

MAT4880 Section D680

Meetings: N723 MW 10:00-11:15

Instructor: Dr. Johann Thiel

Office Hours: M12:00-1:00pm, W1:00-2:00 in N724 (or by appointment)

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Office #: 718-260-5004

Description: The study of continuous-time and discrete-time nonlinear dynamic models. Provides examples of chaotic behavior of solutions of some dynamic systems.

Text: *Mathematical Modeling*, Meerschaert, M. M. (2013). *4th edition*. San Diego, CA, Academic Press.

Technology: We will be using some computer algebra system (Mathematica, etc.) in this course.

Prerequisites: MAT3770

Evaluation: Your final grade will be calculated as:

$$\text{Homework (5\%)} + \text{Projects (15\%)} + \text{Exams (50\%)} + \text{Final Exam (30\%)}$$

Then I will assign a letter grade based on the following scale:

A	=	93	-	100	C+	=	77	-	79.9
A-	=	90	-	92.9	C	=	70	-	76.9
B+	=	87	-	89.9	D	=	60	-	69.9
B	=	83	-	86.9	F	=	0	-	59.9
B-	=	80	-	82.9					

W = withdrawal up to May 12, 2016

- **Homework and Projects:** Homework and projects will be assigned throughout semester. Homework should be completed by the given due date. Three projects will also be assigned. Each project will involve turning in a neat write-up of your results (see the course website for instructions and a sample project). Towards the end of the semester, the projects will include a short (5-10min) presentation. Details to follow.
- **Exams:** There will be two 75-minute exams on **February 29** and **April 11**. Each exam score will be worth 25% of the course.
- **Final Exam:** The final exam will be a one-session exam based on the whole term. It will be on the last day of classes, **May 25**. It is the responsibility of each student to be available at the time of the examination. You must take the final exam in order to pass the course.
- **Class participation:** At the discretion of the instructor, there will be extra credit available (to a maximum of 2 points on your final grade) for writing homework solutions on the blackboard and answering questions in class.

Attendance: You are expected to attend all classes and are responsible for all the material covered. Attendance is required and will be taken at the beginning of each class. Lateness and students leaving before the end of the class period will be recorded. If you arrive late, you are responsible for letting me know at the end of the class. The official Mathematics Department policy is that two lateness (this includes arriving late or leaving early) is equivalent to one absence. In this course a student may have 3 absences during the semester without penalty. After 3 absences, the penalty will result in a grade reduction; in excessive cases, you may be asked to withdraw from the course. Students are responsible for obtaining all the information from classes that they miss with classmates as soon as possible.

Academic Integrity: Academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

Preparation

You will be expected to come to class having already completed the reading for the upcoming lesson. By studying the material before each class you will be ready to discuss the material in more depth and have specific questions to ask about parts of the material that may be giving you difficulty.

Participation

A part of the class that will benefit you comes from how you interact with the others. I encourage you to present problems, contribute your ideas and insights, work in groups, and ask questions.

Course Website:

The course website can be found by looking at my homepage here:

<http://websupport1.citytech.cuny.edu/Faculty/jthiel/welcome.html>

Miscellaneous: There will be no makeup exams. Unless a valid excuse (medical or family emergencies, university related travel such as athletic or academic competitions) is presented in advance, a missed exam will receive the score 0. Personal travel is **not** a valid excuse. If a student misses an exam for a valid reason and provides a written verification from an appropriate authority (not a family member) then that percentage of the grade may be made up on the final. No extra time will be given for students who arrive late. No student will be allowed to take the final exam early.