Course Details
MATH 409 Mathematics through Computers, 3 Credits
- Sections:
  - Math 409-01, Online Asynchronous
  - Tentative schedule can be found here

Professor Information
Dr. Melissa Gunter
- Email: mgunter@ccsu.edu
- Office: Marcus White Hall Room 117 and WebEx room
- Office Hours: T 11:00 am - 12:00 pm
  W 9:30 - 11:30 am
  R 11:00 am - 12:00 pm, 1:00 - 2:30 pm
  and by appointment

Course Description
- This course is designed for pre-service teachers who will be certified to teach grades 1-8. It is a mathematics content course, the focus being the use of technology in the teaching of mathematics. Exploration of computer software, such as Geometer’s Sketchpad, Logo, and Excel, and the use of Internet sources to promote better understanding of mathematical concepts and algorithms. Restricted to students seeking certification.

Required Course Materials
- Access to the course website (in Blackboard) and working email. Readings and links to web resources will be provided in Blackboard.

Course Goals
- Work to:
  - Make sense of problems and persevere in solving them
  - Reason abstractly and quantitatively
  - Construct viable arguments and critique the reasoning of others
  - Model with mathematics
  - Use appropriate tools strategically
  - Attend to precision
  - Look for and make use of structure
  - Look for and express regularity in repeated reasoning
- Deepen understanding of mathematical concepts by working to:
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○ Develop and use problem solving strategies
○ Develop number concepts and operations with extensive use of manipulatives
○ Encourage mathematical discourse through cooperative learning and written communication
○ Experience and learn mathematics content through constructivist pedagogy

For this Course

● The last day to withdraw from this course and receive a grade of “W” is Wednesday, November 17, 2021. After November 17th, withdrawals are allowed only under extenuating circumstances and require approval of the course instructor and department chair (in that order).

University Policies

● Student Disabilities Services
  ○ If you are a student with a documented disability, and would like to request academic accommodations, you are encouraged to contact Student Disability Services (SDS) at 860-832-1952, or email disabilityservices@ccsu.edu. Please visit the SDS website at http://www.ccsu.edu/sds/ to download an Intake form and documentation requirements. Temporary impairments may also qualify for accommodations. Central Connecticut State University provides reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for students with documented disabilities on an individualized basis.
  ○ Please contact me privately to discuss your specific needs if you believe you need course accommodations based on the impact of a disability, medical condition, or if you have emergency medical information to share. I will need a copy of the accommodation letter from Student Disability Services, Willard- Room 201 in order to arrange your class accommodations. Student Disability Services maintains the confidential documentation of your disability and assists you in coordinating reasonable accommodations with faculty.

● Weather Emergencies
  ○ In the event of a weather emergency which requires the cancellation of classes, listen to WTIC (1080 AM) or call (860) 832-3333 for the "general snow message". You can also check the CCSU Website. Please check your class email before you head to campus.

● Academic Integrity
  ○ You are responsible for understanding and abiding by the University’s policy on academic integrity. The Department of Mathematical Sciences rigorously enforces
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this policy. Academic Integrity is the responsibility a student assumes for honestly representing all academic work. All students are expected to demonstrate integrity in the completion of their coursework. Academic integrity means doing one's own work and giving proper credit to the work and ideas of others. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism. Students who engage in plagiarism and other forms of academic misconduct will face academic and possibly disciplinary consequences. Academic sanctions can range from receiving a zero for the assignment, quiz, test or final exam to a failing grade for the course. From a disciplinary standpoint, an Academic Misconduct Report may be filed and a Faculty Hearing Board may impose sanctions such as probation, suspension or expulsion.

○ For further information on academic misconduct and its consequences, please consult the Student Code of Conduct (http://www.ccsu.edu/StudentConduct/codeofconduct.asp) and the Academic Misconduct Policy (http://www.ccsu.edu/AcademicIntegrity/).

