Mathematics 257/316, Term 2, 2016-17

Instructor: Seckin Demirbas
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Website: https://www.math.ubc.ca/~s.demirbas/current.html
Lecture times: MWF, 9am-10am (Section 202), MWF, 11am-12pm (Section 201).
Office hours: Monday: 12:30pm-2pm, Tuesday:1pm-2pm, Friday: 12:30pm-2pm.
Prerequisites: One of Math 215, 255, 265.
Credit: 3 Credits. Credit only given for one of Math 256, 257, 316.

Topics: In this course we are going to cover the topics:
- **Review of techniques for solving Ordinary Differential Equations** (Lecture 1),
- **Series Solutions of differential equations** (Lecture 2-5)
- **Introduction to Partial Differential Equations** (Lecture 6-7)
- **Introduction to numerical methods for PDEs using spread sheets** (Lecture 8-9)
- **Separation of Variables and Fourier Series** (Lecture 10-17)
- **Heat Equation** (Lecture 18-21)
- **Wave Equation** (Lecture 22-24)
- **Laplace's Equation** (Lecture 25-28)
- **Boundary value problems and Sturm-Louiville Theory** (Lecture 29-31)
- **Reviews**

Text: I am mainly going to use my lecture notes which will be available online on my website.

Other reference texts are:
- **(Recommended)** Elementary Differential Equations and Boundary Value Problems (10th Ed), W.E. Boyce and R.C. DiPrima (John Wiley & Sons) 2012
- **(Other references:)**
  1. Partial Differential Equations with Fourier Series and Boundary Value Problems (2nd Ed), by N.H. Asmar , (Pearson), 2004.
  2. Applied Partial Differential Equations with Fourier Series and Boundary Value Problems (4nd Ed), R. Haberman, (Pearson), 2004.
  3. http://www.math.ubc.ca/~rfroese/notes/Lecs316.pdf, Richard Froese, Partial Differential Equations, UBC M257/316 lecture notes free on the web.

Grade Policy: 15% homework+ 35% two in class midterms + 50% final exam. The grades may be slightly scaled at the end of the course.

Exams: There will be two 50 minutes midterms exam which is in class and closed book on February 8 (Wednesday) and March 8 (Wednesday). The date of the final exam (2.5 hour) will be announced by the Registrar later in the term.

Homework: Assignment will be posted on my website.The homeworks will be collected in hard copy form in the designated class time. Late homework will not be accepted. Please remember that copying solutions from another student, from the web or from any other source, and turning them in as your own is a violation of the Academic Code.

Policy on missed assignments and the midterm exam: There will be no make up misterms. Students who are unable to hand in a homework due to a medical or equivalent excuse may have that homework not count towards their final grade. Missing a midterm exam or a homework normally results in a mark of 0. Exceptions are granted only with prior consent of the instructor

or due to a medical emergency. In the latter case, you must motify me within two working days of the missed exam and presented with a doctor's note immediately upon the students return to UBC. If an exception is granted for a missed test, the final exam will be used to make up that portion of the grade.

Addressing Issues with the Course If there's something about this course that bothers you, I'd like the chance to address it. You can contact me in person after class or during office hours, or write me an email. If you are uncomfortable discussing it with me, you can talk to the Instructor in Charge, Professor Anthony Peirce: https://www.math.ubc.ca/~peirce/. If it isn't feasible to change the thing that's bothering you, we still might be able to come up with strategies for addressing it. At the very least, you can get an explanation of why things are the way they are.