

SENIOR PRESENTATIONS AND HONORS PROJECTS:

What are they, how are they similar, and how do they differ?

Based largely on a document written by Mark Davis

All biology majors must complete a Senior Presentation. This requirement can be met by completing an Honors Project, or by simply completing a Senior Presentation. How are these two processes similar, and how do they differ?

SIMILARITIES. Both the Honors Project and Senior Presentation require students to write a formal scientific research or review paper, a process that takes several months and involves multiple drafts. During this process, students receive feedback on their drafts from their faculty sponsor, and sometimes from others as well, including other faculty members and students. In addition, students deliver an oral presentation on their topic in both instances. Both the Honors Project and Senior Presentation serve as a capstone experience for Biology majors when taken with two semesters of BIOL 489: Senior Seminar. Both enable students to explore in depth a particular biological topic of interest to them, and both give students the opportunity to demonstrate their mastery of knowledge and skills they have acquired as a biology major. Both represent final biology projects and can be referred to as such in applications to graduate schools and employers. Because Latin honors are determined by GPA exclusively, students can graduate with Latin Honors even if they do not complete an Honors Project.

DIFFERENCES. The Honors Project is normally based on independent biological research by the student, although in certain cases it can involve research of a different type on a biological topic, e.g., historical or philosophical research. On the other hand, a Senior Presentation can be based on almost any biological topic in which a student is interested. This could include a topic the student encountered in a course, on an off campus study program, on an internship or in some other context. Like an Honors Project, the Senior Presentation also can be based on actual research that a student has conducted. The department holds high expectations for Senior Presentations, and satisfactory completion of a Senior Presentation requires a minimum of several months of hard work on the part of students. The department expects students undertaking an Honors Project to make a major commitment of time and energy, one that normally extends as long as a year or more, including time spent developing and conducting the research, analyzing results, reviewing the literature, and writing the actual thesis.

EXPECTATIONS AND REQUIREMENTS FOR HONORS PROJECTS THAT DO NOT APPLY TO THE SENIOR PRESENTATION.

- Students undertaking an honors project are required to have a GPA of at least 3.4 in their biology courses (and 3.3 overall.)
- Normally, students are expected to have completed a significant portion of their bench or field research by the start of their senior year. This research can be conducted during the junior year, e.g., in a faculty member's lab or on a study away program, and/or during the summer following the junior year.
- During their senior year, honors students are expected to commit the equivalent of at least one course per semester to working on the thesis. Typically, this commitment involves registering for an independent during one semester and enrolling in only three courses during the other semester.
- All honors students are required to register for a two credit January independent during their senior year and are normally expected to be on campus during this time working on their honors project.
- At the end of January, honors students are required to submit a first (but complete) draft of their literature review to the department for approval. Only those students

whose literature reviews are approved by the department will be permitted to proceed with their Honors Project.

DIFFERENCES BETWEEN HONORS THESES AND SENIOR PRESENTATION PAPERS. The purpose of the literature review is for the student to demonstrate their understanding of how their particular topic relates to the larger questions and issues facing the biological sub-discipline in which they are specializing. The difference between the review in an Honors Project and a Senior Presentation is that the former is expected to be substantially more comprehensive and detailed. A student doing an Honors project is expected to demonstrate a thorough understanding of the major findings and theories of the field that provide the context for their own study. Thus, an Honors Thesis normally cites a much larger body of literature and provides more detailed analysis of the literature than does a Senior Presentation. As a result, literature reviews in Honors Theses typically range from 20-40 pages in length compared to 8-10 pages in typical Senior Presentations. In cases when the Honors Project or Senior Presentation is based on independent research, the analysis and discussion of the results in an Honors Project are likewise expected to be more thorough and detailed than in a Senior Presentation. While there are no page requirements for either the Senior Presentation or Honors Theses, the latter normally range from 40-60 pages in length (excluding figures, tables and bibliography), while Senior Presentations typically range in length from 18-25 pages.

DIFFERENCES IN THE ORAL PRESENTATION. Honors Projects and Senior Presentations also differ in their requirements for the oral presentation. Students doing a Senior Presentation are required to present a 15 to 20 minute oral presentation on their topic during the Biology Department Spring Symposium. Students who have based their Senior Presentation on independent research are also encouraged to present their findings at the Undergraduate Winchell Symposium, part of the spring meeting of the Minnesota Academy of Science. Honors students are required to present a 30-60 minute department seminar on their research. In addition, Honors students are expected to present their findings at the Winchell Symposium and/or some other professional meeting, and also to make a presentation at the Biology Department Spring Symposium.

DIFFERENCES IN EVALUATION. The last difference between Honors Projects and Senior Presentations involves the final decision on whether the student has met the respective requirements. When a student does a Senior Presentation, the faculty sponsor decides alone whether the Senior Presentation paper satisfactorily meets the department requirement. However, Honors Projects are read by a committee of faculty members, usually three, that often includes faculty or other experts from outside Macalester. This committee then meets with the student for about an hour during which time they ask the student various questions about the paper and about the student's research experience. Following the hour discussion with the student, the committee decides as a group whether the paper merits an Honors designation.

SUMMARY. In conclusion, an Honors Project is all that a Senior Presentation is, and much more. Students should consider undertaking an Honors Project only if they have a very strong interest in pursuing a research experience in considerable depth and are willing to organize their senior year around the demands of the Honors Project. Since a major portion of the research for Honors Projects is normally completed by the start of the senior year, students interested in undertaking an Honors Project should discuss their ideas with a faculty member during their sophomore or junior year. Additional written information about Honors Projects, including the application process, is available on the Department website (<http://www.macalester.edu/biology>). Students with additional questions about either the Honors Project or the Senior Presentation should see any biology faculty member.