

## Summer 2016: MAT 517

### Calculators and Computers for Teachers

**Instructor:** Dr. Alaa Abd-El-Hafez

**Class Time:** Tu & Th from 6:15 to 9:40 PM

**Office Hours:** Monday: 2:00 - 4:00 PM

Tuesday: 9:40 - 10:40 PM

Thursday: 9:40 – 10:40 PM

Other office hours TBA

**Course Description:** This is a 3-credit course designed to help students use technology in facilitating their instruction. Students will use *Latex* to create mathematical documents (eg., exams) and communicate mathematical ideas in writing. They will use *ActivePresenter* and *Prezi* to create math lesson plans and explain a given topic. Students will also create their own websites for use in teaching mathematics. *Geogebra* and/or *Geometers Sketchpad* will be used to create pedagogical demonstrations. Students will use a graphing calculator for computing and curve sketching and design a gradebook using Excel.

**Material Required:** A graphing calculator and a laptop with Latex and TexMaker, Geogebra, and ActivePresenter. All other materials will be posted on blackboard.

#### Grading:

- Attendance and participation (24%)
- 4 Assignments (12% each)
- Final Project (28%)

**Attendance:** Each class will be worth 2%. Students must be prepared and on time. Lateness or leaving early, along with being unprepared in general, will result in a deduction of 1% each time.

**Assignments:** There will be a total of four assignments, which will be posted on blackboard every Tuesday in the *Documents* folder. Assignments are to be written carefully, **stapled**, and submitted at the **beginning** of the lecture on Tuesday of the following week. No late homework assignments will be accepted. Each assignment is worth 12% of your grade. A rubric will be provided for each assignment on blackboard.

**Final Project:** Students will use the tools and technology learned in this course, to create a math lesson plan on a topic of their choice to students in high school. The lesson plan:

- a) Is geared to a high school audience and focuses on technology. (4 points)
- b) Must be written in Latex (will submit pdf and tex files). (4 points)
- c) Follows the lesson plan format attached. (4 points)
- d) Requires students to utilize a graphing calculator or Geogebra. (2 points)
- e) Has a 10-15 minute summary using ActivePresenter for absent students. (6 points)
- f) Will be posted on your Weebly website and a hard copy will be provided on the 16th (4 points)

All students will give a 15 minute presentation on their lesson plan. (4 points)

**The following is a tentative course outline and will be updated as needed.**

**Week 1: July 12 & 14: Using Latex**

Assignment # 1 due July 19

**Week 2: July 19 and 21: Using ActivePresenter and Prezi**

Assignment # 2 due July 26

**Week 3: July 26 & 28: Using Geogebra and Geometers Sketchpad**

Assignment # 3 due August 2

**Week 4: August 2 and 4: Using Graphing Calculator and Excel**

Assignment # 4 due August 9

**Week 5: August 9 & 11: Using Weebly**

Final project due August 16

**Week 6: August 16 and 18: Catch-up and Presentations of Final Projects.**

**Academic Dishonesty:** Cheating, copying, and other dishonesty will not be tolerated under any circumstances. Students engaging in such acts will be reported immediately to Academic Judiciary.

**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 Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

**DSS advisory:** If you have a physical, psychological, medical, or learning disability that may affect your course work, please contact Disability Support Services (DSS) office: ECC (Educational Communications Center) Building, room 128, telephone (631) 632-6748/TDD. DSS will determine with you what accommodations are necessary and appropriate. Arrangements should be made early in the semester (before the first exam) so that your needs can be accommodated. All information and documentation of disability is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and DSS. For procedures and information, go to the following web site <http://www.ehs.sunysb.edu> and search Fire safety and Evacuation and Disabilities.

## Lesson Plan Template

Learning Objective(s):

New York State Learning Standards:

Materials:

Warm Up:

Development/Procedure:

Closure:

Assignment (Homework):