AME 526: Engineering Analytical Methods—Fall 2009

Location and time

Lecture:
OHE 100D
Monday & Wednesday 12:30 – 1:50 PM

Discussion:
RTH 115
Monday 5:00-5:50 PM

Instructor
Prof. Tait Pottebaum
Office: RRB 218
Email: pottebau@usc.edu
Phone: 213-821-5789
Office hours: to be determined

TA
To be determined
Office:
Email:
Phone:
Office hours:

Required Textbook
Advanced Engineering Mathematics, 6th Edition, by Peter V. O'Neil, Thomson Engineering, 2006. ISBN 0534552080

Prior Preparation
Undergraduate-level calculus and ordinary differential equations

Topics
- Ordinary Differential Equations [review] (Chap. 1-2)
- Laplace Transforms [review] (Chap. 3)
- Series Solutions (Chap. 4)
- Fourier Series and Transforms (Chap. 14-15)
- Special Functions (Chap. 16)
    - Legendre polynomials
    - Bessel functions
    - Sturm-Liouville problems and eigenfunctions
- Partial Differential Equations (Chap. 17-19)
    - Separation of Variables
    - Laplace Transform
    - Similarity Solutions (not in textbook)
    - Method of Characteristics (time permitting; not in textbook)

Grading

Midterm exam (1 hour)	30%
Final exam (2 hours)	45%
Homework (weekly)	25%

Notes
- Midterm exam will be in mid-October, exact date and location to be announced.
- Final exam will be on Friday, Dec. 11, 11:00 – 1:00 PM, location to be determined.
- Homework will be distributed online each Wednesday and will be due the following Wednesday **in class by 12:30 PM**.
- **No late work will be accepted** without prior arrangements.
- Exams will be open book (official textbook only), notes and homework. No other materials will be allowed.