

**MATH 4163: Introduction to Partial Differential Equations**  
**Course Syllabus**  
**Spring 2016**

**Section 002**  
**TTh 1:30 – 2:45 pm @ DAHT 105**

**Instructor:** Dr. Darren Ong  
**Office:** PHSC 1007  
**Office Phone:** 325-5596  
**Office Hours:** TBA  
**Email Address:** darrenong@math.ou.edu  
**Website:** [www2.math.ou.edu/~darrenong/3113Spring16.htm](http://www2.math.ou.edu/~darrenong/3113Spring16.htm)

**Textbook:** Richard Haberman *Applied Partial Differential Equations*, 5<sup>th</sup> Edition

**Prerequisites:** MATH 2443 or MATH 2934, MATH 3113 or MATH 3413

**Objective:** We will learn a variety of methods to solve partial differential equations, including separation of variables, the Fourier transform, and the finite element method. We will pay special attention to the heat equation, the wave equation, and the Laplace equation, as well as discuss the Sturm-Liouville eigenvalue problem.

**Withdrawal Dates:** Through February 1<sup>st</sup>, you may drop the course and no grade will be recorded. Dropping the course from February 2<sup>nd</sup> to April 1<sup>st</sup> will result in an automatic W grade. Dropping the course later than that 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.

**Students with disabilities:** The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. If you require special accommodation 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://www.ou.edu/drc/>.

**Homework:** Homework will be assigned and collected once a week. The week's assignment will be collected at the beginning of class on the subsequent Tuesday. You are encouraged to get any help you need to solve the homework problems. However, once you understand how to solve the problem, the write-up should be your own. No late homework will be accepted for **any reason**. However, your four lowest homework scores will be ignored when calculating your homework grade.

**Videos:** We will use lecture videos to supplement the course. The videos will be listed on the course website. Please make sure to watch and understand the videos before you attend the corresponding lecture. To compensate for the time you spend watching the videos, there will be less homework for this class than for a normal MATH 4163 lecture class.

**Class:** Class time will be used for working on math problems in teams of three or four. Please ask for help from me or from your team-mates if you don't understand a step from the problem. Please be prepared to help a teammate who understands less about the problem than you do.

**Quizzes:** There will usually be a one-question quiz every class day. These quizzes will be obvious to anyone who has watched the videos assigned for that day. If you cannot make it to class that day for a reason the instructor deems acceptable, you will get credit for that day's quiz.

**Tests and Final exam:** There will be three closed book, closed notes, and closed homework in-class tests on **February 16**, **March 10**, and **April 28**. Students will have the entire class time to take the tests. The final exam is a comprehensive exam and will be held on **Wednesday, May 11<sup>th</sup> at 1:30 - 3:30 pm.** .

**Make-up Policy:** Make-up tests will be given **only** for reasons deemed acceptable by the instructor, and **only** with written documentation. Make-up tests must be taken within one week of the original date. If you have two other finals scheduled earlier in the day on May 11, I will have to be informed before **May 4, 2015** to move your final.

**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 will not be needed and will not be permitted.

**Grading Distribution:**

|                 |     |
|-----------------|-----|
| Homework.....   | 15% |
| Quizzes.....    | 10% |
| Tests.....      | 55% |
| Final Exam..... | 20% |

**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 |