Course Syllabus	**Adv. Engr. Math(Spring 2026)**	**MATH5311.001**
Class Time	TR 12:30pm - 1:50pm	RBN 4019
Professor	Dr. Regan Beckham	Email: rbeckham@uttyler.edu
Office Hours:	TBA (or by appointment)	Location: RBN 4012

Course Information

Textbook: Class Notes
(Supplemental Text, not required, Advanced Engineering Mathematics by Erwin Kreyszig)

Course Topics: We will study advanced mathematical concepts needed in the study of engineering. The topics covered cover are partial differential equations, Fourier analysis, complex analysis and optimization. Prerequisites include ordinary differential equations and matrix methods or linear algebra. It will be assumed that you have a mastery of Calculus.

Student Learning Outcomes:
By the end of this course, the successful student will

- State major theorems, facts, and definitions from the fields of Fourier analysis, partial differential equations, complex variables, and optimization.
- Utilize major theorems, facts, definitions, and methods to solve advanced applied problems in mathematics.
- Model real-world problems and clearly present a written solution in keeping with the written tradition of the discipline.

If you chose to take this class you agree to:
- *Read the Notes* – Read the material being covered prior to attending class and again after.
- *Attend Class* – You should not take this course if you are not committed to attending class.
- *Complete Homework* – Homework completion is vital to the understanding of the material.

UT Tyler Honor Code
To embrace honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Plagiarism and Academic Dishonesty
Any work submitted must represent your own effort!

Make-up Policy
Make-ups for documented absences that are required as part of a UT Tyler obligation (e.g. athletes participating in an event, participating in a debate contest, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification of at least one week and documentation are required.

Classroom Policy
When you attend class you are to be actively engaged in the classroom activity. Also, you are to be respectful of those around you and conduct yourself in a collegial manner. Students not adhering to this may be asked to leave the classroom.

Grading Policy
Your final grade will be based on the following:
Exams
There will be **five** 20 point exams throughout the semester.
Quizzes
There will be **five** quizzes worth 2 points each. Quizzes will tentatively be on Thursdays.

Note: Your grade will depend exclusively on the scores you receive on your exams and quizzes. No assignments will be dropped. No extra credit or special assignments will be given. **No exceptions.**
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Your final grade will be no more harsh than the following scale.

Percentages
100 - 85 A, below 85 - 70 B, below 70 - 50 C, below 50 - 49 D, below 49 F
Points
110 - 93 A, below 93 - 77 B, below 77 - 55 C, below 55 - 54 D, below 54 F
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A bit about grading

Below is the grading scheme that will be used for all exam problems. Whether this splits up to each part of a multi-part problem depends on the necessary work to move through each problem.
0 - No progress or relevant information given for the problem
1 - Some progress which could lead to a correct solution
2 - Significant progress, major elements present, partial explanation/proof
3 - Essentially complete and correct solution, with minor gaps, errors, or lack of explanation
4 - Fully correct and complete solution with all relevant information and explanation

Below is the grading scheme that will be used for all quizzes.
0 - Unsatisfactory progress made on the problem.
1 - Satisfactory progress made on the problem but not complete and correct.
2 - Essentially complete and correct solution,

Tentative Schedule and Dates

Jan 12th: First day of classes
Jan 19th: MLK, no class
Jan 26th: Census Date
March 9th - 13th: Spring Break
March 30th: Last Day to Withdraw
Apr. 27th - May 1st: Final Exam Week

Tentative Assigments by Week

1 - None	6 - Q2	12 - None
2 - None	7 - E2	13 - Q5
3 - Q1	8 - Q3	14 - E4
4 - E1	10 - Q4	15 - None
5 - None	11 - E3	16 - E5

A bit about study groups
In my experience, study groups are most successful when the following is done. The problems should be attempted by the group members before the group meets. If problems are worked from start to finish in the group only the strongest students will benefit.

AI Policy
UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.
AI is not permitted on graded assignments in this course at all.
You may use AI or other resources while studying, learning, and practicing the material in this course.
However, to best support your learning, you must complete all graded assignments ***by yourself*** to assist in your learning. This exclusion of other resources to help complete assignments includes artificial intelligence (AI). Refrain from using AI tools to generate any course context (e.g., text, video, audio, images, code, etc.) for an assignment or classroom assignment.

Student Resources
University Policies and Information