

TOPICS IN MATHEMATICAL COMPUTING

MTCH 8040

Course Description:

This course focuses on the current state-of-the-art technology that is either designed for or is uniquely suitable for teaching mathematics. **3 credits**

Prerequisites:

MATH 2200 or equivalent or approval of instructor.

Overview of Content and Purpose of the Course:

This course provides hands-on experience in developing and using technology-based content for mathematics courses.

Anticipated Audience/Demand:

This course is intended for students in the MAT Program.

Major Topics:

Computational Thinking

Mathematics

Mathematics Education

Technology

Methods:

The course will be taught in a computer lab setting or similar setting so that the hardware to be used is readily accessible. Approximately 15% of the course will be lecture to introduce students to the technology. Another 55% will be spent with hands-on activities for the students to do to learn how to use the technology. The remaining 30% will be allocated to student presentations related to using the technology.

Student Role:

Students will be expected to attend class, pay attention to lectures, and work diligently during the hands-on portion of the classes in order to learn how to use the technology including asking questions when needed. They are also expected to share their work with the class by doing presentations several times throughout the course.

Textbook:

Gutttag, John. *Introduction to Computation and Programming Using Python*. Cambridge: MIT Press, 2013.

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