



## ASSESSMENT PLAN

## MINOR IN MATHEMATICS

(Program of Study / Major / Degree Level, etc.)

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Program Goals: The goal of the Minor in Mathematics is to provide the student with significant mathematical skills and a perspective on the discipline.

Relevance of goals to the mission statements and/or strategic plans of the University, College, or Program as applicable: These goals are aligned with the CMPS Mission Statement to “advance modern science through its nationally competitive research and educational programs.”

<b>Student Learning Outcomes</b> (list the three-to-five most important)	<b>Assessment Measures and Criteria</b> (describe one or more measures for each outcome and criteria for success)	<b>Assessment Schedule</b> (initial year, and subsequent cycle)
1. The student pursuing a Minor in Mathematics will gain an understanding of what constitutes mathematical thinking, including the ability to produce and judge the validity of rigorous mathematical arguments.	<b>Assessment Measures:</b> MATH 410, which is required for the Minor in Mathematics, emphasizes the student’s transition from the problem-solving mode in lower-division calculus courses to more sophisticated mathematical thinking, and simultaneously gives students a firm foundation in the theoretical underpinnings of the calculus. Because of the central role of MATH 410 in the	Begin assessment in 2007, and thereafter assess every third year.

undergraduate mathematics curriculum, each Math Minor student is required to achieve at least a C in this course. In consultation with the faculty members teaching MATH 410, the MDAC will determine one or more appropriate problems from each MATH 410 final examination and analyze the solutions of a random sample of students from the class including a random selection of Math Minor students. In addition, the MDAC will consult with the faculty members in that course to ascertain strengths and weaknesses of Math 410 and the level of preparation of the students.

**Criteria:** The final exam question chosen will involve the proof of a significant result drawn from the concepts in Advanced Calculus. The proof will be judged using the following criteria:

1. Correctness: Is the result rigorously proved?
2. Clarity: Is the proof presented in a readable manner?
3. Conciseness: Are all of the steps relevant to the proof and are they presented in a concise manner?

We will expect a 75% success rate for the MDAC evaluation based upon the above criteria.

<p>2. The Minor in Mathematics program is designed to offer students outside of mathematics significant mathematical skills and a perspective on the discipline. It is expected that the Minor in Mathematics Program will be successful in promoting mathematics for such students.</p>	<p><b>Assessment Measures:</b> The Minor in Mathematics program will be assessed in order to:</p> <ul style="list-style-type: none"> <li>(a) identify the number of students in the program and trends in the number of students in the program;</li> <li>(b) observe the completion rate of those who enter the program;</li> <li>(c) determine student opinion of the value of the program using a questionnaire.</li> </ul> <p>A student questionnaire will be given to students who have completed the program and a selection of those pursuing the program.</p> <p><b>Criteria:</b> The questionnaire will be designed to learn the student assessment of the Minor Program. If there are significant questions about, or suggestions for, the Program, the Mathematics Department will take appropriate steps to modify the Minor Program.</p>	<p>Data will be gathered annually starting in Spring 2007 and will be analyzed every third year starting in 2009.</p>