

Math 331.03: Ordinary Differential Equations - Fall 2016

MWF 12:20PM - 1:10PM, Goessmann lab Addition 152

Instructor:

- Professor: Yao Li
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Office Hours: TuTh 2:30PM - 4:00PM or by appointment
Common course webpage for all sections: <http://www.math.umass.edu/~qchen/331.html>

TAs:

- Tangxin Jin
- Arie Stern Gonzalez
- Georgios Tsolias

Please contact Tangxin Jin for ALL WebWork related questions.

Prerequisite: MATH 132, or 136; co-requisite: MATH 233; Math 235 or equivalent is highly recommended.

Texts: Advanced Engineering Mathematics, Author: Erwin Kreyszig, Publisher: Wiley, 10th Edition, 2010.

Course Description

Introduction to ordinary differential equations. First and second order linear differential equations, systems of linear differential equations, Laplace transform, numerical methods, applications.

Required Work

The required work for the course will consist of six written homework assignments, online homework assignments on WeBwork, 5 in-class quizzes, one in-class midterms and one final exam.

Homework

Some homework exercises will focus on elementary computations, algorithms, and definitions. Others will require more than just procedure, might connect two or more things together, may introduce topics tangential to the main lecture, be concerned with new applications. You are expected to express your ideas clearly, legibly and completely. The goal in class is to prepare you to do the homework and not necessarily to show you how to do your homework. The learning occurs when you can move yourself into unknown territory.

Online homework assignments are given on <http://webwork2.math.umass.edu/webwork2/>. Please finish the “How to use webwork” assignment before the end of the first week.

Written homework exercises must be written up on paper and turned in. Late homework will generally **not** be accepted. Unreadable work, scratching out, etc. will not be graded. Your work will be evaluated on the method of solution and the ability to apply concepts, rather than the numeric answer to the

problem. As the numeric answers to some hw questions may be found at the end of the book, you will not receive credit unless you show your work.

In general, each written homework consists 10 ~ 15 problems. 5 of them will be graded by the TA out of 10 points. There are 10 points for the completion. The TA will deduct one point for each missing ungraded problem.

By all means you may work in groups on the homework assignments. Collaboration is a big part of learning and of scholarship in general. However, each student must turn in his or her own write-up of the solutions, with an **acknowledgment of collaborators**.

Attendance

Attendance to each class meeting is required and beneficial. Students are responsible for all announcements and supplements given within each lecture and/or via course email. Attendance will be checked by five attendance quizzes, which will be given in class without prior announcement. **If one does not take all five attendance quizzes, one might not get 5% performance scores.**

Exams and quizzes

During the semester there will be one midterm exam in class and one final exam. Five attendance quizzes (pop quiz) will be given in class without prior warning or announcement. The final exam is cumulative. Essential formulas will be given in the exam.

You are responsible for taking the final exam at the time it is scheduled by the University. Do not make travel plans that may conflict with the final date before knowing when the exam is scheduled for.

I may approve out-of-sequence exams in the following cases:

1. A documented medical excuse;
2. A University sponsored event such as an athletic tournament, a play, or a musical performance. Athletic practices and rehearsals do not fall into this category. Please have your coach, conductor, or other faculty advisor contact me.
3. A religious holiday
4. Extreme hardship such as a family emergency

Requests must be made at least one week before the actual exam.

I will not accommodate out-of-sequence exams, quizzes or finals for purposes of more convenient travel, including already purchased tickets.

Grading

Your course score will be determined as the following weighted average:

Item	Weight
Quiz	5%
Attendance	5 %
Homework	30% (see below)
Exams (midterm and final)	60% (see below)
Total	100%

The breakdown of Homework assignments is 20% online homework and 10% written homework.

The breakdown of exams is 30% for the midterm exams and 30 % for the final exam. However, you can voluntarily change this weight distribution to 20% midterm vs. 40% final by giving me a written note **before** the final exam.

The course score will be converted to a letter grade beginning with these values as cutoffs:

A	A-	B+	B	B-	C+	C	C-	D+	D	F
86	82	78	75	72	68	62	59	55	50	< 50

These cutoffs might be adjusted based on your relative rank in the class, but only in the downward direction (to make letter grades higher).

Drop, Withdrawal, and Incomplete

The last day to drop/add with no record is Monday, September 19. The last day to drop with a W is Thursday, October 20.

An incomplete is possible only if all of the following apply: (1) you have a compelling personal reason, e.g., serious illness; (2) your work so far would receive a passing grade; and (3) there is a good chance you will complete the course with a passing grade within the allotted time. Thus, *expecting to fail the class is no reason to ask for an incomplete.*

Class etiquette statement

- Except for emergency, do not send text messages/emails or make/receive phone calls during lectures.
- If you arrive late to class, sit in the first seat you can find so as not to disturb others, and do not come up to the front of the room to pick up or hand in papers.
- You can use laptops and tablets during class provided that you do not disturb your fellow classmates or my lectures (for example: mute the speaker). They are not allowed during exams.
- Please read *Guidelines for Classroom Civility and Respect*: http://www.umass.edu/dean_students/campus-policies/classroom

Academic integrity statement

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be

imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent.

Please read *Academic Honesty Policy and Procedures*: <http://www.umass.edu/ombuds/honesty.php/>

Accommodation Statement

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. A student with a documented physical, psychological, or learning disability on file with Disability Services (DS) may be eligible for reasonable academic accommodations to help succeed in this course. If you have a documented disability that requires an accommodation, please notify the instructor within the first two weeks of the semester so that we may make appropriate arrangements.