

## AM3415a—Applied Mathematics for Electrical Engineering II

September-December 2014

**Instructor:** Xingfu Zou

**Office:** MC284

**Course Website:** <https://owl.uwo.ca>

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**Office Hours:** TBD

**Lecture (001):** Mon-Wed-Fri, 11:30am-12:30pm, SSC-2036

**Lab (002):** Thur, 1:30-2:30pm, SEB-1059. **Enrolment and attendance is mandatory.**

**Textbook:** *Advances Engineering Mathematics* by Dennis G. Zill and Warren S. Wright, 5th edition (2014), Jones & Barlett Learning, ISBN: 978-1-4496-9172-1.

**Course content:** This is a special course designed for electric engineers that combines traditional topics of partial differential equations and functions of complex variables. The topics to be covered are:

1. Sturm-Liouville problems
2. Orthogonal series expansions
3. Boundary value problems in Cartesian Coordinate
4. Integral transform method for PDEs
5. Functions of a single complex variable
6. Integration in the complex plane
7. Complex series and residues
8. Conformal mappings.

### Course Evaluation:

Quizzes: (15%); Midterm exam (35%); Final exam (50%).

### Notes:

(i) All materials covered in lectures (some may be extra to the text) up to the end of the course can be considered testable in the quizzes and exams. For this reason, students are advised not to miss classes. Problems may be assigned for practice purpose, and will not be collected and marked.

(ii) **Quizzes** will be run in the tutorials, and each quiz will be announced in class in advance.

(iii) **Midterm exam** will be on Friday, October 24, 7:00-9:00, with the room to be determined later.

(iv) **Final exam** will be schedule by the university's registrar's office.

(v) **No make-up** for missed quizzes and midterm exam will be arranged. If for a reason acceptable by the university's policy, you have to miss a quiz or the midterm exam, you need obtain a permission from the Engineering Dean's office and I have to be notified of the permission **in advance**; in such a case, I will re-weight your missed quiz/midterm to your final exam.

## Addendum to all Applied Mathematics Course Outlines

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**Accessibility Statement:** Please contact the course instructor if you require material in an alternative format or if you require any other arrangement to make this course more accessible to you. You may also wish to contact Service for Students with Disabilities (SSD) at 661-2111 ext 82147 for any specific question regarding an accommodation.

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/medicaldocument.pdf>