# Syllabus
# Differential Equations
# Math 251, Section 1, CRN 19101
# Fall 2008

**Instructor:**    Associate Professor Eric Gottlieb
**Contact data:**    317 Ohlendorf
Office hours: 2-3:30 MW, 2-3 TF. Unannounced visits are
welcome, time permitting.
gottlieb@rhodes.edu
843-3723 (email is better)

**The subject:** Differential equations were conceived in the context of celestial mechanics, but have since been used in such diverse contexts as economics, chemistry, rumor propagation, dispersion, meteorology, population dynamics, pursuit curves, epidemiology, and fluid dynamics (to name just a few).  In addition to being amazingly flexible tools for understanding the natural and social worlds, they are also of substantial theoretical interest.  Time constraints will prevent us from doing more than scratching the surface of this rich and interesting subject, but I hope you'll see enough of it to come to appreciate its power and flexibility.

**The text:** We will cover Chapters 1-4 of *Differential Equations, 3rd edition,* by Blanchard, Devaney, and Hall.  If time permits, we may also cover material from later chapters or from other sources.  See the attached schedule for tentative dates on which each section will be covered.

**Exams:** There will be three midterm exams and a final as indicated below.  The dates are fixed, but material to be covered is tentative and depends on our pace.

| Exam | Date | Material to be covered |
|------|------|------------------------|
| MT 1 | Friday 26 September | Chapter 1 |
| MT 2 | Friday 17 October | Chapter 2 |
| MT 3 | Wednesday 19 November | Chapter 3 |
| Final | Tuesday 16 December, 5:30 PM, in 225 Ohlendorf | Comprehensive, with extra emphasis on material not covered on earlier exams |

If you know you will miss an exam, you must notify me in advance so we can arrange an alternate time.  You must provide a compelling and documented reason for missing the exam.

**Homework:** I will assign and collect homework roughly once per week.  To earn full credit, your work must be correct, complete, neat, grammatically correct, and properly ordered.  If submitted fails to meet these conditions, I may deduct points, request a rewrite, or decline to accept it.  The lowest homework grade will be dropped.  Late homework will not be accepted.  If you are unable to turn your homework in on time for a valid, documented reason, I may omit that assignment from the computation of your homework average.

**Projects:** There will be two projects, the purpose of which is to help you to hone your technical communication skills.  They will take the form of written reports on a specified topic, most likely one of those found at the end of each chapter.  You will work in groups of three.  Technical aspects of writing, clarity of writing, and mathematical content each will count for 30% of the project grade.  Presentation will count for 10%.  They will be assigned on Monday 29 September and Wednesday 22 October.  They are due on Wednesday 8 October and Friday 31 October.  These dates may change depending on our progress.

**Attendance** is not a formal part of your grade, but I hope that there will be a two-way dialogue in class.  I want you to share what you know (or, perhaps more importantly, what you don't) and learn from what others have to say.  Poor attendance often foretells poor performance.  For these reasons, I will take roll each day.  If you miss more than five classes without a valid reason, I reserve the right to ask the Dean to drop you from the class.

**Your Final Grade** is determined as follows:

| | |
|---|---|
| Midterm Exams: | 17% each |
| Projects: | 5% each |
| Homework Average: | 17% |
| Final Exam: | 22% |

The letter equivalent of your number grade will be assigned according to the following scale. These represent minimum grades in order to allow me some discretion.  It is possible, for example, to receive a B while earning a total score of less than 83%.  However, if you earn a score between 83% and 86%, you are guaranteed to receive a grade of B or better.

| 93-100 | 90-92 | 87-89 | 83-86 | 80-82 | 77-79 | 73-76 | 70-72 | 67-69 | 63-66 | 60-62 | <59 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F |

**The Honor Code:** Violations of the honor code will be prosecuted.  I reserve the right to assign a grade of 0 on any assignment for which the Honor Council finds that a violation has occurred.  Please help me to keep the focus on learning and to avoid the unpleasantness associated with honor code violations.