

MA 464 GEOGEBRA (FALL 2013)

Time and Place. T 9:00-10:50 a.m., E368

Instructor. Dr. Gabriela Sanchis, 384 G Esbenshade Hall, Office Phone: 361-1339

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Office Hours. M,T,Th: 2-3:20; W:9:30-10:50; and by appointment.

Textbook. No textbook required.

Prerequisites. Ma 122.

Course Description. In this course we will explore the software package Geogebra, a free software package that can be used for teaching and learning mathematics in schools at both the high school and collegiate level. Topics will include geometric constructions, algebraic input, the spreadsheet feature, animations, custom tools, creating dynamic interactive worksheets for the web using Javascript, and creating slide shows for presentations.

Learning Outcomes. Students will be able to:

- Use Geogebra to make geometric and algebraic constructions.
- Use Geogebra as a tool in solving problems.
- Use Geogebra to construct dynamic worksheets that can be exported and embedded into web pages.
- Use Geogebra to construct slide shows for presentations.

Attendance. You are expected to attend all classes. Each unexcused absence will result in a reduction of your final grade by half a letter grade, and 5 or more unexcused absences will result in a failing grade. If you do miss a class, it is your responsibility to obtain from a classmate any notes, assignments, handouts, or anything else you may have missed.

Assignments. There will be assignments each class, which you will begin working on during class and complete by the following class. All your work should be saved in your class folder in the J drive. You should be prepared to present your work in class. There will also be a final project, on a topic of your choosing, which you will present during the final exam time slot, which is Tuesday, December 10, 7:30 to 10:30 a.m. The final presentation should be a minimum of 15 minutes. Types of projects include:

- (1) Building an interactive worksheet that can be used to teach a particular mathematics topic. You could either build a slide presentation that teaches students how to build the worksheet, or actually use the worksheet to teach a lesson, or a combination of the two.
- (2) Building a slide presentation on the proof of some substantial theorem.

You should talk to me about ideas you have. The geogebra.org web site may offer some inspiration, but there should be a substantial element of originality.

Grading. The final project will be worth 20% of your grade, and the weekly assignments will be worth 80% of your grade.

Academic Integrity. All work must be one's own and must comply with the Standards of Academic Integrity defined in the Elizabethtown College Catalog (see <http://catalog.etown.edu/> and then click on **Academic Policies** in the menu on the left, and then on **Academic Judicial System**). More specifically, you are encouraged to collaborate and help each other on assignments, but you may not share your files or place them in your public folders on the campus network.

Grading. 94-100 A; 90-93 A-; 87-89 B+; 83-86 B; 80-82 B-; 77-79 C+; 73-76 C; 70-72 C-; 67-69 D+; 63-66 D; 60-62 D-; below 60 F

Disability. Elizabethtown College welcomes otherwise qualified students with disabilities to participate in all of its courses, programs, services, and activities. If you have a documented disability and would like to request accommodations in order to access course material, activities, or requirements, please contact the Director of Disability Services, Lynne Davies, by phone (361-1227) or e-mail daviesl@etown.edu. If your documentation meets the colleges documentation guidelines, you will be given a letter from Disability Services for each of your professors. Students experiencing certain documented temporary conditions, such as post-concussive symptoms, may also qualify for temporary academic accommodations and adjustments. As early as possible in the semester, set up an appointment to meet with me, the instructor, to discuss the academic adjustments specified in your accommodations letter as they pertain to my class.