

4b.1 Undergraduate advising in the mathematics department

June 19, 2008

Freshman and sophomore advising

The College advising system for freshman and sophomores uses volunteer advisors from many departments. Each freshman advisor is assigned about 12 freshman who are required to meet with their advisor three times during their freshman year to discuss freshman fall registration, freshman spring registration, and sophomore fall registration. The twelve students remain assigned to their freshman adviser until they declare their major sometime during their sophomore year.

In 2007-08, five mathematics department faculty members volunteered as freshman advisors. This number will increase in 2008-09 if only because the College now has an “outside-of-department-service-requirement” for tenure, and freshman advising is identified as one of the potential outside service opportunities for junior faculty.

Advising mathematics majors

Any member of the department’s permanent faculty is eligible to be a mathematics major’s advisor and many mathematics majors ask one of their favorite mathematics instructors from their freshman/sophomore courses to become their major advisor. However, one member of the department is identified as “Chief Concentration Advisor (CCA)” and this person is the default advisor for mathematics majors in the sense that any major who does not ask some other faculty member to be his/her advisor is sent to the Chief Concentration Advisor. In previous years, David Lutzer held this position, and now Michael Lewis is CCA. The following table lists mathematics faculty members and the number of their mathematics major advisees in March 2008. The advisee counts are based on a combination of lists of mathematics majors provided by the Registrar and updates provided by individual faculty members.

Faculty member	Number of advisees in March 2008
Bolotnikov	4
Drew	3
C. Johnson	6
Kincaid	2
Leemis	1
Lewis (new CCA)	23
Li	4
Lutzer (former CCA)	41
Shi	2
Spitkovsky	1
Tian	1
Zobin	1
Unknown	11

The final entry in that table, showing that 11 mathematics majors have unknown advisers, is due to the fact that when a student is a double major and consequently has an adviser in each of two departments, the university’s records contain only the name of the student’s primary adviser. For example, a student whose primary major is biology and whose second major is mathematics will have an “unknown” mathematics department adviser.

Professional careers advising

Professor Larry Leemis is our designated adviser concerning actuarial science, a career path pursued by one or two of our graduating majors each year. This career path is unique in that it requires students to pass a series of professional examinations over a multi-year period stretching far beyond their undergraduate years. Typically, undergraduates take the first one or two actuarial exams before graduating. Our actuarial adviser provides information about actuarial careers and assists students in forming study groups for the exams. To encourage students to take the actuarial exams, the department typically pays the first actuarial exam fee for them, often with private support from an alumnus at a major insurance company.

Advising about mathematical sciences graduate school

About 25% of our mathematics majors go to graduate school in the mathematical sciences. Our faculty identify the strongest mathematics students early in their careers, perhaps even in the freshman year, and begin talking to them about graduate school as a possibility. The department periodically reminds its majors (e.g., by letters from the department chair) about summer REU opportunities, with the goal of getting students interested in pursuing mathematical research. The department also organizes special advising sessions about graduate school opportunities in the spring and fall of each year, and offers evening GRE review sessions in October of each year. Taking the Mathematics GRE is rather expensive, and the department reimburses its majors for 50% of that fee.

Students who show an interest in mathematics graduate school are encouraged to write honors theses during their senior year, and many take advantage of this opportunity. (We expect a substantial increase in this number due to the department's NSF-CSUMS grant.) Honors thesis students spend a lot of time talking to their honors advisers about many things, and graduate school planning frequently comes up.

Advising mathematics minors

The requirements for minoring in mathematics (or in any discipline at the College) are very simple, and very little advising is involved, if only because students first declare their minors in the second semester of their senior year (and often in the month before graduation). The department chair typically signs off on the declaration-of-minor forms. This usually involves nothing more than checking that the College's rules have been followed.

Advising majors from other disciplines

Several times each year, a student will ask us what mathematics courses s/he should take, given that s/he plans graduate study in another discipline. In recent years, biology and economics have been the source of the largest number of questions of this kind. Based on contacts with colleagues in other disciplines we have some sense about how to answer the students' questions and we make sure to refer the students to the most mathematically-inclined faculty in their home discipline after answering their questions as best we can.