

Form: Program Plan For Information Literacy

Major Program Mathematics;

For the BA and BS degrees in Mathematics, Applied Mathematical Sciences, Mathematics-Statistics, and Mathematics-Actuarial Science

Briefly describe how Information Literacy will be taught within your major program. List courses in which these skills will be embedded.

In mathematics (at the bachelor's degree level) we expect a general understanding of and competency in the processes described below. Information Literacy will be taught primarily through Math 200-201W, Math 242W, Math 291W, Math 292W or Stat 200-202W as described below. All students are required to take one of these courses.

- Information development and structure -- an understanding of how information in mathematics is created, disseminated and organized. Students will become familiar with the use of printed sources as well as commonly used web sites containing basic mathematical information.
- Information access -- an understanding of information communication processes and a facility with the tools required to tap into these processes. Students will learn about resources of mathematical information and how they are accessed through various web based resources, such as JSTOR and MathSciNet. They will get hands-on training in such details, as they do a thorough search of the literature in order to write a cohesive paper on the mathematical topic they have chosen, with support from the instructor.
- Information evaluation and integration -- an ability to evaluate, synthesize and incorporate mathematical information into written, oral, or media presentations. The key skill required is the ability to read and write mathematics. Knowing how to read and understand concepts is essential to assimilate the material in an article on mathematics at the undergraduate level. These skills will be taught in many of the mathematics courses required for the major and emphasized again in the W-courses described below.

Math 200 and 201W: Undergraduate Seminar I, II.

Students attend weekly mathematics talks by guest speakers. Each student selects a topic from those presented, conducts a search of the scholarly literature, selects appropriate materials pertaining to the chosen topic, and then reads and incorporates these into 7.5 pages of written reports for each of Math 200 and Math 201W.

- Course Objectives:
 - Expose students to a variety of topics in mathematics.
 - Investigate one topic in depth and write a paper on it.
- Course Requirements
 - Attend undergraduate seminars.
 - Select a topic from among the talks given at the seminar, search the scholarly literature and select appropriate materials pertaining to the chosen topic.
 - Read and incorporate these into writing assignments.
 - Write and revise a total of two 7.5 page papers on the topics chosen, including a bibliography.

Math 242W: History of Mathematics.

Students attend three lectures per week where the history of mathematics is discussed and guidance is given on preparing three written assignments. Students are tested on their grasp of the material in two in-class exams.

- Course Objectives:
 - The course introduces the students to topics in biography, history, and mathematics. One possible course syllabus is to focus on particular on mathematics in the ancient Middle East, geometry and algebra in classical Greece, the preservation of the knowledge of antiquity outside of Europe in medieval times, progress in number theory and the solution of polynomial and diophantine equations, and the development of differential and integral calculus in the seventeenth century.
 - Learn to research and write reports on mathematical topics
- Course Requirements
 - Midterm and final examination
 - Two or three written papers.

Math 291W: Technical Writing for Actuaries.

The primary goal of Math 291W is to learn to communicate effectively as a professional actuary. In other words, the student will be able to speak and write clearly about actuarial topics in a manner that is easily understood by others.

- Course Objectives:
 - Research and write a paper in actuarial science.
 - Learn to gather information about an actuarial topic and then speak and write clearly about it.
 - The primary focus is to learn to communicate effectively as a professional actuary.
- Course Requirements
 - Choose topic
 - Gather and select necessary resources
 - Do the necessary research
 - Write first and second drafts
 - Final presentation

Math 292W: Senior Thesis in Mathematics.

This is the course in which students write their senior thesis.

- Course Objectives:
 - Research and write a senior thesis in mathematics
- Course Requirements
 - Choose topic
 - Gather and select necessary resources
 - Do the mathematical research needed for the thesis
 - Write a senior thesis

Stat 200 and Stat202W - Course Information:

STAT200 - STAT202W. Undergraduate Seminar I, II:

The student will attend 6-8 seminars per semester, and choose to study one technical topic in detail. The student must submit a comprehensive paper on this topic, including a literature review, description of technical details, and a summary, which will be evaluated and corrected during development.

- Course Objectives:
 - Expose students to a variety of topics in statistics through seminars;
 - Investigate one topic in depth and write a paper on it.
- Course Requirements
 - Attend seminars under Stat 200 and Stat 202W;
 - Select a topic from among the talks given at the seminar, search the scholarly literature and select appropriate materials pertaining to the chosen topic;
 - Utilize various sources to read and incorporate these into writing assignments;
 - Write and revise two 7.5 page papers on the topics chosen under the supervision of the course instructor;
 - Maintain a file/profile to show progress from Stat 200 to Stat 202W.

Are all these courses required of your students? If not, how will you assure that all students attain the exit expectations for Information Literacy.

Every mathematics major is required to take one of the courses described above.

Date of Approval by Faculty or Appropriate Faculty Committee: 9/14/04 (original); 2/28/07 (revised)

Date of Approval by School/College C&C Committee: 10/12/04 (original)

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