



Syllabus: Differential Equations

Course Number: Math 2420

Semester & Year:

Instructor Information

Name: Tony Hartman

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Office Hours: See separate schedule

Textbook Information

“Ordinary Differential Equations: An Introduction to the Fundamentals”, by Kenneth B. Howell

ISBN: 9780738071770

Textbook available from the author in pdf form: <http://howellkb.uah.edu//DEtext/>

One chapter available from <http://www.math.psu.edu/tseng/class/Math251/Notes-LinearSystems.pdf>.

Material is available at TCOonline.

A scientific calculator (preferably a TI89)

Student Learning Outcomes for the Course

1. Identify homogeneous equations, homogeneous equations with constant coefficients, and exact and linear differential equations.
2. Solve ordinary differential equations and systems of equations using:
 - a) Direct integration.
 - b) Separation of variables.
 - c) Reduction of order.
 - d) Methods of undetermined coefficients and variation of parameters.
 - e) Series solutions.
 - f) Operator methods for finding particular solutions.
 - g) Laplace transform methods.
3. Determine particular solutions to differential equations with given boundary conditions or initial conditions.
4. Analyze real-world problems in fields such as Biology, Chemistry, Economics, Engineering, and Physics, including problems related to population dynamics, mixtures, growth and decay, heating and cooling, electronic circuits, and Newtonian mechanics.

Student Requirements for Completion of the Course and Due Dates

Students are required to keep a notebook/journal with ALL homework problems worked in orderly fashion. Regular scheduled tests are taken on paper in the classroom. Computer projects (using Maple) are assigned for outside of class and may be completed in the Math Department computer lab. Quizzes will be given randomly in the classroom.

Student Assessment

Homework – 25%

Notebook – 25%

Tests – 25%

Quizzes – 25%

Grading Scale

A	90-100	B	80-89	C	70-79	D	60-69	F	59-below
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Absentee Policy

Every student is allowed 2 absences. Three tardies will count as one absence. Students may be dropped from class for excessive absences.

Make-up Policy

Homework must be completed by the due date or the grade will be reduced. Arrangements can be made for making up tests outside of class time. Make-up tests will be graded more strictly than in-class tests.

Conduct Policy

There will be a zero tolerance policy for any behavior that is disruptive of classroom learning. This includes ANY use of vulgar language or rude behavior toward instructor or any other student in the class.

Academic Integrity Statement

Scholastic dishonesty, involving but not limited to cheating on a test, plagiarism, collusion, or falsification of records will make the student liable for disciplinary action after being investigated by the Dean of Students. Proven violations of this nature will result in the student being dropped from the class with an "F". This policy applies campus wide, including TC Testing Center, as well as off-campus classroom or lab sites, including dual credit campuses. This information can be found in the Student Handbook at <https://texarkanacollege.edu>.

Disability Act Statement:

Texarkana College complies with all provisions of the Americans with Disabilities Act and makes reasonable accommodations upon request. Please contact Larry Andrews at 903.823.3283, or go by the Recruitment, Advisement, and Retention Department located in the Administration building for personal assistance.

If you have an accommodation letter from their office indicating that you have a disability which requires academic accommodations, please present it to me so we can discuss the accommodations that you might need for this class. *It is best to request these changes at the beginning if not before the start of class* so there is ample time to make the accommodations..

Financial Aid:

Attention! Dropping this class may affect your funding in a negative way! You could owe money to the college and/or federal government. Please check with the Financial Aid office before making a decision.