

Department of Mathematics and Computer Science Honors Procedures

November 20, 2007

General Description

To earn Honors in Mathematics or Computer Science, a student must complete a substantial independent research project entailing broad independent inquiry of a topic of significant depth in the discipline, involving review of the literature, and showing significant originality. The topic should be chosen to demonstrate the student's broad and deep understanding of her or his chosen area.

The Honors project differs from the Capstone project in that it has significant entry standards (to ensure that the student is prepared for the project), it requires more depth, it must demonstrate a broader understanding of the field, and must show significant originality, which may include original synthesis, integration, or understanding beyond the scope of simple revision or comprehension of existing knowledge.

A student may earn up to 6 credits for independent work in the department in pursuit of the research for the Honors Project.

We expect that normally, an interdisciplinary project will be done under the aegis of the department or program of primary focus of the project, and it should meet the criteria of that department or program's Honors program.

For guidelines and information about the College's Honors program, see

<http://www.macalester.edu/academicprograms/honors.html>

I. Entry Standards

To be accepted into the Honors Program in the Mathematics major or Computer Science major, a student must satisfy the following.

1. A minimum College grade point average of 3.3.
2. A minimum grade point average of 3.5 in courses taken in the major.
3. By the time of the proposal, the student should have demonstrated, through coursework in the major, competence in the discipline, skills, and the depth of understanding necessary for successful completion of a project of the scope and depth of the Honors Project.
4. A research proposal, prepared by the student, which will include:
 - a. A project description and title.
 - b. The name of a faculty sponsor in the department.
 - c. A timeline describing when and how the research and writing will take place.
 - d. In addition, but optionally, the student may include a piece or pieces of disciplinary work (for example, some written work or a project or an in-depth problem solution), completed in a major course, as evidence of the ability to do honors-caliber work.
5. A written endorsement by the faculty sponsor, which addresses
 - a. The qualifications of the student.
 - b. The feasibility of the project, and the likelihood of successful completion.
 - c. Whether the student has adequate course work for the proposed project.
 - d. The sponsor's willingness to supervise the project.

The proposal and faculty endorsement will be due by April 25 of the student's junior year. The department will meet in May to discuss the proposals. The department will determine one of the following. A proposal may be approved, or a proposal may be rejected as unsuitable. The department may, at its discretion, reject but suggest or encourage revision and resubmission in the fall.

Students studying away in the spring (or away from campus on official College leave) should submit an intention to participate in the Honors program by the Spring deadline. For such students, (and for proposals submitted in the previous spring but rejected with option to resubmit), a proposal adhering to the above guidelines must be submitted to the department by the end of the second week of classes in the fall. The department will accept or reject any such proposals in time for the Chair to inform the Dean of Academic programs of all students who have been accepted into the Department's Honors programs by the College's October 1 deadline.

II. January Evaluation (To be completed by January 25. A student who will not return to Macalester by January 25 must complete this requirement before leaving for winter break.)

To continue in the Honors Program in Mathematics or Computer Science, the student must satisfy a mid-project evaluation in January of the senior year. The evaluation will be made by an individualized Honors Committee consisting of the Departmental Coordinator of Honors, the faculty supervisor, and at least one or more faculty reviewers, with the last continuing as Final Evaluation reviewers. The evaluation will take place as follows.

1. The student will submit a report to the committee of the progress on the project, to include a project outline and annotated bibliography, by January 15 and at least one week in advance of the meeting listed below.
2. The committee will meet with the student to discuss the report, and evaluate the progress so far.
3. The committee will recommend to the department whether the project should be continued.
4. The department will determine, from the committee's recommendation, whether the project should be continued as an Honors project. Projects which the department determines should not continue as Honors projects can, of course, continue as Capstone Projects. Normally, both the committee and the faculty sponsor must agree, by consensus, that the student is on track to successfully complete the project, for the department to choose the recommendation to continue.

III. Final Evaluation

Successful completion of the Honors Project requires the following.

1. An Honors paper and an Abstract, completed and in final form by April 18 and approved by the student's Honors Committee which consists of the faculty sponsor, the other faculty reviewers from the January Evaluation committee (but not necessarily the Coordinator of Honors), and at least a third faculty reviewer, preferably from outside the department.

2. A public presentation of the work, in a venue approved by the department. Normally this would be on Capstone Day or in a special presentation. It may not be given in a regularly scheduled class.
3. An oral examination on the substance of the honors project and involving the honors student, the individualized Honors Committee (as described in III.1. above), and interested members of the faculty. This event, including presentation and discussion of the honors material, will take place by the last week of April. The student's Honors Committee must be provided with a copy of the Honors paper in final form not less than one week before this examination. The deadline for this will be April 25.

The student's Honors Committee will reach consensus on one of the following evaluations of the project: (i) To accept the project, although some changes may be required; (ii) to reject the project for Honors but recommend that the project be accepted as a Capstone project, (iii) To recommend that the project be rejected as unacceptable. If the project has been accepted, subject to required changes, the committee may delegate final approval to the advisor, it may require final committee approval, or it may require resubmission and re-evaluation through a second oral examination. Three members of the committee must sign the Project Completion Form for the project to be approved.

IV. Summary of Deadlines

These deadlines are intended to facilitate progress toward a successful Honors paper. In all cases, college deadlines supercede the ones below, and are firm. For December graduates, suitable deadlines 1 semester earlier than the ones below will be announced each year.

1. Application to Department: *April 25* (Junior year)
2. Final Application to Department, for students studying away in Spring of the junior year, or for sanctioned resubmissions of proposals rejected in the previous spring: *End of 2nd week of Fall term.*
3. Progress report due to progress committee: *January 15* (Senior Year)
4. January evaluation completed: *January 25*
5. Departmental selection of final evaluation committee: *April 1*
6. Final Abstract Due: **April 4** (approximately 2 weeks before the paper is due the readers)
7. Paper due for readers: *April 18*
8. Final Oral evaluation: **April 25**
9. Library copy of paper due, with all corrections, as specified by the evaluation committee, due: **May 5.**