

## MATH 124E Portfolio Instructions, Fall 2026

Your portfolio is a collection of your best work this semester in math. You will select work that represents your progress in four areas of mathematical power: problem solving, reasoning, communications, and connections. In each section, there will be two primary elements, a sample of your work and a written discussion of that work. In each case you will describe what you learned, why you categorized it as an example of that kind of mathematical power, and why you think it important. Each section essay should be about a half page. In addition, you will write a short essay (one page) about your personal development as a math student this semester. A few comments about the categories follow.

**Mathematical Problem Solving:** Any time you use mathematics to determine an outcome or make a decision you have used problem solving skills. Problem solving is not the same as computation. While accurate computation is required to solve problems, it is not sufficient. Problem solving includes the spectrum of skills required to analyze, set up, and answer questions mathematically.

**Mathematical Reasoning:** All reasoning is mathematical. Any time you start with a given set of facts or assumptions and follow logical processes to a conclusion, you are using mathematical reasoning skills.

**Mathematical Communication:** Numbers are ideas as well, and are of no value if we cannot communicate them effectively. Precision in our written and spoken use of mathematics, as well as our use of graphic techniques allow mathematics to be an effective form of communication.

**Mathematical Connections:** Mathematical connections exist throughout our lives. They branch out from various mathematical disciplines to virtually every human endeavour. In addition, there are connections among the various branches of mathematics. Mathematical connections are the interrelationships among various mathematical topics, and the relationship of mathematics to other subjects.

### Scoring

|                              |                  |
|------------------------------|------------------|
| Introductory Essay           | <b>12</b>        |
| Mathematical Problem Solving | <b>12</b>        |
| Mathematical Reasoning       | <b>12</b>        |
| Mathematical Communication   | <b>12</b>        |
| Mathematical Connections     | <b><u>12</u></b> |
| <b>Total</b>                 | <b>60</b>        |

**Due date is 02 Dec 2025.** Late penalty is 15 points per school day.

Last day for submission is 03 Dec 2025.

**NO EXCEPTIONS, NO EXCUSES.**