

AME 526

Introduction to Mathematical Methods in Engineering II

Summer 2022 (May 19 – June 28)

Lecture: T, Th 9:00 am - 11:50 am

Discussion: M, W 5:00 pm - 6:20 pm

Instructor: Fokion N. Egolfopoulos, Professor AME Dept.
Office: OHE 400B
Tel: 740-0480
E-mail: egolfopo@usc.edu
Office Hours: Anytime by appointment

Teaching Assistant: Shuqi Zhang
E-mail: shuqizha@usc.edu
Office Hours: Anytime by appointment

Recommended Text: Peter V. O’Neil, “*Advanced Engineering Mathematics*”, 8th edition, Cengage Learning, May 2017, ISBN: 978-1-305-63515-9

Approach: While this is a Mathematics class, the relevance of the equations and their solution approaches to physical processes and applications in various engineering fields will be emphasized

Lectures

5/19
5/24-5/26
5/31-6/2
6/7-6/9
6/14-6/16
6/21-6/23

TOPICS

Ordinary Differential Equations (Chapter 1)
Ordinary Differential Equations, Laplace Transform (Chapters 1, 2)
Laplace Transform, Series Solutions (Chapters 3, 4)
Fourier Series, Fourier Integral and Transforms (Chapters 13, 14)
Partial Differential Equations (Chapters 16, 17, 18)
Partial Differential Equations, Separation of Variables,
Similarity Solutions, Transform Methods (Chapter 16, 17, 18)

Grading:	Homework Assignments		30%
	Midterm Exam	June 9 (Th) (10:30 am - 11:50 am)	35%
	Final Exam	June 28 (T) (9:00 am - 11:00 am)	35%

Remarks:

1. The lectures will be based on both the textbook and notes.
2. There will be four (4) homework assignments.