

Online MAT 275, SECTION#

MODERN DIFFERENTIAL EQUATIONS

***Important Note:** All items on this syllabus are subject to change. Any in-class announcement, verbal or written, is considered an official addendum to this syllabus. All course materials and information will be accessible through Blackboard Academic Suite (link on your “My ASU” page).

Information regarding the Computer labs will be accessible through the Blackboard LAB Site.

Instructor:	Office:
SLN:	Office Hour (online/in person)
E-Mail:	Prerequisites: MAT 266 or MAT 271 with a C or better

Course Content:

- **First-Order Equations:** Linear; Separable; Existence and Uniqueness; Autonomous Equations and Stability
- **Modeling and Applications:** Mixing Problems, Population Growth, Models of Motion, Newton’s Law of cooling
- **Numerical Methods**
- **Second-Order Equations:** Linear, Homogeneous Equations with Constant Coefficients; Inhomogeneous Equations; the Method of Undetermined Coefficients; Mechanical Vibrations: unforced and forced
- **The Laplace Transform:** Direct and Inverse; Using the Laplace Transform to Solve Differential Equations
- **Intro to Linear Algebra:** Systems of Linear Equations, Matrices and Vectors, Eigenvalues and Eigenvectors
- **An Introduction to Systems:** Linear Systems with Constant Coefficients; Phase Portraits; Solving Systems
theoretical and practical solution techniques. Applications. Problem solving using MATLAB.

Textbook: *Elementary Differential Equations*, by Boyce dePrima - WileyPLUS, 10th edition. [Matlabs](#) will be provided

Calculators: A graphing calculator (e.g. TI84 or Casio CFX-9850GB Plus) is recommended. Graphing calculators which perform symbolic manipulation (e.g. TI89, TI92, Casio FX2 or 9970G) will not be allowed for tests or quizzes.

Grading: The grade will be computed from the Final exam (20%), Midterm Test (20%), Test 1 (15%), Labs (15%), WebWork + Written Homework (25%), Discussion board (5%)

Grade Distribution Table:

A+	97% +
A	93% – 96.99%
A–	90% – 92.99%
B+	87% – 89.99%
B	83% – 86.99%
B–	80% – 82.99%
C+	77% – 79.99%
C	70% – 76.99%
D	60% – 69.99%
E	< 60%

Homework: Homework will be problems from WeBWorK, an online homework system. WeBWorK can be accessed at <http://webwork.asu.edu> . If you are not familiar with WeBWorK you should start by working out the Introduction set (the Introduction will not count towards the grade). ***No late assignments will be accepted.*** Due dates for WeBWorK are listed on the webpage. Student gets full credit for homework if his/her average Webwork score is at least 95 percent. Student needs to submit their written homework by scanning and uploading on Blackboard. Homework should be uploaded in **single** pdf file to get full credit of work.

MATLAB Labs: There will be a total of six MATLAB computer labs. The weeks on which these labs are due are listed on the schedule in this syllabus; however, these dates may be subject to change. After submitting the labs you can preview your uploaded work and double check if it got uploaded correctly.

You are not required to purchase MATLAB: MATLAB is installed on the computers in ECA 221. You can also use MATLAB at home and on any computer on campus through <https://citrix.asu.edu>. Also students can download Matlab software from https://asu.secure.force.com/kb/articles/How_To/Matlab-for-Engineering-Students

Exams: One un-proctored and two proctored tests will be given during the semester. The best possible preparation for the exams is completion of assigned labs and homework.

Exam	Sections	Test Dates
TEST 1	Chapter 1, 2	Not proctored and available on WebWork
Midterm	Chapter 1, 2, 3.1,3.2,3.3,3.4	Schedule at ProctorU, available on Webwork
FINAL	Comprehensive	Schedule at ProctorU, available on Webwork

FEE: Midterm and Final Exam are proctored tests. You have to use ProctorU (signup at ProctorU.com). The cost is about \$30 for each test. The cost of ProctorU varies depending on the time of registration.

All exams are closed-book. Calculators that do symbolic algebra are not allowed for the test. For example TI 83,84 are o.k, but TI 89, 92, NSpire-CAS are not allowed.

Cell phones and Electronic Devices during EXAM

Picture taking on your cell phone or any electronic device usage except the computer you are using to take exam during exam is prohibited and will be severely penalized.

Email and Internet:

ASU email is an **official means of communication** among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly. ***All instructor correspondence will be sent to your ASU email account and subject line should include your course number and class name.***

Course Time Commitment for 7.5 weeks course

This three credit courses require total of 160 hours of work. Students taking short sessions are expected to spend 20-25 hours each week.

Submitting Assignments

Your assignment and tests are all submitted online through Webwork and Blacboard (or the LMS your Instructor is using). There is **no** extension for the due dates. After submitting the labs you can preview your uploaded work and double check if it got uploaded correctly

Drop and Add Dates/Withdrawals

This course adheres to a compressed schedule and may be part of a sequenced program, therefore, there is a limited timeline to [drop or add the course](#). Consult with your advisor and notify your instructor to add or drop this course. If you are considering a withdrawal, review the following ASU policies: [Withdrawal from Classes](#), [Medical/Compassionate Withdrawal](#), and [a Grade of Incomplete](#).

