

September 2, 2011

ME 201, MTH 281, ME 400, CHE 400 APPLIED FOURIER SERIES AND BOUNDARY VALUE PROBLEMS FALL TERM 2011

INSTRUCTOR

Alfred Clark, Jr., Hopeman 329, x54078, clark@me.rochester.edu

TEACHING ASSISTANTS

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OFFICE HOURS

MTWF 1600 – 1800, Th 1000 – 1100 and 1700 – 1800.
Office hours for the TA's will be announced in class and posted on the web.

CLASS SCHEDULE AND CRN'S

MWF 1100 - 1150 in Morey 321 (CRN'S: 47565 for ME 201, 50401 for MTH 281, 47858 for ME 400, and 23752 for CHE 400.)

EITHER

Th 1400 - 1450 in Dewey 1101 on a non-exam day, 1400 – 1515 on an exam day
(CRN's: 47580 for ME 201, ME 400, and CHE 400, and 50416 for MTH 281),

OR

Th 1525 – 1615 in Gavett 301 on a non-exam day, 1525 – 1640 on an exam day (CRN's: 47578 for ME 201, ME 400, and CHE 400, and 50427 for MTH 281.)

Each week there will be three hours of new material, and one hour of examples and comments on the homework. Rather than presenting the examples and comments in a separately scheduled recitation, all of the material will be integrated into the four meeting hours each week. The total time of meeting is the same as the traditional three classes plus one recitation, but the scheduling this way is much more flexible. There are two Thursday classes because no one time works for everybody. The two classes will be identical and you can come to either, no matter which one you have registered for.

PREREQUISITES

The prerequisites for this course are calculus (MTH 161 and 162, or MTH 141-143), ordinary differential equations (MTH 163 or MTH 165), and vector calculus (MTH 164). These prerequisites are essential, and if you have any concerns about them, you should see me.

COURSE WEB SITE

All course handouts, including homework assignments, homework solutions, descriptions, schedules, Mathematica notebooks, and movies, will be put on the course web site. The web site also has the course calendar, which will be updated frequently. The site has a link to homework, exams and solutions from 2010, and you may find some useful review material or additional examples there. Perhaps the most important feature on the web site is the bulletin board, which you will see as soon as you access the site. This bulletin board will be used for announcements such as changes in due dates, changes in office hours, or corrections to homework problems, so you should check it frequently. More detailed information about the web site is available on the site. The URL is <http://www.me.rochester.edu/courses/ME201>.

ASSIGNMENTS AND EXAMS

There will be 10 homework assignments, 10 sets of challenge problems, two 75-minute exams, a project, and a three-hour final exam. The TA's will grade the homework, and I will grade the exams, the challenge problems, and the project. The grading weights will be 35% for the homework, 10% each for the 75-minute exams, 10% for the project, and 35% for the final exam. The homework, with two exceptions, will be due on Wednesdays. There will be no homework due the week of an exam. The due dates are Sept. 7, Sept. 14, Sept. 21, Sept. 28, Oct. 13 (Th), Oct. 20 (Th), Oct. 26, Nov. 2, Nov. 16, and Nov. 30. More detailed information on homework policies is given at the end of this document.

The project is due by 6 PM on the last day of classes, Tuesday Dec. 13. A detailed handout on the project will be distributed in class and online on Nov. 21. In terms of scheduling, a logical time for a lecture on the project would be Nov. 23. However, this is the day before Thanksgiving. There will be no class that day, and a written version of the lecture on the project will be posted online on Nov. 21. If you want some idea of what the project will be like, look at the projects from past years on the course web site.

The exam dates are given below. A set of review problems will be handed out about a week before each exam. The class immediately before each mid-term exam will be a review class. **All exams will be open book and open notes.** If your final exam grade is higher than your lowest mid-term grade, the final exam grade will replace that mid-term grade.

First Exam	Th Oct 6	1400 – 1515 in Dewey 1101, 1525 – 1640 in Harkness 115
Second Exam	Th Nov 10	1400 – 1515 in Dewey 1101, 1525 – 1640 in Harkness 115
Final Exam	W Dec 21	1915 – 2215 place TBA

INFORMATION FOR STUDENTS ENROLLED IN ME 400 OR CHE 400

Students may enroll in this course either at the undergraduate level (ME 201 or MTH 281), or at the graduate level (ME 400 or CHE 400). By standard University regulations, undergraduates will receive 4 credits in either case. Graduate students enrolled at the undergraduate level will receive 3 credits, and graduate students enrolled at the graduate level will receive 4 credits. Because graduate students may take only a limited number of undergraduate courses as part of an MS program (usually the limit is two), enrolling at the graduate level will give such students more flexibility in their overall choice of courses. Undergraduates who want to enroll at the graduate level should see the ME Department Undergraduate Coordinator Ruth Eberlin in Hopeman 235 for the necessary permission slip.

The lectures and exams are the same for both undergraduates and graduate students. The project is also the same for all students, but students enrolled at the graduate level are required to work alone on the project, whereas students enrolled at the undergraduate level may work either alone or in groups of two. The most significant difference between the undergraduate and graduate levels is in the weekly assignments. The details are given below.

Assignments for Students Enrolled at the Undergraduate Level

On each weekly assignment, there will be two types of problems: homework problems and challenge problems. The homework problems will vary in difficulty, but are designed to reinforce the basic concepts covered in the course. The challenge problems will frequently involve a more difficult application, or perhaps a deeper look at the underlying mathematics. Students enrolled at the undergraduate level are required to do only the homework problems. The homework grade each week will be based only on those problems. However, such students are encouraged to try the challenge problems also. Challenge problems turned in will be graded. Those grades will be recorded, but will not enter into the semester average. At the end of the semester, there will be a prize for the student having the highest average on the challenge problems.

Assignments for Students Enrolled at the Graduate Level

Students enrolled at the graduate level are required to turn in both the homework problems and the challenge problems. Their total homework grade for the week will be a weighted average of those two grades (80% on homework problems and 20% on the challenge problems). Students enrolled at the graduate level also will be eligible for the prizes for the highest average on the challenge problems.

Important Note: The homework problems and the challenge problems are to be turned in separately because the TA's grade the homework and I grade the challenge problems. If you attach your challenge problems to your homework, they might not get graded.