

## **Mathematics Student Portfolio**

A portfolio is compiled by faculty on each major. A portfolio includes examples of student work that shows successful completion of NCTM Standards. The creation of a student portfolio is an ongoing process that occurs during the entire program of that student. The portfolio is evaluated upon the student's graduation.

### **Required Elements**

- Four examples of proofs
- Four examples of problems solved individually
- One example of appropriate use of technology to either demonstrate a mathematics principle, to learn a mathematical concept, or to solve a mathematical problem
- One example of writing on a mathematical topic
- One example in which breadth and depth of mathematical knowledge and interconnections between different areas are exhibited

### **Portfolio Guidelines**

- Faculty members are responsible for the submission of at least one portfolio item per major enrolled in each of their classes.
- When an element specifies four examples, the expectation is that there will be one from each year. If this is not possible, then examples should come from different classes.
- Avoid having the same piece of work count as two different elements. No piece should be used for three different elements.

**Rubric  
for  
Assessing Mathematics Student Portfolio**

Objective	Needs Improvement	Outstanding
Demonstrate the ability to write proofs	Gaps in logic, faulty logic, lack of clarity, lack of sufficient justification, misuse of facts or results	Well-written, very clear, breath of techniques, complex commonality of principles evident
Demonstrate understanding of the breath of mathematical sciences and their interconnecting principles	Narrowly focused, apparently no discernable interconnecting principles	Employs ideas and technique drawn from different areas, emphasizes common threads
Demonstrate depth in at least one area	Superficial, short introductory in nature	Requires mastery of basic principles, uses techniques that are beyond that of a first course
Demonstrate appropriate use of technology`	Superficial, artificial, contrived, short	Goes beyond the usual pen and pencil approach, produces significant outcome not possible without technology
Demonstrate writing on a mathematical topic	Poor English, bad writing, inappropriate topic	Well written and researched, significant topic
Demonstrate problem solving	Superficial, easy, short, poorly written	Requires ingenuity, depth of knowledge, well written

**Portfolio Evaluation Committee**

Each spring a committee of faculty members appointed by the chair will score each element of the portfolios of mathematics majors who have graduated during the previous calendar year. The committee will score a portfolio element using the rubric as a guide. The rubric is used to determine those portfolio elements that either need improvement or are outstanding. Those portfolio elements which neither need improvement nor are outstanding are to be deemed acceptable. The committee will submit its report to the chair and to the whole faculty in a meeting.