● Statement on Discrimination and Harassment

○ Central Connecticut State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon age; ancestry, color; gender identity and expression; intellectual disability; learning disability; mental disorder; physical disability; marital status, national origin; race; religious creed; sex, (including pregnancy, transgender status, sexual harassment and sexual assault); sexual orientation; or any other status protected by federal or state laws. Any student who has concerns should contact the Office for Equity & Inclusion (OEI) at 860-832-1652, Student Affairs at 860-832-1601, or their faculty member. The OEI is located on the main floor of Davidson Hall, room 119.

● Sexual Misconduct, Intimate Partner Violence and Stalking

○ Central Connecticut State University (CCSU) will not tolerate sexual misconduct against students, staff, faculty, or visitors in any form, including but not limited to: sexual assault, sexual exploitation, sexual harassment or stalking, as defined in CCSU policies. For additional information, please consult the CCSU policy at https://www.ccsu.edu/diversity/policies/index.html. All faculty members and staff have a duty to report incidents of sexual harassment including sexual misconduct, intimate partner violence and stalking to Pamela Whitley, Title IX Officer, Office for Equity & Inclusion, Davidson Hall, 119.

○ To file a report, contact: Equity & Inclusion (860-832-1652), Student Conduct (860-832-1667) or Student Affairs (860-832-1601). For criminal complaints, contact the University Police (860-832-2375).
Evaluation and Grading Criteria

- All assignments are to be turned in at the beginning of class time on the days they are due. If they are not turned in at the beginning of class, they are considered late. Assignments that are late may be subjected to a penalty. You will receive no credit for assignments that are more than two weeks late. All course assignments must be complete for you to receive a grade for the course.
- You are responsible for participating in each class opportunity. If we believe that people construct their own understanding from their experiences (and we do), you must be present for the experience!
- Grading Scale:

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<th>Letter Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>( p \geq 93 )</td>
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<tr>
<td>A</td>
<td>( 90 \leq p &lt; 93 )</td>
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<td>B+</td>
<td>( 88 \leq p &lt; 90 )</td>
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<tr>
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<tr>
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Assignment Descriptions:

- **Discussions.** *(15% of final grade)* You are expected to engage in discussions twice a week by creating your own response to the given prompt and replying to your classmates. Students must engage fully with each discussion to receive the maximum benefit to their learning. You will also be expected to engage meaningfully with your classmates in discussions. **There are no make-up activities for discussions.**

- **Math Technology Tool Critique.** *(20% of final grade)* You will work in small groups to critique a set of math technology tools in order to discern the strengths and weaknesses of each one. We will work to create a framework of questions that will guide your investigation into whether or not the tools enhance learning opportunities beyond what might be experienced without the tool.

- **Math Exploration Activities.** *(30% of final grade)* We will focus on four major units for our class which roughly correspond to the strands of the Common Core Standards for Mathematics in elementary mathematics. You will be assigned activities using a number of different platforms in order for you to explore the mathematics involved as well as the technological tool. After completing the assigned activity/activities for the week, you will complete a reflection about what mathematics you have learned, as well as the potential benefits and drawbacks of the technology.

- **Mathematics Technology Portfolio.** *(35% of final grade)* This semester-long project will be the final exam for our class, and consist of several parts:
  - **Lesson Plans.** During each of the four content area units, you will develop a mathematics technology lesson plan. These will be peer-reviewed, and you will turn in the revised, final drafts in your portfolio at the end of the semester.
  - **Philosophy of Teaching Mathematics with Technology.** Through the course of the semester, you will develop a well-informed philosophy about teaching mathematics with technology. This will personalize the ideas learned from our course into a description of how you will approach teaching with mathematics technology in your classroom.
  - **Teaching with Technology Plan.** Related to your philosophy, you will create a plan for how you will integrate technology into your teaching of mathematics in your own classroom. This plan will provide a blueprint for how you anticipate your own teaching to utilize technology with students, so you will need to specify a grade-level so you can address it developmentally as well.