

SENIOR HONORS PROJECT GUIDELINES

Department of Mathematics and Statistics

Adopted Spring 2012

Department of Mathematics and Statistics does not have special requirements for completing Senior Honors Projects (SHPs). This document describes the general guidelines set forth by the Honors Program and some additional recommendations.

1. Timeframe

Each honors student, regardless of Track, must complete an SHP during his/her final three semesters prior to graduation. The workload is to be apportioned over the three-course math honors sequence, MATH 499 A, B, and C, as decided in consultation with the Project Advisor.

- Each honors student should find a **Project Advisor** during the first semester of his/her junior year and preferably start thinking about the topic for the SHP.
- The student should enroll in **MATH 499 A** in the second semester of his/her junior year and start working on the SHP. The student should also find two to three **Readers**, complete the application form for SHP, and submit the application along with the project proposal to the Honors Program by the end of the semester.
- The student should enroll in **MATH 499 B** in the first semester of his/her senior year and continue working on the SHP. A significant portion of the work should be completed during this semester.
- The student should enroll in **MATH 499 C** in the second semester of his/her senior year and finalize the SHP.

2. Load Distribution

In the past, Project Advisors have directed successful SHPs according to several models of apportioning credits among **MATH 499 A, B, and C (6 credits total)**. Below are some such models.

- Model 1 (**2-3-1**): This is perhaps the most ideal model.
 - Semester 1: Identify problem, conduct literature review, make conjectures, and experiment computationally/mathematically, if appropriate.
 - Semester 2: Complete body of research and begin writing up results.
 - Semester 3: Refine and polish project.

- Model 2 (**2-2-2**): This is perhaps the second best model.
 - Semester 1: Identify problem, conduct literature review, make conjectures, and experiment computationally/mathematically, if appropriate.
 - Semester 2: Begin research and complete major result.
 - Semester 3: Refine and document results.
- Model 3 (**1-3-2**): This model requires focused concentration during the second semester.
 - Semester 1: Identify problem and begin literature review.
 - Semester 2: Complete literature review, make and test conjectures, and complete major result.
 - Semester 3: Refine and document results.

All successful models avoid overloading the second semester of the senior year when students are quite busy. The models are presented more or less in order of how “front loaded” the project is. Front loading is highly recommended because the natural tendency is for everything to wait until the last minute.

3. Additional Remarks

- SHPs in mathematics and statistics generally come in two flavors: expository and original research. Either type is acceptable. However, original work presents more challenges and pitfalls. In particular, the process needs to be flexible enough to accommodate a “false start” if the project involves original work. The models in Section 2 above are designed primarily for original-work projects.
- Several professors expressed the desirability that the SHP be written using L^AT_EX. L^AT_EX is the gold standard for documenting work of a scientific nature.

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