

**Course Information**  
**Math 285, Section G8**  
Fall 2000

**Instructor:** William Galway

**e-mail:** galway@math.uiuc.edu, e-mail is the best way to reach me.

**Class assistant:** Daniel Chen (dschen@students.uiuc.edu).

**Class hours:** MWF, 3-4pm in room 241 Altgeld Hall (classroom) or room 24 Illini Hall (computer lab). Make sure you check the class web page on the day of the class to see where we will meet. Unless announced otherwise, assume room 24 Illini Hall.

**Office:** 113 Altgeld Hall

**Office phone:** 333-7729

**Home phone:** 384-5901 (OK to call between 7:30am and 10pm).

**Home page:** <http://www.math.uiuc.edu/~galway>, see my home page for a link to the class home page.

**Office hours:** By appointment, or

- Tuesday, 9:30–11:30,
- Friday, 10:30–11:30.

**Text:** “Differential Equations & *Mathematica*” (a CD).

**Final Exam:** The final exam is on Saturday, December 16, 1:30pm-4:30pm. The location will be announced later.

**Grades:** Grades will be based on:

**Final Exam:** Roughly 15%

**2 One-Hour Exams:** Roughly 15% each

**Homework and Quizzes:** Roughly 55%

Grades will be *roughly* according to the scale

**A:** 90–100%

**B:** 80–89%

**C:** 70–79%

**D:** 60–69%

**E:** 0–59%

If you have any questions or concerns please feel free to discuss them with me. If for some reason you feel that I cannot help you, then you should contact Nathan Whitehead, phone 244-5978, e-mail [nwhitehe@math.uiuc.edu](mailto:nwhitehe@math.uiuc.edu). Nathan is the Assistant Director of the Calculus & *Mathematica* program.

## Course Syllabus

We will attempt to cover the following material:

- **Part 1: Transition from Calculus: Classical Theory of Differential Equations**
  - DE.01: The Exponential Differential Equation
  - DE.02: The Forced Oscillator Differential Equation
  - DE.03: Laplace Transform and Fourier Analysis
- **Part 2: Introduction to Modern Theory of Differential Equations**
  - DE.04: Modern Differential Equation Issues
  - DE.05: First Order Differential Equations
  - DE.06: Systems and Flows
  - DE.07: Eigenvectors and Eigenvalues for Linear Systems
  - DE.08: Linearizations of Nonlinear Systems
- **Part 3: Partial Differential Equations: Heat and Wave Equations**
  - DE.09: The Heat and Wave Equations