THE UNIVERSITY OF WESTERN ONTARIO
London   Ontario

AM 2402a: Ordinary Differential Equations
Course Outline – Fall 2018

- **Instructor:** Pei Yu   **Email**: pyu@uwo.ca, ext. 88783
  Office: Middlesex College Room 283   **Office hours**: Tues. & Thurs., 2:30–3:30pm
  OWL: https://owl.uwo.ca/portal/site/7c5d05ec-7ff9-45a8-963c-c9fc8e403d11
  /tool/d326b6d7-686c-4a17-b7bb-6e821d31cfcfhttps

- **TA:** Yang Wang   **Office**: MC 275B   **Email**: ywan342@uwo.ca

- **Lecture (001)**: Mon-Wed-Fri, 12:30–1:30 pm, NCB-114

- **Lab (002)**: Fri. 8:30–9:30 am, HSB-13

- **Lab (003)**: Thu. 9:30–10:30 am, HSB-13

- **Lab (004)**: Fri. 9:30–10:30 am, HSB-13

- **Webassign Course Key**: uwo 1347 5953

  Everyone in the class has one assigned lab hour. There will be a TA available during
  that hour to give you extra help (e.g. demonstrating how to use Matlab and Maple).
  These tutorials are held in computer labs in case you need help doing the computational
  components of the course. **Enrollment and attendance are mandatory.**

- **Textbook**: William F. Trench, "Elementary Differential Equations with Boundary
  Value Problems" (2013), *Faculty Authored Books*, 9.
  http://digitalcommons.trinity.edu/mono/9
  This course covers material fundamental to the application of mathematics to problems
  in science, medicine and industry. The students will learn how to cast scientific problems
  into the language of differential equations, how to solve differential equations and assess
  the validity and usefulness of the solution obtained, and how to interpret the results in
  the original real world context. In addition, the students will learn how to use computer
  system (Matlab, Maple) to solve complex problems.

- **Course content**: The theoretical tools covered will include first order linear and
  nonlinear equations, linear second and higher order equations, systems of first order
  linear equations, series solutions and approximation methods, phase portraits and
  Laplace transform.

- **Course Evaluation:** 3 Quizzes ($3 \times 5\%$)
  Midterm Test (35%)
  Final Examination (50%)

- **Notes**:

(i) All materials covered in lectures and assigned problems, 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. The problem sets are designed to enhance understanding of the lecture and to develop problem solving skills, which will not be collected and marked.

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

(iii) **Midterm Test**: **Friday, October 19, 7:00–9:30pm, Room: UCC146**

(iv) **Final Examination** will be scheduled by the university 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 Science Dean's office and the instructor has to be notified of the permission **in advance**; in such a case, the instructor will re-weight your missed quiz/midterm to your final exam.

Log into **OWL** for individual term grades, assignments, solutions to assignments/quizzes, and important announcements.

Addendum to all Applied mathematics Course Outlines

Accessibility Statement: Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x82147 for any specific questions 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 Dean's 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 Dean's Office immediately. For further information please see: http://www.uwo.ca/sci/academic_counselling.

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 Dean's Office) for visits to Students Health Services. The form can be found here: https://studentservices.uwo.ca/secure.