

## Mathematics Department Proposal for the New Writing Requirements

The new general education program requires that each department create a plan for its majors consisting of:

- 1) the department's objectives for its students on the issue of writing competency,
- 2) a plan for accomplishing these objectives which entails five courses beyond the level of ENG 102.

The following is our proposed plan:

### PART I - our objectives:

Our primary writing objective in the mathematics department is that the students learn to write mathematics, in particular that they learn to write coherent solutions to problems and to write mathematical proofs. (Both solutions and proofs involve writing English sentences as well as symbols.) However, careers both inside and outside mathematics expect broader writing skills. Therefore as a additional objective, we include the ability to research, organize and write a lengthier report. In summary, our objectives are that the students:

- 1a) be able to write coherent solutions to mathematical problems.
- 1b) be able to write correct and coherent mathematical proofs.
- 2) know how to both research and write a longer paper or report.

### PART II - the plan of courses to meet the objectives:

In order to meet the first objective - the ability to write mathematical solutions and proofs - we are specifying three mathematics courses, MAT 215, 330 and 347, that all of our majors take, in which homework (not merely of a computational sort) will be regularly collected and graded. All of these are courses in which written work has traditionally been expected, and we will make the writing requirement obligations clear to whomever is assigned to teach these courses. The first of these courses, MAT 215, serves a number of other majors besides our own and has tended to be taught in two sections per semester of approximately 30 students per section. In order to do justice to the writing component, we will probably need to add at least one section per year. We do not see the kind of writing skills demanded in the three courses as qualitatively different, though we would of course hope that the students in MAT 330 and MAT 347, who will all have taken MAT 215, will be starting at a higher level of writing skill. Thus, we envision using the writing component of these later courses to fine-tune the skills already developed. Since MAT 330 and MAT 347 can be taken in either order, neither course can build on the other.

To fulfill the second objective of our plan, we will specify a certain number of courses from which our majors would choose two. The courses on this list will all have significant writing requirements. The only mathematics

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course on this list will be MAT 300, History of Mathematics, since none of our other courses could reasonably require a term paper. [Note: MAT 300 is not a requirement for the mathematics major, so students will not necessarily choose this as one of their courses.] We plan to draw the other courses from:

- 1) Intellectual Issues courses that are certified for the writing requirement and
- 2) courses that would be of particular relevance to a mathematics major.

We would specify that a student who was double-majoring could use certified courses in his/her other major to fulfill this part of the requirement if these courses required the writing of a major paper. We are waiting to see which courses are approved as writing courses in other departments before we specify exactly which courses will be on this list. Next semester, we will resubmit our proposal with this list attached.