MA 214 - Calculus IV

Section 2, Spring 2016

MWF 9:00 - 9:50 a.m., CB 349

Instructor

Dr. Chi-Sing Man
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Office Hours: MW 3:00 - 4:00 p.m.; F 10:00 - 11:00 a.m.

Teaching Assistant

Mr. Cyrus Hettle
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Textbook

W.E. Boyce and R.C. DiPrima, Elementary Differential Equations, 10th edition, Wiley, 2012.

Help Sessions

There are six weekly help sessions in the Mathskeller staffed by teaching assistants:

Mondays, 1:00 p.m. - 3:00 p.m. (T. Pllaha)
Tuesdays, noon - 2:00 p.m. (T. Pllaha)
Tuesdays, 2:00 p.m. - 4:00 p.m. (J. Liu)
Wednesdays, 10:00 a.m. - noon (C. Hettle)

Thursdays, 2:00 p.m. - 4:00 p.m. (J. Liu)
Fridays, 1:00 - 3:00 p.m. (C. Hettle)

These are available to students in all sections of MA 214. You are strongly encouraged to attend one or more of these sessions every week.

Course Coverage

In this course, we study theory and solution methods for ordinary differential equations (ODEs). After a brief introduction we will cover most of Chapter 2 (First-order differential equations), Chapter 3 (Second-order linear equations), Chapter 6 (The Laplace Transform), and several sections in Chapter 5 (Series solutions). For more details, please refer to the Class Schedule, which is subject to change as the semester progresses.

Prerequisites

MA 213 or equivalent.

Attendance Policy

You are responsible for all lecture material and announcements made in class. Attendance will not be recorded, however.

Policy on In-Class Use of Laptop, Tablet, or Smart-Phone

Using the laptop, tablet, or smart-phone in class for internet surfing, etc., is highly distractive to fellow students and to the instructor. **No student may use the laptop, tablet, or smart-phone in class unless he/she has secured special permission from the instructor.**

Homework

Homework assignments and solutions to the homework problems will be posted on this page as scheduled. Homework will not be collected.

- Homework Assignment 1   (Solutions)

- Homework Assignment 2   (Solutions)

- Homework Assignment 3   (Solutions)

- [Homework Assignment 4](#)   ([Solutions](#))

- [Homework Assignment 5](#)   ([Solutions](#))

- [Homework Assignment 6](#)   ([Solutions](#))

- [Homework Assignment 7](#)   ([Solutions](#))

- [Homework Assignment 8](#)   ([Solutions](#))

- [Homework Assignment 9](#)   ([Solutions](#))

- [Homework Assignment 10](#)   ([Solutions](#))

- [Homework Assignment 11](#)   ([Solutions](#))

Special Announcements

- The Class Schedule after Spring Break has been revised. Please check the updated [Class Schedule](#) to note the changes made.

Software

There are many software options available for solving ODEs. Some packages (e.g., Maple and Mathematica) are able to give exact solutions to many classes of problems symbolically, while others (e.g., Matlab, and many graphing calculators) are able to display approximate numerical solutions graphically or in table form. As you do your homework during the course of the semester, you are encouraged to explore these software options and use them to check your pencil-and-paper answers. However, **no electronic aids (computers and calculators) will be allowed in quizzes and examinations**.

Policy on Makeups

Individuals who miss a quiz or an examination will be given a zero unless they have an official excuse. **Make-up quizzes or examinations will be permitted only for "excused absences"**.

Senate Rule 5.2.4.2 defines what follows as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor. Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request "appropriate verification" when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to University-related trips is required prior to the absence.

Quizzes and Exams

A total of 10 quizzes will be given as scheduled. Each quiz, which accounts for 10 points of the final numerical grade, will be set on topics covered by the homework assignment with the same number (e.g., Quiz 1 will be set on topics covered by HW1).

- Solutions to Quiz 1 and Quiz 2

- Solutions to Quiz 3

- Solutions to Quiz 4 and Quiz 5

- Solutions to Quiz 6

- Solutions to Quiz 7

- Solutions to Quiz 8

- Solutions to Quiz 9

- Solutions to Quiz 10

There will be two in-class exams and a final exam.

- Review Problems for Exam 1   (Answers)

- Solutions to Exam 1

- Review Problems for Exam 2   (Answers)

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The Final Exam of two hour duration is scheduled to take place on May 4 (Wednesday), 2016, at 8:00 a.m. in CB 349. The Final will be comprehensive. However, at least half of the problems will be devoted to the Laplace transform and power-series solutions (i.e., topics not covered by Exam 1 and Exam 2). Calculators are not allowed, and cell phones must be turned off and put away out of sight during the examination.

To prepare for the Final, besides reviewing the text, the homework assignments and the quizzes, it will be beneficial to work on the review problems given below.

- Review Problems for Final Exam (A)   (Answers)

- Review Problems for Final Exam (B)   (Answers)

Exams and Grades

The course grade will be computed from a score of up to 500 points earned from exams and quizzes as follows:

Two Midterm Exams (100 points each)	200 points
Final Exam	200 points
Quizzes	100 points
Total	**500 points**

The scheme for assigning the course grade is given in the following table:

425 - 500 points	A
360 - 424 points	B
300 - 359 points	C
250 - 299 points	D
Less than 250 points	E

Midterm Grades

Midterm grades will be posted in myUK by the deadline established in the Academic Calendar (http://www.uky.edu/Registrar/AcademicCalendar.htm)

Academic Integrity

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the quiz or exam on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed. Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: http://www.uky.edu/Ombud. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty.

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see the instructor as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide the instructor with a Letter of Accommodation from the Disability Resource Center (725 Rose Street, Multidisciplinary Resource Center, Suite 407; phone: 257-2754) for coordination of campus disability services available to students with disabilities.