

MAE330/MAT 517: Calculators and Computers for Teachers

Prof. Scott Sutherland

Stony Brook, Fall 2020

General Information: This is a course on using technology in the teaching of mathematics. If taken as MAE330, it fulfills the **TECH** objective of the **Stony Brook Curriculum**, but since everyone is enrolled in MAT517 this semester, we'll skip that.

Contact Info: Math 5-112 / 631-632-7306 / scott.sutherland@stonybrook.edu
for office hours, see www.math.stonybrook.edu/cards/sutherlandscott.html. Sometimes these change, so check first. After March 23, I will be available only electronically – the best bet is to send an email to arrange a video or telephone conference.

Website: <http://www.math.stonybrook.edu/~scott/mat517.spr20> or via Blackboard.

Class Meets: MW 2:30–3:50 via Zoom.

Text: None. All materials will be provided via the class website. You **will need** a computer with decent internet access. A tablet can be helpful, but isn't required. While “calculators” is part of the title, one is not required, but you can use it if it makes you happy.

Goals: The point of this class is to address how to use technology in the teaching of mathematics. Technology does not supplant mathematical understanding, reasoning, or proof, but it can be a great aid in illustrating concepts, providing insight, or suggesting conjectures.

We will explore the use of several different technologies such as \LaTeX (via **Overleaf**) to create documents (such as exams) and communicate written mathematical ideas, **Geogebra**, **Desmos**, **Google classroom**, etc. But since technology changes quickly, the focus is more on “learning to learn” than on mastering a particular technology.

Grading: Your course grade will be based on a combination of the following factors

- Participation and discussion (15%)
- Homework assignments (25%)
- Projects and presentations (60%)

Projects: Students will present mathematical ideas using technology appropriate for the topic. Each presentation will be 15-40 minutes (to be determined), and must be approved beforehand. The topic should be geared to a high-school classroom audience, with a written version in \LaTeX . Each student will give two or three such presentations (to be determined).

Workload: One cannot learn mathematics or the use of technology related to mathematics without doing mathematics and using that technology. Each week, you should expect to **devote a minimum of five hours** outside the classroom to this course. The amount of homework to submit each week will not be constant so it is strongly advised to plan ahead.

Collaboration: Students are encouraged to work together and use resources outside the classroom appropriately. But copying without attribution is plagiarism and will not be tolerated, and will be reported immediately to the Academic Judiciary.

Course Delivery: After March 30 2019, the course will be delivered at the scheduled time via Zoom; the class meeting links are scheduled on Blackboard. Students should make sure that they are in a location with a good internet connection during the course meeting time. As with the in-person class, please try to be present since interaction is critical, but the Zoom meetings will be recorded and available for later viewing. Presentations will be done as remote classes via Zoom or other technology chosen by the presenter.

Americans with Disabilities Act: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact the Student Accessibility Support Center, located at ECC (Educational Communications Center) Building, Room 128 (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Academic Integrity: Each student must pursue his or her academic goals honestly and be held personally accountable for all submitted work. Representing another person's work as your own is **always wrong**. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at: https://www.stonybrook.edu/commcms/academic_integrity/.

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.

Course Evaluation: Each semester Stony Brook University asks students to provide feedback on their courses and instructors through an online course evaluation system. The course evaluation results are used by the individual faculty, department chairs and deans to help the faculty enhance their teaching skills and are used as part of the personnel decision for faculty promotion and tenure. No individually identifiable data are ever reported back to the university or instructor. Students who have completed previous evaluations can view all faculty ratings at: classie-evals.stonybrook.edu/.

IT Support: For suggestions about online learning, visit the Keep Learning website at: <https://sites.google.com/stonybrook.edu/keeplearning/>. Report any technical issues at <https://it.stonybrook.edu/services/itsm> or call 631-632-2358.