Math 206D: Finite Element Method for Partial Differential Equations Fall 2019

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

CLASS TIMES TR 9:30am – 10:45am.
GIRV 1108.

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 foundations as well as 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 Method*s (third edition),*
S. Brenner and R. Scott, published by Springer.

GRADING

Homework	30%
Midterm	30%
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 Thursday, November 14.