Differential Equations (Math 4403-002) (CRN#11044)
Spring 2024, MWF 12:00PM-12:50PM

Professor: Dr. Jeongho Ahn   Office: CSM 118
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Text: Elementary Differential Equations with Boundary Value Problems by William F. Trench

Prerequisites: Math 3254 (Calculus III)

Course Description: Topics in the elementary theory of differential equations, including existence theorems

Student learning outcomes for MATH 4403:

- classify differential equations.

- solve linear and nonlinear first order differential equations.

- model with first order differential equations.

- apply existence and uniqueness theorems.

- solve homogeneous and nonhomogeneous linear higher order differential equations.

- model free and forced mechanical vibrations with second order linear differential equations.

- determine series solutions near an ordinary point.

- solve initial value problems using the Laplace transform.

B.S. Mathematics and Actuarial Science program learning outcome supported by MATH4403: upon completion of the B.S. Mathematics program and Actuarial Science, students will be able to

- demonstrate the ability to think analytically to decipher challenging problems, utilize appropriate mathematical practices to construct mathematical arguments to solve them, and interpret their solutions.

- demonstrate the ability to construct logical arguments and write formal mathematical proofs to establish the truth of mathematical statements.

- demonstrate the ability to communicate mathematics effectively.

Grading

- Quizzes:10%   In-class tests:60%   Final exam:30%

- Grades are assigned on the following basis:

	A	B	C	D	F
From	90	80	70	60	0
To	100	89	79	69	59

Homework & Quizzes

- It is expected that you will complete each homework. We note that diligent completion of homework is essential to successful completion of this course. So you should plan on spending at least two hours of work outside of class for each hour of class time to be successful.

- There will be a quiz **every Friday class**.

Tests & Final Exam

- You will take **three** in-class tests during the semester.

- You will see the dates for each test in assignment sheets.

- The final Exam is **comprehensive** and may include all materials covered during the semester.

- **The final exam schedule: May 1 (Wed), 12:30PM - 2:30PM**

Last Day to Drop by web: April 5 (Friday)

Class Policies

- Attendance: As stated in the student handbook, "Students should attend every lecture, recitation, and laboratory session of every course in which they are enrolled." Students who have more than **six unexcused absences** or **three consecutive unexcused absences** will be assigned an "F" for this course. When possible, you should give advanced notice of absences. When you miss more than five classes, you must come to see me.

- Calculators: You should have a graphing calculator for this course. The purpose of using a calculator is to help you better understand examples for a large portion of the material and check your answers.

- Academic Dishonesty: When you take a test, you are not allowed to communicate in any fashion with anyone except myself. In addition, you are not allowed to view another student's work, share paper or calculators.

- Demeanor:
  (1) If you distract other students from studying during class, you will be asked to leave class. If it is the second time, you will be administratively dropped.
  (2) **Please turn your cellular phone off before you come to class.**
  (3) **When you take all the quizzes or the tests, you are neither allowed to use your phone nor go to a bathroom.**

- Make-ups: **There is no make-up of quizzes. But you are allowed to take a make–up of tests and the final, if I am notified in advance.**

Additional Notes

- The course plan may be modified during the semester. Such modifications will be announced during class periods; the students have responsibility for keeping up with such changes.

- Students who require academic adjustments in the classroom due to a disability must first register with ASU Access & Accommodation Services. Following registration and within the first two weeks of class, please contact me to discuss appropriate academic accommodations. Appropriate arrangements can be made to ensure equal access to this course.

Title IX (Sexual Harassment Discrimination)

- Visit the ASU website: https://www.astate.edu/a/affirmative-action/title-ix/

Dr. Jeongho Ahn's Schedule for Spring 2024

	Monday	Tuesday	Wednesday	Thursday	Friday
11:00	Office Hours				Office Hours
12:00	Diff. Eqs Math 4403 CSM 131		Diff. Eqs Math 4403 CSM 131		Diff. Eqs Math 4403 CSM 131
1:00			Office Hours		
2:00	Cal III Math 3254 HSS 2063	Cal III Math 3254 HSS 2063	Cal III Math 3254 HSS 2063	Cal III Math 3254 HSS 2063	
3:30 −4:45		Intro. to N. A. Math 4533 CSM 209		Intro. to N. A. Math 4533 CSM 209	

If the above office hours conflict with your schedule, please email me to arrange a meeting time.