

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 Learning, 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 than 12:30 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:

The UWO Senate Academic Handbook has specified that the following points should be added to all course outlines: 1. Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar). 2. Plagiarism Checking: The University of Western Ontario uses software for plagiarism checking. Students may be required to submit their written work and programs in electronic form for plagiarism checking. 3. Prerequisites for a course: Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites. 4. If computer-marked multiple-choice tests and/or exams are given: Use may be made of software to check for unusual coincidences in answer patterns that may indicate cheating. 5. If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your faculty's Deans Office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a Recommendation of Special Examination form must be obtained from your faculty's Deans Office immediately. For further information please see: <http://www.uwo.ca/univsec/handbook/appeals/medical.pdf> A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Records Release Form (located in the Deans Office) for visits to Student Health Services. The form can be found here: https://studentservices.uwo.ca/secure/medical_document.pdf 6. Please contact the course instructor if you require the material in an alternate format or for other arrangements to make this course more accessible for you. You may also contact services for students with disabilities at X 8217.