The Structure of Math Comps

**Expectations:** The essence of math comps is a prolonged experience of doing mathematics. The faculty takes a very broad view of what, exactly, this means. We intend to offer opportunities for students: to engage in original research; to apply mathematics in significant, real-world settings, typically with an industrial, governmental, or non-profit partner; to study original historical documents; to engage in pedagogical research; and other projects limited only by the imaginations of our faculty and students. In general the experience should be, at least, two terms long. The default expectation is that each project culminates in both a public presentation of the results and a paper submitted to the faculty.

Students typically work in small groups of two to four supervised by a single faculty member. Students should expect two weekly group meetings with the advisor, and at least that many weekly meetings with the group without the advisor, in addition to time spent working alone. Comps should be a top academic priority; faculty expect to see an intense commitment to the project from every student in the group.

**Timetable:** The timetable presented here is for a two-term project; three-term projects require the obvious adjustments.

Spring term of Junior year: The faculty present to the assembled junior majors the projects being offered for the next year. Some of these projects may have course prerequisites and/or require preparatory reading. Students have one week to submit their ordered preference list to the department. Soon thereafter the faculty will assemble the groups.

Term 1: Research, regular meetings.

Term 2: Research, regular meetings (Weeks 1-4)
       Talk and paper preparations (Weeks 5-8)
       Public talk (Week 9)
       Paper due (Week 10).

**Evaluation:** At the end of term one, to ensure adequate progress is being made by all, each student will complete a project evaluation including feedback on the work of all group members. At this point students not making adequate progress may be removed from a project and assigned, instead, an individual comps project consisting of a public talk on a library research topic of the faculty’s choosing and a three-hour written examination.

At the end of term two a pair of faculty members (including the advisor) will conduct an individual interview of each comps student. The same two faculty members will read the student’s group paper. These two will present a recommendation of pass, fail, or distinction to the department. (Note: Grades are assigned to each student, not each project.)

Finally, each student is required to attend at least eight comps (or colloquium) talks during the junior and senior years.