

- (i) to establish a DE model (with other necessary physics or engineering background) for a given real problems;
 - (ii) to analyse qualitative properties of solutions of the DEs;
 - (iii) to find the solution of the DE either in a closed-form or in a numerical solution output using computer softwares;
 - (iv) to explain the solutions or simulation results physically.
- **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%)
 - **Important 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 **Lab** hours, and each quiz will be announced in class in advance.
 - (iii) **Midterm Test: Friday, October 18, 7:00–9:30pm, Room: TBA**
 - (iv) **Final Examination** will be scheduled by the university registrar's office.
 - (v) **No Make-up** for missed quizzes will be arranged. If for a reason acceptable by the instructor, the instructor will re-weight your missed quiz (5%) to your midterm test.

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. The poly can be found in

www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_disabilities.pdf

Accommodation for Illness: 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. A link to the Student Medical Certificate is here:

www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

and the poly can be found in

www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

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>.

Accommodation for Religious Holidays: When scheduling unavoidably conflicts with religious holidays which a) require an absence from the University or b) prohibit or require certain activities (i.e., activities that would make it impossible for the student to satisfy the academic requirements scheduled on the day(s) involved), no student will be penalized for absence because of religious reasons, and alternative means will be sought for satisfying the academic requirements involved. The poly can be found in

www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

Statement on services for students in emotional/mental health distress: Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Statement on Use of Electronic Devices: Calculators, computers, cellphones or any electronic devices which can be used for communication, are not allowed to be used in the quizzes, midterm test and final exam., except for the quiz which asks to use the lab computer.

Use of cheating-analysis software: Quizzes using lab computers may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Information regarding registration can be found in <http://www.registrar.uwo.ca>