

**MATH 3113: Introduction to Ordinary Differential Equations**  
**Course Syllabus**  
**Spring 2013**

**Section 003**  
**TR: 10:30 – 11:45 am**  
**PHSC 359**

**Instructor:** Dr. Matt McBride  
**Office:** PHSC 810  
**Office Phone:** 325 - 5074  
**Office Hours:** TR: 12:00 - 1:00 pm or by appointment  
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**Textbook:** C. H. Edwards and D. E. Penney, *Differential Equations and Boundary Value Problems*, 4<sup>th</sup> Edition

**Prerequisites:** MATH 2423 or MATH 2924

**Objective:** We will learn how to solve first-order differential equations, how to solve linear differential equations of second and higher order, how to use Laplace transforms to solve differential equations, and how to solve systems of differential equations. We will also study a few selected examples showing how differential equations arise in scientific problems.

**Withdrawl Date:** Through March 29<sup>th</sup>, you may drop the course and receive a W grade. Dropping the course after March 29<sup>th</sup> requires a petition to the Dean, and will result in a grade of either W or F.

**Academic Honesty:** The University of Oklahoma takes great pride in academic honesty, thus cheating of any kind will not be tolerated. If cheating is suspected, bad actions will be taken.

**Students with disabilities:** The University of Oklahoma is committed to providing reasonable accomodation for all students with disabilities. If you require special accomodation in this course you are requested to speak with the instructor as early in the semester as possible. Students with disabilities must be registered with the Office of

Disability Services prior to receiving accommodations in this course. For further information please see <http://drc.ou.edu>.

**Homework:** As with any math course, homework is a vital component. One must practice newly learned facts, theorems, etc. through the assigned homework. Homework will be assigned daily and it will be collected once a week. The week's assignment will be collected on the subsequent Thursday. See the schedule for details.

**Exams:** There will be three closed book, closed notes, and closed homework in-class exams. Students will have the entire class time to take the exams. All three exams will cover roughly six lessons, though this may be modified due to time and is left up to the discretion of the instructor.

**Final Exam:** The final exam is a comprehensive exam and will be held on **Thursday, May 9<sup>th</sup>** in the usual class location at **8:00 - 10:00 am**. This date can **not** be modified, so make sure one's calendar is free.

**Make-up Policy:** Make-up exams will be given **only** for reasons deemed acceptable by the instructor, and **only** with written documentation. Make-up exams must be taken within one week of the original date, and no make-ups may be taken after the final exam. There will be **no** make-up exam for the final exam. Make-up exams are never easier than the original.

**Calculator Policy:** This is a course of mathematical ideas and techniques, not a course of mechanical computation. You may use a calculator when working on the homework assignments. In class and when taking exams, a calculator is not really needed, but you may, if you wish, use a simple calculator that does not have graphics capability while taking exams, just to check your arithmetic. The reason for the exclusion of graphics capability is to make sure that you have the graphs of the fundamental functions like such as trigonometric, logarithm, and exponential in your head.

#### **Grading Distribution:**

Homework.....	25%
Exams.....	45%
Final Exam.....	30%
Total.....	100%

#### **Grading Scale:**

<b>A:</b> .....	100% - 90%
<b>B:</b> .....	89% - 80%
<b>C:</b> .....	79% - 70%
<b>D:</b> .....	69% - 60%
<b>F:</b> .....	59% and below

## Spring 2013 Tentative Schedule

Date	Sections Covered	Homework
Tue, Jan. 15	1.1	none
Thur, Jan. 17	1.1, 1.2	<b>1.1:</b> 1-27 odd <b>1.2:</b> 1-9 odd,10,11-15 odd,25,37
Tue, Jan. 22	1.3	none
Thur, Jan. 24	1.3, 1.4 ( <b>1.1,1.2 due</b> )	<b>1.3:</b> 1-3,7,9,11-16,19,20,27,32 <b>1.4:</b> 1-31 odd,36,37
Tue, Jan. 29	1.5, 1.6	<b>1.5:</b> 1-25 odd,29-32,36
Thur, Jan. 31	1.6 ( <b>1.3,1.4 due</b> )	<b>1.6:</b> 1-29 odd,37,40,43-53 odd,56-58,63-65
Tue, Feb. 5	Review for Exam 1	none
Thur, Feb. 7	<b>Exam 1</b> ( <b>1.5,1.6 due</b> )	<b>Covering 1.1-1.6</b>
Tue, Feb. 12	3.1	none
Thur, Feb. 14	3.1, 3.2	<b>3.1:</b> 1-15 odd,17-19,21-27 odd,30,32,33-45 odd <b>3.2:</b> 1-23 odd,25-29
Tue, Feb. 19	3.3	none
Thur, Feb. 21	3.3, 3.4 ( <b>3.1,3.2 due</b> )	<b>3.3:</b> 1-29 odd,33,35,50,51,53-57 odd <b>3.4:</b> 15-21 odd, 24-28
Tue, Feb. 26	3.5	none
Thur, Feb. 28	3.5, 3.8 ( <b>3.3,3.4 due</b> )	<b>3.5:</b> 1-19 odd,21-25 odd,31-37 odd,47-55 odd <b>3.8:</b> 1-5 odd, 7-14
Tue, Mar. 5	Review for Exam 2	none
Thur, Mar. 7	<b>Exam 2</b> ( <b>3.5,3.8 due</b> )	<b>Covering 3.1-3.5</b>
Tue, Mar. 12	4.1	<b>4.1:</b> 1-19 odd, for 11-19 no graph
Thur, Mar. 14	5.1	none
Tue, Mar. 26	5.1	<b>5.1:</b> 1-10,11-29 odd
Thur, Mar. 28	5.2 ( <b>4.1 due</b> )	none
Tue, Apr. 2	5.2	<b>5.2:</b> 1-25 odd, 38-40, for 1-15 no graph
Thur, Apr. 4	Review for Exam 3 ( <b>5.1 due</b> )	none
Tue, Apr. 9	<b>Exam 3</b>	<b>Covering 3.8,4.1,5.1,5.2</b>
Thur, Apr. 11	7.1 ( <b>5.2 due</b> )	none
Tue, Apr. 16	7.1, 7.2	<b>7.1:</b> 1-19 odd,23-31 odd,37,38,39
Thur, Apr. 18	7.2, 7.3	<b>7.2:</b> 1-13 odd,17-23 odd,27 <b>7.3:</b> 1-17 odd, 27-37 odd
Tue, Apr. 23	7.4	<b>7.4:</b> 1-15 odd,19-35 odd,36,37
Thur, Apr. 25	7.6 ( <b>7.1,7.2,7.3 due</b> )	<b>7.6:</b> 1-11 odd
Tue, Apr. 30	Review for Final Exam	none
Thur, May 2	Review for Final Exam ( <b>7.4,7.6 due</b> )	none
Thur, May 9	<b>Final Exam</b>	<b>PHSC 359: 8:00-10:00 am</b>