



Shearer's website

MA734 PDE II Spring, 2019

Monday, Wednesday, 1:30-2:45pm; Daniels Hall, Room 232

Instructor: Michael Shearer **Office:** SAS 3228 **Phone:** 515-3298 **Email:** shearer@ncsu.edu

Office Hours: Tentative times: Mondays 3:00-3:30 p.m., Wednesdays 4:00-4:30 p.m., and by appointment.

Book: Shearer and Levy, *Partial Differential Equations*. Princeton, 2015.

Additional Reading:

Partial Differential Equations by Robert McOwen

Partial Differential Equations by L. Craig Evans

Prerequisite: MA 534.

Grading and Exams:

1. Weekly Homework Assignments (10% of final grade) **due Wednesdays.**

2. Two in-class exams (60%).

Tentative Dates: To Be Decided

3. Final exam (30%).

Basic Grading Scale: 90%-100%: A, 80%-89%: B, etc. (+ and – will also be used.)

Course Objectives: Math 734 will cover a selection of topics. The purpose is to make a transition from the introductory treatment of PDEs in MA534 to advanced topics. Some of the framework of functional analysis will be introduced, and used to study variational techniques and eigenvalue problems, together with existence and uniqueness issues for elliptic equations. Some special techniques for nonlinear equations will be covered, as well as an introduction to the theory of systems of hyperbolic conservation laws.

Class Policies:

1. I encourage you to discuss homework with other students, or with me during office hours. You should

in part on your own will help you master the material, keep up with the course and prepare for tests. Homework will be graded on a scale of 1-10. Points will be awarded for amount of homework attempted; selected problems will be graded in detail.

2. I expect you to read sections of the book around the time of lectures and homework from those sections. The book has additional examples and discussion that you will find helpful. Some test questions may resemble examples from the book.
3. You are expected to attend all classes on time. Classroom discussion and questions in class help clarify issues in this course, so please feel free to participate by asking questions.
4. Arriving late for a class or leaving early is very disruptive of class. If you need to leave early, please let me know at the beginning of class, and sit near the door so you can slip out quietly.
5. If you are unavoidably absent from a test, a score for that test will be assessed at the end of the semester, based on your performance in homework, the other tests, and on the final, with an emphasis on the material of the missed test.

Evaluations:

Online class evaluations will be available for students to complete during the last 2 weeks of spring semester.

Students will receive an email message directing them to a website where they can login using their Unity ID and complete evaluations. All evaluations are confidential; instructors will not know how any one student responded to any question, and students will not know the ratings for any instructors.

Evaluation website: <https://classeval.ncsu.edu/>

Student help desk: classeval@ncsu.edu

More information about ClassEval: <http://www.ncsu.edu/UPA/classeval/>

Academic Integrity Statement: Students are expected to follow university guidelines, which may be viewed by following the links at: http://www.ncsu.edu/provost/academic_regulations/integrity/reg.htm

Further Statements:

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.1)

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