

ADVANCED ENGINEERING MATHEMATICS

MATH 5311.001 | SPRING 2022

Instructor: Dr. Deborah Koslover

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Classroom: RBN 4019

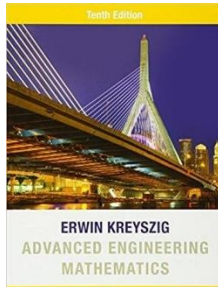
Meeting Time: MW 5:40 – 7:05 PM

Office Hours: : MTTh 1-1:50 PM and
MW 4 – 5 PM or by appointment.

Course Description

Advanced mathematical concepts needed in the study of engineering. The topics we will cover are partial differential equations, Fourier analysis, complex analysis and optimization. Prerequisites include ordinary differential equations and matrix methods or linear algebra.

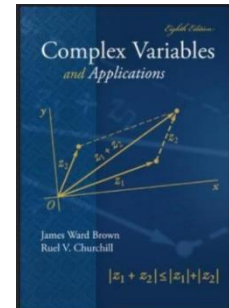
No Textbook Required.



However, if you would like to have a book, I will use the following books to write my lecture notes.

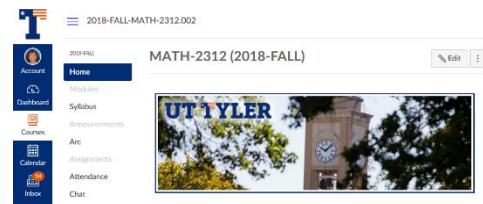
Advanced Engineering Mathematics by Erwin Kreyszig, John Wiley & Sons, I'll be using the 10th edition, but probably any as far back as 8 will do.

Complex Variables with Applications by James W. Brown and Ruel V. Churchill, McGraw Hill. I'll be using the 8th edition. Any since about the 1980s will do.



Website

You will be using Canvas. Go to www.uttyler.edu/canvas to log into Canvas using your regular patriots account. If you have enrolled in the course, you should have access to the website. You will find important documents, grades, lecture notes, and announcements on Canvas.



Attendance is mandatory and attendance records will be kept. Notify Dr. Koslover in advance if you must miss a class, be late for a class or leave early.

(Official University Policy: Class attendance is the responsibility of the student. When a student has a legitimate absence, the instructor may permit the student to complete missed assignments. In many cases class participation is a significant measure of performance, and non-attendance may adversely affect a student's grade. When a student's absences become excessive, the instructor may recommend that the student initiate a withdrawal.)

Learning Outcomes

At the conclusion of this course, you will be able to

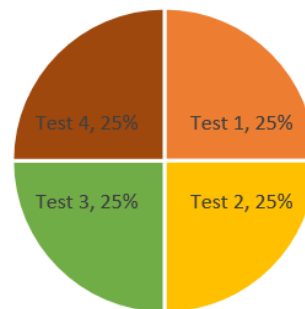
1. State major theorems, facts, and definitions from the fields of Fourier analysis, partial differential equations, complex variables and optimization.
2. Utilize major theorems, facts, definitions, and methods to solve advanced applied problems in mathematics.
3. Model real-world problems and clearly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

Course Evaluation

At the end of the semester, you will find your final grade on my.uttyler.edu. It will also be posted on Canvas.

A final course grade of

- 90% is guaranteed to be at least an A
- 80% is guaranteed to be at least a B
- 70% is guaranteed to be at least a C
- 60% is guaranteed to be at least a D.



All grades below 60% will be F.

The Plan

TESTS There will be four tests, each worth 25% of your grade.
Success is dependent on effort. _Sophocles

Test Dates

Test 1: February 2, **Test 2:** March 2, **Test 3:** March 30, **Test 4:** April 20



Homework will be assigned daily. However, homework will not be collected. Solutions will be posted on Canvas. Do not expect to pass this class unless you do all of the homework. Reading through the solutions will not be sufficient.

Striving for success without hard work is like trying to harvest where you haven't planted.
_David Bly

Note: Your grade will depend exclusively on the scores you receive on your four exams. No exams will be dropped. No extra credit or special assignments will be given. **No exceptions.**

Make-ups

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. Other make-ups are granted only in extreme cases such as hospitalization and at the sole discretion of the instructor.

Make-ups will be allowed for the following excused absences.

- 1) Illnesses, with a doctor's note, no exceptions.
- 2) Your child's illness, with a doctor's note.
- 3) Court appearances, including citizenship court, with documentation
- 4) Weddings, funerals or military advancement with documentation **and** a photograph showing that you attended the event.

Other Details

Calculator Policy: Non-graphing calculators will be allowed on tests. No calculator cell phone apps will be allowed.

Cell phones, IPODs and other electronic devices: Please set your cell phones and pagers to silent mode. If you are expecting an emergency call, please notify the professor in advance, sit near the door, and answer the phone outside. You will not be allowed to wear an IPOD or other electronic devices during an exam. During tests, cell phones must be turned off and placed in sight on your desk.

Covid Related Issues

Let me know if you will be missing class, before class if possible. If we have class cancellations or if the university gets shut down, I may move test or quiz dates. I will email you and post an announcement on Canvas in these circumstances. If we get into a situation where we have to do online tests or quizzes, you will need a camera and microphone. I must be able to see your face during the exam. Your phone will work, but it will be easier for you if you can use your computer. Additionally, in this case, some quizzes or tests may be changed to projects.

If you have any special concerns, problems or other issues, please let me know as soon as possible so that we can craft solutions.

Calendar

JANUARY	
MON	WED
10	12
First Day	
17	19
MLK Day	
24	26
Census Day	

FEBRUARY	
MON	WED
31	2
	Test 1
7	9
14	16
21	23

MARCH	
MON	WED
28	2
	Test 2
7	9
SPRING BREAK	
14	16
21	23
28	30
Drop day	Test 3

APRIL	
MON	WED
4	6
11	13
18	20
	Test 4
25	27
Study Day	