Midterm and Final Exam: The final exam slot at ProctorU will open and close within three days window listed in the Schedule of Classes (<http://students.asu.edu/final-exam-schedule#fall>) will be strictly followed. Student can schedule their exam through ProctorU early to avoid extra charges. Make-up exams will NOT be given for reasons of a non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans.

Course Policies:

NOTE:

- Check course schedule daily and make sure you read all announcements.
- This syllabus is tentative and should not be considered definitive. The instructor reserves the right to modify it (including the dates of the tests) to meet the needs of the class. It is the student responsibility to check all announcements regularly and to make note of any change.
- Please schedule an appointment to see me during office hours if you have a disability that will require accommodations in this class.
- To qualify for disability accommodations at ASU, students must qualify for services through the Disability Resource Center (DRC), which is located on the 1st floor of the Matthews Center Building. 480.965.1234 (V), 480.965.9000 (TTY). Please complete this process as soon as possible.
- **The course withdrawal deadline is as per academic calendar.**
- It is a student's responsibility to verify that they have in fact withdrawn from a class.

Studying for the class: To master the concepts, you must:

- Watch lectures videos that will be provided in Blackboard. Review and study your class notes and/or the textbook thoroughly with the goal to understand the connections between the concepts. Watch the Lecture videos, read the textbook and provided notes. Complete all the assignments in timely manner. Make effective use of discussion board to discuss your questions.

You can also seek help from online or face to face Tutoring that is available at

<http://tutoring.engineering.asu.edu/>

SoMSS and University Policies and Procedures

For semester deadlines related to enrollment, withdrawal or payments, see the academic calendar available at <http://students.asu.edu/academic-calendar>

Course Withdrawal: A student may withdraw from a course with a grade of **W** during the withdrawal period. The instructor's signature is not required. It is a student's responsibility to verify that they have in fact withdrawn from a class.

The grade of Incomplete: A grade of "I" (incomplete) is given by the instructor only when a student doing acceptable work (that is a C or better) is unable to complete a course because of illness or other conditions beyond the student's control. The student and instructor must complete a Request for Grade of Incomplete form if no grade has been reported. If a grade has been reported, the instructor must complete a grade change in the [Faculty Center](#).

The grade of "I" should be granted only when the student can complete the unfinished work with the same instructor. However, an "I" may be completed with an instructor designated by the department chair if the original instructor becomes incapacitated or is not on campus. The student must arrange completion of the course requirements with the instructor.

The student has one calendar year from the date the grade of "I" is recorded to complete the course. A student does not reregister or pay fees for a course for which an "I" has been received in order to complete the course.

If the student completes the course within the calendar year, the instructor must submit the grade change using the Faculty Center, whether the student passed or failed the course. [The form for incomplete requests mentioned in the policy is here

<https://students.asu.edu/sites/default/files/incompletegraderequest11012013.pdf>

A student seeking an incomplete is directed to this form. Once the student completes their part, they should bring it to the instructor for approval].

Academic Integrity: Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see <http://provost.asu.edu/academicintegrity>.

Disability Accommodations: Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. **Note:** *Prior to receiving disability*

accommodations, verification of eligibility from the Disability Resource Center (DRC) is required. Disability information is confidential.

Establishing Eligibility for Disability Accommodations: Students who feel they will need disability accommodations in this class but have not registered with the Disability Resource Center (DRC) should contact DRC immediately. Their office is located on the first floor of the Matthews Center Building. DRC staff can also be reached at: [480-965-1234](tel:480-965-1234) (V), [480-965-9000](tel:480-965-9000) (TTY). For additional information, visit: www.asu.edu/studentaffairs/ed/drc. Their hours are 8:00 AM to 5:00 PM, Monday through Friday.

The grade of XE: A grade of XE is reserved for "failure for academic dishonesty." The grade goes on the student's transcript; the student needs to petition to have it removed after 1 year.

Ethics: It's highly unethical to bring to your instructor's attention the possible impact of your mathematics grade on your future plans, including graduation, scholarships, jobs, etc. The instructor may exercise an option to withdraw you from the course if they think you are compromising the ability to assess your work independently of any other consideration. Students found to be involved in academic dishonesty will be removed from the class and a grade of E for the course will be submitted to the registrar. The student will be advised to repeat the course with another professor, possibly at another institution. This is the least action taken. Further, more serious actions may be taken if the situation indicated that such actions are appropriate. We will act very harshly against cheating during Quizzes or Exams.

For the university's complete policy regarding ethics, including cheating, plagiarism and other forms of academic dishonesty, see the Student Academic Integrity Policy at the following web address: <http://provost.asu.edu/academicintegrity>

Student Conduct Statement:

Students are required to adhere to the behavior standards of the Arizona Board of Regents Policy Manual [Code of Conduct](#), Academic Affairs Manual ACD 125 [Computer, Internet, and Electronic Communications](#), and the ASU Student [Academic Integrity Policy](#). Students are entitled to receive instruction free from interference by other members of the class. If a student is disruptive, an instructor may ask the student to stop the disruptive behavior and warn the student that such disruptive behavior can result in withdrawal from the course. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process according to procedures of the Student Services Manual [SSM 201-10](#).

Note: The syllabus is tentative and should not be considered definitive. The instructor reserves the right to modify it (including the dates of the tests) to meet the needs of the class. It is the student responsibility to attend class regularly and to make note of any change. The Instructor also reserves the right to change class policies concerning homework due date, late assignments, etc.