Math 206D: Finite Element Method for Partial Differential Equations   Fall 2022

INSTRUCTOR	Paul J. Atzberger	Office: 6712 South Hall
	http://atzberger.org/	Office Hours: TR 10:45am – 12:00pm

CLASS TIMES   TR 9:30am – 10:45am.
ELLSN 2816.

DESCRIPTION   Finite element methods provide a class of numerical methods for approximating solutions of partial differential equations. In this course we will cover both fundamental mathematical concepts and how in practice to develop and to apply finite element methods to specific problems. We will develop methods for Elliptic, Parabolic, and Hyperbolic PDEs as well as for non-linear problems.

PREREQUISITES   A working knowledge of advanced calculus, linear algebra, and partial differential equations. Some programming experience would be helpful.

TEXTBOOKS   *The Mathematical Theory of Finite Element Methods (third edition),*
S. Brenner and R. Scott, published by Springer.

A First Course in Finite Elements,
J. Fish and T. Belytschko, published by Wiley.

GRADING

Homework	40%
Midterm	20%
Final	40%

POLICIES   Assignments will be assigned in class and posted on the course website. Prompt submission of homeworks will be required. While no late homework will be accepted, one missed homework will be allowed without penalty. While it is permissible for you to discuss materials with classmates, the submitted homework must be your own work.

EXAMS   A midterm exam will be on Tuesday, November 15.