

# Math 271 Advanced Mathematics for Engineers and Scientists (Spring 2012)

TTh 10:00am-11:15am, L/L CM 216

**Textbook:** *Elements of Advanced Engineering Mathematics*, by P.V. O'Neil

**Instructor:** Prof. Jianke (Jackie) Yang  
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**Office hours:** T 11:30am – 12:30am, and F 3:00-4:00pm. Additional time by appointment.

**Homework:** homework problems will be given in each class but not collected. If you have any questions on the homework problems, you can ask me in class, and we will go over them. Exam questions will be based on homework problems.

**Exams:** There will be two in-class exams and a final exam. The final exam will be on May 7, from 10:30am - 01:15pm.

**Grading:** the three exams: 30% each; quizzes: 10%.

**Topics:** We will cover most topics from Chapters 1 to 9:

- Chapter 1: First-order differential equations;
- Chapter 2: Linear second-order equations;
- Chapter 3: The Laplace transform;
- Chapter 4: Series solutions (only part);
- Chapter 5: Algebra and geometry of vectors;
- Chapter 6: Matrices and systems of linear equations;
- Chapter 7: Determinants;
- Chapter 8: Eigenvalues and diagonalization
- Chapter 9: Systems of linear differential equations.