

MEMORANDUM

Department of Mathematics

Campus Mail Box 129

To: Curriculum Committee
From: S. Allen Broughton, Head
Date: May 21, 2009 (approved by Curriculum Committee on this date)
Subject: Senior Project Senior Thesis Substitution policy for XX/MA and MA/XX
Double Majors and Two Degrees

Proposal overview:

Motion: Approve standard substitutions for the Mathematics senior thesis or senior project as given in the tables below. The tables may be updated from time to time by review and approval by the Curriculum Committee. Other proposals for substitution will be considered but must be approved by the Curriculum Committee. The student may always complete both capstone experiences separately.

Background, Justification and Comments:

- Virtually all programs require a capstone experience (senior project or senior thesis) For students requiring a capstone experience in both majors of a double major or two degree program, it may be desirable to combine the two capstone experience since both experiences develop common skills and since completing two separate capstone experiences can be a barrier to completing a double major.
- A background document to this discussion is the CC policy discussed and affirmed in 2002. It is attached.
- The total number of hours associated to the capstone experience must meet or exceed the required number of hours for either major.
- Some of the course substitutions rules have been designed to promote an interdisciplinary nature to the capstone experience, e.g., MA and CS combinations.
- Students seeking to attend graduate school may wish to consider completing both capstone experiences separately. In particular, a mathematics thesis should be completed for those students intending to attend graduate school where a high level of mathematics/statistics is required.
- A student with a two degree program should consider completing two separate capstone experiences, if doing so does not put them over the 32 additional hours required of two degree programs. If course substitution is used then the “missing

hours” must be substituted by additional upper division courses from the major in question.

- The proposals are designed to encourage rather than discourage double majors with mathematics. Mathematics works well with many different degree programs and the department wants to continue to encourage this interdisciplinary option for students, as well as supporting students with a single major in math.

Institutional Impacts:

Some coordination between department mentors for the two capstone experiences.

Detailed proposal

Any student completing a mathematics major as part of a Two degree or Double major program may substitute the senior thesis or project of another program, provided that:

1. The project or thesis must be publicly presented to the mathematics department.
2. The written thesis, or a project report must be submitted to the mathematics department for archival purposes
3. For a senior thesis, the topic must involve some mathematical content or mathematics application.
4. For a senior project, the project itself must have a mathematics component or the student supply an additional related mathematics component. The mathematics component must be detailed in the report described in 2.
5. For senior project MA491 is normally taken as a “research methods” course but MA491-MA492 may be substituted by four hours of 300+ math courses as described in the bulletin
6. For students seeking a course substitution the mathematics department will name a mentor to assist the student in requirements 1-4.
7. The substitution will be documented in the double major or two degree proposal and will be considered as approved if signed by the department heads of the two different programs.

**Table of substitutions for senior thesis
MA496, MA497, MA498 are the required math courses**

Applicable programs	Substitutions	Notes
CS/MA MA/CS	MA496 (4) by CSSE 494 (4) MA497 (2) by CSSE 495 (4) MA498 (2) by CSSE 496 (4)	

Senior projects next page

Table of substitutions for senior project

Applicable programs	Substitutions	Notes
CS/MA, MA/CS, MA/SE, SE/MA	MA492 (2) by CSSE 497 (4) MA493 (2) by CSSE 498 (4) MA494 (2) by CSSE 499 (4)	MA491 must be taken
MA/ME or ME/MA	MA492 (2) by ME 470 (4) MA493 (2) by ME 471 (2) MA494 (2) by ME 472 (3)	MA491 must be taken
MA/CPE, CPE/MA, EE/MA, MA/EE	MA492 (2) by ECE 460 (3) MA493 (2) by ECE 461 (4) MA494 (2) by ECE 463 (2)	MA491 must be taken
MA/OE, OE/MA	MA492 (2) by OE 415 (4) MA493 (2) by OE 416 (4) MA494 (2) by OE 417 (4)	MA491 must be taken

Policy on Senior Projects in Double Majors

On October 24, 2002 the Curriculum Committee discussed and affirmed that the following procedure on Senior Design Projects is consistent with current Curriculum Committee procedure, and may be considered a policy statement.

In a double major proposal in which both majors require a senior design project as a named requirement, then the senior design project course(s) of the first major are an approved course substitution for the senior design project course(s) of the second major provided that

- a statement of the course substitution is explicitly noted in the double major proposal,
- the department head of the second major agrees (by signature on the document), and
- the proposal is approved by the Dean, exercising his delegated authority to approve these proposals on behalf of the Curriculum Committee.