

Course Syllabus and Information
MTH 113: Mathematics: A Modelling Approach
Spring 2020

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Office Hours: TT 12:30-1:30
MWF by appointment
Virtual office hours (Wimba)
by appointment

Study materials:

Tannenbaum P.: Excursions in Modern Mathematics. Pearson.

We will also be working with computer software such as GeoGebra or Excel. GeoGebra is an open-source software (free) and you should already have the Microsoft Office license as a CMU student.

Course Content:

- The mathematics of elections
- Growth and financial mathematics
- Shape and form
- Chances, probabilities and elements of statistics
- Management science

Course Methodology:

This course involves mathematics and mathematical modeling used in context, as they arise in diverse situations. The course design is based on the philosophy that ideas are learned only through active involvement. Teaching methodology includes small group activities, class discussions, and occasional lectures.

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 the day you miss the class (in emergency situations as soon as possible). If you contact me by e-mail, I will send you back copies of handouts and homework assignments. You are allowed *four* excused absences. Each *unexcused* absence will lower your grade by five percent points.

Journal. You will be required to start a journal to keep track of mathematics you encounter and reflect on your mathematical experience. You will need a 3-ring binder in which you will be collecting entries (short narratives, newspaper clippings, photographs, etc.) related to your everyday use of mathematics. In many cases our use of mathematics or quantitative reasoning skills is subconscious and it is difficult to trace them. Therefore try to make it a habit to reflect on mathematical situations on a regular basis.

The instructor will collect and assess your journal towards the end of the semester. It is expected that you will have at least 10 authentic entries with a discussion. Please see the specific Journal guideline on my website.

Group work. You will be working in groups of 4-6 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. 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.

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.

Presentations. Each group must have at least 15 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. 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 your notes as displayed on the screen.

Article reviews. You will read and review a mathematical article. The article you choose does not have to be technical but by reading it, you must be involved in a mathematical reflection. In your review, you will explain what kind of mathematics you drew on or learned. Guidelines will be posted to my website <http://cmich.marcinek.sk> .

Exams. You will complete two exams and the final exam.

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.
- 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

Exams	20 points each	40 points
Final Exam		25 points
Journal Evaluation		10 points
Article Review		10 points
Group Work		5 points
Presentations		10 points
Total possible points		<hr/> 100 points

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

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: 92 and up	A-: 90-91	B+: 88-89	B: 81-87	B-: 78-80
C+: 75-77	C: 70-74	C-: 67-69	D: 60-66	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.