AME 526: Engineering Analytical Methods  
Fall 2017

Instructor: Prof. Niema M. Pahlevan

Email: pahlevan@usc.edu (Only non-scientific questions or yes-or-no questions will be answered by e-mail)  
Office hours: M 3:30-5:30; or by appointment.  
Lecture hours: MW 2:00-3:20, OHE 132  
Midterm exam: Week of October 9th  
Final exam: December 6-13 (exact day and time TBD)  
TAs: TBD  
TA Office Hours: TBD

The course will cover elementary applied mathematical methods for solving linear partial differential equations that arise in engineering. This course has two major goals: (1) enhance student’s ability to perform more complex mathematical analyses of engineering problems; (2) improve students’ understanding of how mathematical applications are defined, derived and related. There are 11 parts to the course:

- Review and introductory concepts  
- Fourier methods  
- Introduction to Green's functions  
- The method of separation of variables  
- The method of characteristics  
- Sturm-Liouville theory  
- Diffusion equation  
- Laplace's equation  
- Linear waves  
- Numerical methods  
- Special topics

Textbook:  
*Applied Partial Differential Equations 5th Ed.*, R. Haberman

Other recommended books:
Grading: Homework 20+5%; Midterm 40%; Final 40% (Total: %100+%5 bonus)
Curved grading will be applied
No late homework accepted.
Your lowest HW grade will be dropped.

Important policies (please adhere):
- Final grade will depend entirely on the performance on the above components, and be independent of the financial support requirements (e.g., minimum grade requirement for tuition reimbursement).
- Please schedule your work-related travel during time periods outside of the mid-term and final exams. Accommodation to take exams on different dates will be made for only family emergencies and documented illness or health-related emergencies. Other exceptions will be considered on a case-by-case basis.