Course Syllabus and Information
MTH 362: Problem-Based Geometry for Secondary Teachers
Fall 2019

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Office Hours: TT 12:30 – 1:30
or by appointment
Virtual office hours (Wimba)
by appointment

Text Book & materials to be furnished by the student:

(1) GeoGebra and GeoGebra 3D. (Excellent free software that you might want to install on/ access from your home computer.)
(2) A TI-Nspire CAS.

Course Content:

Content (Tentative):

Section 1:	Polygons
Section 2:	Congruence, Congruence Transformations
Section 3:	Similarity, Similarity Transformations
Section 4:	Space Geometry, Solids and Volume

Course Methodology:

The course is designed to meet the mathematical needs of those students who plan to teach grades 9-12. It is based on the philosophy that mathematical ideas are learned only through active involvement. Therefore, in this course a lecturing is reduced to a minimum and teaching methodology includes small group activities and presentations and whole class discussions – the methodology you will be using to present mathematical topics to your students.

Course Requirements and Assignments:

Attendance. It is an activity-based class. Therefore, it is important to attend every day for entire class period with your homework completed so that you can take active part in group work activities. Attendance will be taken every day. If for some reason you must be absent, it is your responsibility to contact me before (in emergency situations on) the day you miss the class. If you contact me by e-mail, I will send you back copies of handouts and homework assignments. You are allowed *three* excused absences. Each *unexcused* absence will lower your grade by five percent points.

Group work. You will be working in groups of 3-4 students. As a group, try to answer all the questions on worksheets or asked by the instructor and discuss how to present your answers to the rest of the class. Make sure that *all* group members understand it completely and that *any* group member is able to lead the presentation as the instructor will randomly select the presentation leader. If any group member has a question, try to resolve it within your group first. If nobody is able to answer and/or explain it to other group members, then ask the instructor. Please keep in mind that the instructor will be answering *group questions*, not questions of individual students.

Computer Lab Policy: In the lab, you will be tempted to use the browser for activities unrelated to our class (social networks, news and other websites). Please resist the temptation – it is a considerable distraction that prevents the instructor to see who is still working and who is done. Using computer for unrelated tasks will result in deductions in "On Task" points. If done repeatedly, the student who breaks the rule will get 0 points every day the computer is used for unrelated tasks.

It is the responsibility of each group to get all members on task and participate. Activity of all members counts towards your group grade, which will be explained in the class.

Presentations. Each group must have at least 14 satisfactory presentations during the semester. These presentations are typically explanations of the work done by the group and can take various forms. They usually take 3-10 minutes, depending on the task and discussion in the class. The rest of the class will evaluate presentations.
Make each of your presentations from a teacher's perspective. This means that your objective should not be just to tell the others how you solved the problem, but also think of your peers as your students and include the following:

1. Discussion questions. After your presentation wait for questions and answer those. If nobody has questions anymore, ask at least one more question that your peers should think about and perhaps answer.
2. Evaluation. What can you do to quickly assess what your classmates learned or if they understood your explanation.

Please observe these simple rules when presenting:

1. Do not start your presentation until you have the attention of the whole class.
2. Act as if the instructor were not in the class. Maintain the eye contact with the class not the instructor for important signs and immediate assessment of your presentation.
3. If using the visualizer, do not stand at the visualizer. Instead, go to the screen and point to the image as displayed on the screen.

Exams/Quizzes. You will complete three 50 min "exams" that will take place in the computer lab and you will submit a .tns (TI-Nspire) or .ggb (GeoGebra) file as your final product.

Projects and Article reviews. You will submit one current article review and 2 projects. Topics of projects and guidelines are posted to my website http://cmich.marcinek.sk .

Other rules.

- Academic dishonesty (cheating) is a serious offence with serious consequences. If I see evidence that you are cheating, you will receive a grade of zero on that quiz or exam, and I will contact the Dean of Students and the Director of Teacher Education.
- Late coming, cell phone and other class disruptions will result in decreasing your group grade. To prevent it, make sure you turn OFF your cell phone before entering the classroom. Make sure that you notify me of any unavoidable late arrivals in advance.
- Electronic Devices: In order to protect the intellectual property interests of the instructor, the privacy interests of student members of the class, and to encourage an open and fair exposition of all student views in the classroom without fear that student views expressed will be recorded and possibly posted in another forum, recording of classroom lectures and conversations is not permissible without the express, prior written consent of the instructor. Unauthorized recording of classroom activity shall be considered a violation of the CMU Student Code of Rights, Responsibilities, and

Disciplinary Procedures as disruptive of a student's right to learn under 3.2.3 Disruption of Learning.

What you will be graded on

Reading and Project(s)	(R5 + P10 + GBT10)	25 %
Exam(s)	3x15	45 %
Field Work (Tutoring)		10 % * See a note below
Group Work/Presentations		10 %
Final Presentation		10 %

Attendance: You are allowed three excused absences. Each unexcused absence will lower your grade by 5 percent points.

Total	100 %

* Each reflection is 3.3%, submitting Sign-in sheet is 3.4%. However, not submitting your Sign-in sheet or submitting it with incomplete hours, will result in an I (Incomplete grade) that will be converted to a letter grade after you submit a proof of fulfilling the requirement.

Point value of each item is set so that they add up to 100 points. This way it is easy to keep track of your grade:

A: 94 and up	A-: 92-93	B+: 90-91	B: 83-89	B-: 80-82
C+: 77-79	C: 72-76	C-: 69-71	D: 60-68	Failing: below 60

NOTICE: CMU provides students with disabilities reasonable accommodation to participate in educational programs, activities, or services. Students with disabilities requiring accommodations to participate in class activities or meet course requirements should first register with the Office of Student Disabilities Services (250 Foust Hall, telephone #517-774-3018, TDD #2568), and then contact me as soon as possible.