Information for Midterm 1

1- The test will be held on Monday, 01/25 from 8:00 -8:50 p.m. in PETER 110.

2- You must bring a Blue Book to the exam. Blue books can be purchased at a variety of locations around campus, including the bookstore.

3- Please bring your UCSD student ID to the exam and expect it will be checked.

4- You may bring one 8.5”*11” sheet of handwritten notes (written on both sides) to the exam. This “cheat sheet” may contain anything you deem useful, with the exception of solved problems or examples. You must turn in your cheat sheet with your blue book.

5- No calculators (or other electronic devices)!!

6- You must know your discussion section ID:

Peter Wear
   - A01, Tu 10:00 - 10:50 am, HSS 1128A
   - A02, Tu 11:00 - 11:50 am, HSS 1128A

Eric Evert
   - A03, Tu 8:00 - 8:50 pm, APM B402A
   - A04, Tu 9:00 - 9:50 pm, APM B402A

Haik Manukian
   - A05, Tu 12:00 - 12:50 pm, APM 2301
   - A06, Tu 1:00 - 1:50 pm, APM 2301
   - A07, Tu 2:00 - 2:50 pm, APM 2301
   - A08, Tu 3:00 - 3:50 pm, APM 2301
If you attend a different section from the one in which you are enrolled, specify which is which on your blue book. For example you may write “I am enrolled in A03 but I attend A06”.

Topics

The exam covers lectures 1-8. Please remember that “you are responsible for material presented in the lecture whether or not it is discussed in the textbook. You should expect questions on the exams that will test your understanding of concepts discussed in the lectures.”

In particular, make sure you are familiar with the following topics:

1- What is a differential equation? Why do we care about differential equations? (Lecture 1)

2- Classification: (Lectures 2 and 3)
   2-1) Ordinary vs. Partial
   2-2) Order
   2-3) Linear vs. Nonlinear
   2-4) Linear Homogeneous vs. Linear Nonhomogeneous

3- Operator, Linear Operator, Differential Operator (Lecture 3)

4- Solution to a Differential Equation (Lecture 4)
   4-1) Explicit solution in closed form
   4-2) Explicit solution in integral form
   4-3) Explicit solution in series from
   4-4) Implicit solution
5- An n-parameter family of solutions, Solution curves (Lecture 5)

6- How to solve first-order linear equations (Lectures 5 and 6)

7- How to solve separable equations (Lecture 6)

8- How to solve exact equations (Lectures 7 and 8)

Every effort is made to make the exam questions clear, correct, and straightforward. However, minor errors are sometimes detected during the exam. Should this occur, the appropriate correction will be written on the board.