

Student Learning Outcomes

Mathematics Department, Westfield State College

Student Learning Outcome	Method of Assessment
Students have the ability to explore and understand advanced mathematical knowledge.	Examples of student work contained in section #1 of each student's senior mathematics portfolio. Student narratives included in section #1 of this portfolio.
Students effectively communicate mathematical ideas.	Examples of student work contained in section #2 of each student's senior mathematics portfolio. Student narratives included in section #2 of this portfolio.
Students use the language of mathematical proof correctly and appropriately.	Examples of student work contained in section #3 of each student's senior mathematics portfolio. Student narratives included in section #3 of this portfolio.
Students understand the interconnectedness of mathematics.	Examples of student work contained in section #4 of each student's senior mathematics portfolio. Student narratives included in section #4 of this portfolio.
Students understand applications and real-world uses of mathematics.	Examples of student work contained in section #5 of each student's senior mathematics portfolio. Student narratives included in section #5 of this portfolio.

Westfield State College
Department of Mathematics
Mathematics Portfolio Requirement

As part of their undergraduate program in mathematics, each student is to develop a mathematics portfolio. The portfolio will be a requirement for Math 390 (Senior Seminar in Mathematics), which is a required course for the mathematics major. The portfolio will contribute 25% towards the student's final grade in this course. The student must meet with their advisor a minimum of three times during their Math 390 semester, where they will develop the ten narratives contained in their portfolios. Failure to complete the portfolio as part of the Senior Seminar will result in a failing grade in this course and will not enable the student to graduate.

After every semester which includes 300-level coursework, the student should choose and save potential entries from this coursework to include in their portfolio. Possible examples of entries include: papers, projects, notes, quiz questions, exam questions.

Required Portfolio Elements

Students are required to have in their portfolios **at least two entries from each of the 300-level mathematics courses they have taken**, up to and including the semester they are enrolled in the Senior Seminar. The course name and professor should be clearly labeled at the top of each entry. **The portfolio should include the following six sections:**

Section 1 should contain at least two entries which the student believes are the best examples of their exploration and understanding of **advanced mathematical knowledge**.

Section 2 should contain at least two entries which the student believes best demonstrates their ability to **communicate mathematical ideas**.

Section 3 should contain at least two entries which the student believes best illustrates their ability to use the **language of mathematical proof** correctly and appropriately.

Section 4 should contain at least two entries which the student believes best helped them to understand the **interconnectedness of mathematics**.

Section 5 should contain at least two entries which the student believes best shows an **understanding of applications and real-world uses of mathematics**.

Section 6 should contain **all additional entries**.

Required Narratives

For two of the entries in each section (not including section 6), **the student must include with the entry a one page narrative** explaining the student's particular choice of that entry.

Each narrative should contain:

- a complete description of the entry,
- an explanation of why the student feels that it is a good example for that particular section,
- a discussion of how the entry fit into the class as a whole,
- a discussion of how the class itself successfully achieved the student outcome goal for that section.

A total of ten narratives will therefore be included in the portfolio. The course name and professor should be clearly labeled at the top of each narrative. Students are requested to provide an extra copy of each narrative for the department to keep. The portfolio will be returned to the student.

(Revised: 11/29/07)