

**Millersville University, Spring 2018**  
**MATH 679: Technology in the Secondary Classroom, 3 credits**

Instructor: Dr. Tyrone Washington  
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Office Hours: Monday, Tuesday, Thursday 2:30 to 4 pm  
Tuesday 5:15 to 5:45 pm  
Other times available on request: *please just ASK* for other options as needed.

Course Description:

MATH 679 is intended to address the technological needs and interests of graduate students pertaining to the use of technology in the secondary classroom. The course will investigate various uses and misuses of technology as well as pertinent research regarding technology. The course will support the development of lessons that can be shared with and implemented by students in the class incorporating the use of graphics calculators, computer software, applets, the internet and other appropriate technology. 29.12( )Tj /sT1 10.14 a/TT1 10 students,

- find appropriate resources on the in

Required Materials:

- a graphing calculator (preferably a TI-83+ or TI-84) for use in-class and out-of-class work,
- computer access (on campus may be necessary) for use outside of class to rese



**Assignment #4: Geogebra/SMP Task: due: Wednesday, March 21.**

This assignment will involve creating/modifying a Geogebra Task, teaching the task to students, and a paper. Details will be provided later.

**Assignment #5: Research Paper: due: Wednesday, April 18, APA-format; 7 – 10 pages.**

A student will read extensively in the literature generated by a particular area of interest in mathematics technologies. For example, a student might focus on the literature related to the use of a particular technology in learning mathematics (e.g., use of simulation tools in teaching probability and statistics, students' learning with dynamic geometry, effects of using CAS on students' mathematical learning in grades 6-14, teachers' beliefs about the use of technology in teaching and/or learning of mathematics). A paper may also focus on the developmental evolution of a particular tool (e.g., SimCalc MathWorlds, Graphing calculators, dynamic geometry tools) or be an autobiographical sketch of the work of a particular innovator in technologies for learning (e.g., James Kaput, Roy Pea, M. Kathleen Heid, Elliott Soloway, Seymour Papert). The review should include a summary of the most important work in the selected area and a critique of its strengths and weaknesses (critiques can be supported by articles written by others about the work). Such a review would enable a student to go more deeply into a particular area of interest than we will be able to as a class.

**Assignment #7: Presentation of Technology in Classroom: Ongoing.**

You will read and summarize an article focused on technology in the classroom (Mathematics Teacher or Mathematics Teaching in the Middle School are good resources). The summary should be no more than 1 page typed (single-spaced). You should include the full citation of the article, a brief summary of the technology, and how the technology is utilized in the classroom (tips or hints would be appreciated). For your presentations, you need to bring copies of the summary for each of your classmates. You will lead us in a discussion about your article. You should plan to engage us in the technology. Presentations will be capped at 30 minutes.

**Assignment #8: Presentation of Research on Technology: Ongoing.**

You will read and summarize an article focused on research on technology (Journal for Research in Mathematics Education is a good resource). The summary should be no more than 1 page typed (single-spaced). You should include the full citation of the article, a brief summary of the key points (not the abstract).

For your presentations, you need to bring copies of the summary for each of your classmates. You will lead us in a discussion about your article. You should plan to engage us with questions/comments based on the article. Presentations will be capped at 30 minutes.

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**Academic Integrity:** Please refer to your Student Code of Conduct for details. Cheating or other dishonest behavior may result in course withdrawal as well as other disciplinary action.

**Civitas:** The academic program at Millersville University requires general civility, respect, and cooperation to flourish. Each member of this class is expected to display appropriate behavior at all times. Any person who exhibits disruptive, uncooperative, or threatening behavior or uses abusive, disrespectful, or obscene language will be dropped from the class.

Students with Learning Disabilities: Millersville University makes every effort to comply with legal requirements for students with learning disabilities. It is, however, the responsibility of the student with a learning disability, who desires accommodations, to make those expectations known to instructors. I recommend that you make an appointment with me to discuss this matter.

<http://www.millersville.edu/learningservices/>