

**Mathematics 3150-003 (#7588):**  
**Partial Differential Equations for Engineers.**

*Fall 2011*

**Instructor** Alexander Balk  
JWB 304, balk@math.utah.edu, 801-581-7512  
*Office Hours:* Tue. & Wed. 2-3pm or by appointment

**Time and Place** Tue. & Thu., 6:00-6:50 pm, JWB 335

**Text** *Partial Differential Equations with Fourier Series and Boundary Value Problems*  
by Nakhle Asmar (Prentice-Hall, Second Edition, 2005; ISBN 0-13-148096-0)

**Prerequisites** "C" or better in [MATH 2250 OR (MATH 2270 AND MATH 2280)]  
and [MATH 2210 OR MATH 1260 OR MATH 1280]

**Grading Policy.**

The grade for the class will be based on

- (1) Weekly homework (altogether  $\frac{1}{6}$ );
- (2) Three 50-minute midterm exams ( $\frac{1}{6}$  each);  
held on Thursdays **September 22, October 27, and December 1**; and
- (3) Final exam ( $\frac{1}{3}$ ), held according to the university schedule,  
on **Tuesday, December 13, 2011; 6:00 — 8:00 pm** in JWB 335.

Final grade will be calculated from the final number of points earned, according to the formula

Final number of points =

$$\frac{\text{Percentage Earned in HW1} + \text{Percentage Earned in HW2} + \dots + \text{Percentage Earned in the last HW}}{\# \text{ of Homeworks}} * (1/6)$$
$$+ (\text{Percentage Earned in MidTerm1} + \text{Percentage Earned in MidTerm2} + \text{Percentage Earned in MidTerm3}) * (1/6)$$
$$+ \text{Percentage Earned in the Final} * (1/3),$$

and derived from a curve.

**Homework** assignments will be posted on my web page [www.math.utah.edu/~balk](http://www.math.utah.edu/~balk)

If you wish, you may collaborate on the homework assignments, but you need to hand in a separate assignment for grading.

The **midterm** exams will be comprehensive with emphasis on the later material; the midterm problems will be similar to the homework problems.

The **final** exam will be comprehensive, its problems will be similar to the homework and midterm problems.

Although the exam problems will be similar to the homework problems, you need to solve them during the exams without books, notes, and electronics.

**The Americans with Disabilities Act** requires that reasonable accommodations be provided for students with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. Please contact me at the beginning of the semester to discuss any such accommodations you may require for this course.

We are going to cover (entirely or in part) sections 1.1-1.2; 2.1-2.4; 3.1-3.10; 4.1-4.4; 2.6; 7.1-7.4.

The center line of the course is the **Method of Separation of Variables**. It is connected with the ideas of the *Superposition Principle*, the *Fourier Series*, and the *Fourier transform*.

**Important Dates**

Last day to add without a permission code	Sunday, August 28
Last day to drop (delete) classes	Wednesday, August 31
Labor Day	Monday, September 5
Fall break	Mon.-Sat, October 10-15
Thanksgiving break	Thurs.-Fri., November 24-25
Classes end	Friday, December 9