr). A maximum of 6 credits of Stat 500 may be counted toward the thesis degree option.
Rationale: The changes in the admission requirements include dropping multivariable calculus (most students can pick this up while in the program if necessary), clarification of the level of calculus necessary by referencing courses at UI, some clarification concerning the expectations concerning knowledge of programming and statistical computing, and finally we want to emphasize that students need not (and often do not) have an undergraduate degree in statistics. We want to encourage students with a variety of backgrounds to apply to the program. All of these changes reflect how the admissions committee has been operating during the last several years.