

UNCA

Academic Policies Committee

Report on Courses Fulfilling the Mathematics Requirement:

On October 7, 1999, APC met with three representatives of the Mathematics department to discuss five of the seven courses which satisfy UNCA's general education mathematics requirement. Most of the discussion centered on MATH 155. The Committee was impressed by the department's efforts and believes the math faculty clearly understand the contribution mathematics makes to a liberal arts education. APC was especially impressed by part I of the report which listed the objectives of the courses.

From the report and the discussion, APC draws three conclusions.

1. *The Mathematics Department has made an excellent effort to adapt MATH 155 to the objectives they define for the requirement.*

Course syllabi indicate Math 155 is a creative attempt to improve math literacy for a diverse clientele. The course is wide ranging in its coverage and is a serious effort to improve problem solving skills without repeating courses students are likely to have had in high school. The department has also made serious efforts to adapt the course to changing needs, foremost of which is the improved mathematical skill of incoming students, and the changed instructional emphases and methods in primary and secondary schools.

2. *It is not clear whether MATH 155 is compatible with the objectives defined by the original general education document.*

According to Senate Document 3684

A Student must complete a 4-hour course at the level of college algebra emphasizing word problems... The study of mathematics is a traditional component of liberal education. College-level algebra is a reasonable minimum for a high quality liberal arts institution. Word problem skills are helpful and show the student the practical role of mathematics in many areas.

There are two problems with the charge. First it incorporates a phrase, “word-problems,” that is no longer current in the Mathematics discipline. Second, the phrase “college-level algebra” is unclear. It does not indicate whether students should use algebra in a college math course or complete a course in college algebra. If it is the latter, Math 163, 167, 191, and STAT 185 are compliant with the charge but MATH 155 is not. While they were not discussed, APC suspects that MATH 157 and 158 are not compliant either.

APC thus faces a dilemma. The committee concludes that 155 is a good course and the Math department has thoughtfully and reasonably adjusted to the changing abilities and math literacy of students. It has also made an impressive effort to define objectives for the course compatible with the University’s liberal arts mission. Because SD3864 is unclear about what exactly is required, however, APC is unable to determine if MATH 155 satisfies the mathematics general education requirement.

3. *APC recommends the following adjustments regarding general education courses in the Math Department.*

- a. The course description of MATH 155 should be revised and clarified. There are hints in the description that it is a remedial course which contradicts what was revealed in the discussion. The course described in the hearing was more attractive and innovative than the one described in the catalog.
- b. The committee encourages the Mathematics Department to make greater efforts to systematically assess its contributions to general education and determine the degree to which its general education course objectives are actually translated into outcomes and competencies. While the department already routinely conducts an internal periodic review of its general education courses, it should consider supplementing this with a systematic analysis of faculty impressions of students’ mathematics preparation. The department might also find it helpful to consider the way other institutions meet their related general education goals.

APC recognizes that the lack of direction provided by SD 3684 makes such assessment difficult, but the department should make an effort to conduct such analyses using the objectives it defined in its report.