

Syllabus
Math 4345-0001
Numerical Analysis and Computational Applications II

Spring 2014

Instructor(s): Chaoqun Liu
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Office Hours: 12:30-1:30 PM, TTH
Section Information: Math 4345-001 (22773)

Time and Place of Class Meetings: 11:00-12:20 pm, TTH, 111 PKH

1. Description of Course Content:

- Solving initial-value problems for ODEs
- Numerical solutions of nonlinear systems of equations
- Solving boundary-value problems for ODEs
- Introduction to numerical solutions for PDEs
- Approximation functions
- Approximation eigenvalues

2. Student Learning Outcomes: Use computer to solve ODE, PDE and eigenvalue problems

3. Requirements:

Knowledge of calculus, linear algebra, and programming or consent of the instructor.

4. Required Textbooks and Other Course Materials:

Numerical Analysis by R.L.Burden and J.D.Faires (7th or 8th Edition)

5. Descriptions of major assignments and examinations with due dates:

Homework collected every week. There are two middle and one final exams

6. Grading Policy:

tests: 25% x 2, homework: 20%, final 30%

7. Attendance Policy: class attendance is required

8. Make-up Exam Policy: Notify me immediately (no later than the day of exam). A make-up test may be given if and only if the absence is excused.

MATH 4345
 COURSE OUTLINE (subject to change)
 Numerical Analysis by R.L.Burden and J.D.Faires (7th or 8th Edition)

Section	Lesson	Date
5.1-5.2	1	1/14
5.2 -5.3	2	1/16
5.4	3	1/21
5.5	4	1/23
5.6-5.7	5	1/28
5.8-5.9	6	1/30
5.10-5.11	7	2/4
10.1-10.2	8	2/6
Test 1 (5.1-5.11, 10.1-10.2)		2/11
10.2-10.3	9	2/13
10.4	10	2/18
11.1-11.2	11	2/20
11.3-11.4	12	2/25
11.5	13	2/27
12.1	14	3/4
12.2	15	3/6
12.3	16	3/18
12.4	17	3/20
8.1	18	3/25
Test 2 (10.3-11.5, 12.1-12.4)		3/27
8.2	19	4/1
8.3	20	4/3
8.4	21	4/8
8.5	22	4/10
8,6	23	4/15
9.1	24	4/17
9.2	25	4/22
9.3	26	4/24
9.4	27	4/29
Review	28	5/1
Final (comprehensive)		5/6 or 5/8