THE UNIVERSITY OF WESTERN ONTARIO
London   Ontario

Department of Applied Mathematics

AM 3413a   Applied Mathematics for Mechanical Engineers

Fall 2017

MWF, 12:30-13:30, SEB 1059 (Except the midterm dates discussed below)
Instructor: Professor C. Essex, MC 270

1. **Out-of-Class Contacts:**

   Joshua LeClair,   MC 213   jlecla3@uwo.ca

   Chenguang Zhao, MC 275G czhao52@uwo.ca

2. **Course Content:** This course combines an introduction to Partial Differential Equations (PDEs) with the essentials of functions of a complex variable. The specific topics will be: Sturm Liouville Theory, General Orthogonal Series Expansions, Boundary Value Problems, Integral Transforms and PDE's, Functions of a Complex Variable, Poles, Series, and Residues, Conformal Mapping.

3. **Text:** *Advanced Engineering Mathematics*, D.G. Zill, and W.S. Wright, Fifth (2014), Jones & Bartlett Leaning, ISBN: 978-1-4496-9172-1. The Sixth edition is allowed, but not yet supported.

4. **Evaluation:**
   1. **25%** Midterm I : Wednesday Oct 25, 2017, 12:30 **EC 2168 A&B**
   2. **25%** Midterm II: Wednesday Nov 15, 2017, 12:30 **EC 2168 A&B**
   3. **50%** Final (December 2016, TBA):

5. **General:** Class attendance is **mandatory!** Homework from the text will be assigned in class and will be available nowhere else. The midterms will be made up of the homework problems or ones very similar to them. DO YOUR HOMEWORK!

   Missing an evaluation will result in a grade of zero, unless permission is granted from the Associate Dean of Engineering. If permission is granted, a prorated mark will be assigned. There will be **no makeups** for midterms.

   Midterms will take place during normal lecture times beginning no later than12:30 pm! Please come to EC (Elborn College) a few minutes before the exam begins. They will be set at 35 minutes, but extra time can be allowed if you choose to come a few minutes before and stay after the 35 minutes.

It is the desire of greater powers that the following information be on all course outlines: