

Math 353 - 01 Elementary Differential Equations
MWF 11:00 – 11:50 AM in Hume 201
Course Syllabus – Spring 2020

INSTRUCTOR INFORMATION:

Instructor: Sooyeon Lee
Office: Hume 329

Email Address: slee27@olemiss.edu
Office Hours: M - F 2-3 PM or by appointment

Course description and learning objectives: This course is an introduction to ordinary differential equations, which are an important part of mathematics and are also one of the key mathematical tools used in science and engineering. We intend to cover Chapters 1, 2, 4, and 7 of the textbook, together with some applications from other chapters (parts of Chapters 3, 5, 6). This includes first-order differential equations and their applications, linear differential equations of higher order, and the Laplace transform. The successful students will acquire a good knowledge of the topics studied in the course, being able to classify (i.e., recognize the type of) a differential equation and apply proper methods to solve it. This course will prepare students for those higher level courses in mathematics, physics, engineering, and economics, where a basic understanding of ordinary differential equations is needed. The main objectives of this course are to enable students to understand concepts, develop skills and learn problem solving techniques to solve some ordinary differential equations, and enhance students' critical thinking, mathematical reasoning, and analytical reasoning abilities.

Textbook: D. G. Zill, A first course in differential equations (classic 5th edition), Brooks/Cole 2001.

Suggested homework problems, quizzes, tests and final exam:

1. Suggested homework problems are on the Blackboard. These problems are for you to study and practice the course material and will not be collected. Quiz and test problems will be based on these problems.
2. There will be 9 quizzes, each worth 10 points. One lowest quiz score will be dropped.
3. There will be three tests during the semester. Each test will count 100 points.
4. The lowest test grade will be replaced by the final exam percentage (if it is higher).
5. If a test is missed for ANY reason, a grade of 0 will be given. There will be absolutely NO make-up tests given for ANY reason.
6. Any student who will miss a test because of an official University function must reschedule and take this test at a time BEFORE the test is scheduled to be given. NO OTHER rescheduling will be allowed.

FINAL EXAM: May 4th, Monday at Noon

1. The final examination is comprehensive and will count 200 points.

FINAL GRADE: The cumulative point total for the course is 580 points – tests: 300, quiz: 80, final exam: 200. The following point scale will be used to determine your final grade:

<u>Grade</u>	<u>Percentage</u>
A	93 – 100%
A-	90 – 92.99%
B+	87 – 89.99%
B	83 – 86.99%
B-	80 – 82.99%

<u>Grade</u>	<u>Percentage</u>
C+	77 – 79.99%
C	70 – 76.99%
D	60 – 69.99%
F	0 – 59.99%

NOTE: An "I" grade will not be given without the permission of the Department of Mathematics.

ATTENDANCE POLICY Our classrooms are equipped with automated attendance systems that allow students to “sign” themselves into class by swiping their student identification cards. Each student is responsible for “signing” into the class every day. As you “sign” in, pay attention and confirm that your identification has been successfully recorded. Attendance (and identity) fraud is a form of academic dishonesty (and it is illegal); students engaging in fraud will fail the class and will be reported to the university for further disciplinary action. If you sign in and leave, you will fail the class and you will be cited for academic fraud. **Note that students who do not attend class within the first two weeks of the semester may be dropped from the roll.**

CALCULATORS AND ELECTRONIC DEVICES

1. Calculators, cell phones, ipods, apple watch, and other electronic devices are prohibited on tests. Use of such equipment will be considered cheating.
2. All electronic equipment should be turned off during class unless given permission by the instructor. This includes ipods, laptops, ipads, etc. Cell phones should be silenced and put away...*PLEASE!* The instructor may dismiss you from class if you are observed using any such electronics.

Cheating: The following statement is the policy of the Department of Mathematics regarding cheating:

Offenses: Cheating on any exam or quiz, theft or attempted theft of exam questions, possession of exam questions prior to the time for examination, or the use of an electronic device (**including cell phones, apple watch or calculators**) on tests or quizzes shall all be offenses subject to appropriate penalties.

Penalties: The penalty for commission of any offense set out above is **failure** in the course (without possibility of academic forgiveness) and, subject to the approval of the Chancellor, dismissal or suspension from the University.

LAST DAY TO REGISTER OR ADD CLASSES (REFUND PERIOD ENDS): Monday, February 3

WITHDRAWAL DEADLINE FOR SPRING 2019 SEMESTER: Monday, March 2

After the Course Withdrawal Deadline, courses dropped will be recorded on University records and the W grade will be recorded if the student is not failing the course at the time of withdrawal; otherwise the grade recorded will be F. After the course withdrawal deadline, a student may drop a course only in cases of extreme and unavoidable emergency as determined by the academic dean; dropping a course after the deadline will not be permitted because of dissatisfaction over an expected grade or because the student is changing his/her major.

DISABILITY ACCESS AND INCLUSION: The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are approved through SDS, you must log in to your Rebel Access portal at <https://sds.olemiss.edu> to request approved accommodations. If you are NOT approved through SDS, you must contact Student Disability Services at 662-915-7128 so the office can: 1. determine your eligibility for accommodations, 2. disseminate to your instructors a Faculty Notification Letter, 3. facilitate the removal of barriers, and 4. ensure you have equal access to the same opportunities for success that are available to all students.

Tentative Test and Quiz Schedule:

Test 1 (2/12, Wednesday)	Test 2 (3/4, Wednesday)
Chapters 1 and 2 1.1 Introduction 2.2 Separable Equations 2.3 Homogeneous Equations 2.4 Exact Equations 2.5 Linear Equations 2.6 Equations of Bernoulli, Ricatti, and Clairaut	Chapter 4 4.1 Preliminary Theory 4.2 Constructing a Second Solution from a Known Solution 4.3 Homogeneous Linear Equations with Constant Coefficients 4.4 Undetermined Coefficient
Test 3 (3/27, Friday)	Final Exam (5/4, Monday 8AM)
Chapters 4, 6 and 7 4.7 Variation of Parameters 6.1 Cauchy-Euler Equation 7.1 Laplace Transform 7.2 Inverse Transform	Comprehensive + Chapter 7 7.3 Translation Theorems and Derivatives of a Transform 7.4 Transforms of Derivatives, Integrals, and Periodic Functions 7.5 Applications

Quiz
1/27, 2/5, 2/21, 2/28, 3/20, 3/27, 4/13, 4/20, 4/27