

University of Alberta
Department of Mathematical & Statistical Sciences
MATH 334-A1 (30071)
Spring 2025

Instructor: Hao Wang
Office: CAB 545B (before May 15) and University Commons 4-277 (after May 25)
E-mail: hao8@ualberta.ca
Office Hours: May 6, May 14, May 23, June 4, June 9, 12:45 pm – 2:15 pm (or else by appointment)
Lecture Room & Time: NRE 1-003; every weekday 11:30 am – 12:40 pm
Course Web Page: <https://www.math.ualberta.ca/~hwang/Math334Spring2025.htm>
TA: Jacob Serpico, serpico@ualberta.ca
Co-Instructor: Liubov Sysoeva, sysoeva@ualberta.ca

Course Description:

First-order equations; second-order linear equations: reduction of order, undetermined coefficients, variation of parameters; Laplace transform; power series and solution by series.

Course Prerequisites:

One of MATH 102, 125 or 127, and one of MATH 209, 214 or 217. Note: Credit can be obtained in at most one of MATH 201, 334 or 336.

Recommended Textbooks:

Fundamentals of Differential Equations, R. Kent Nagle, Edward B. Saff and Arthur D. Snider, 9th Edition. Alternatively, if you do not want to buy a textbook the following one is also very usable as a source for the course material: *Elementary Differential Equations with Boundary Value Problems*, William F. Trench. It is freely available at: <http://digitalcommons.trinity.edu/cgi/viewcontent.cgi?article=1008&context=mono>

Course Content (according to the numbering in Fundamentals of Differential Equations, R. Kent Nagle, Edward B. Saff and Arthur D. Snider, 9th Edition):

Part	Chapter	Title	Sections of Text
1	2	First Order Equations	2.1 – 2.4, 2.6
2	4	Linear Second Order Equations	4.1 – 4.7, 4.9, 4.10
3	7	Laplace Transforms	7.2 – 7.10
4	8	Series Solutions of DEs	8.2 – 8.4, 8.6

Grade Evaluation:

The course mark will be calculated based on the following breakdown:

Component	Weight	Location&Date	Time
Quiz 1	20%	in class, May 13	11:30 am – 12:40 pm
Quiz 2	20%	in class, May 27	11:30 am – 12:40 pm
Final Exam	60%	in NRE 1-003, June 12	3:00 pm - 5:00 pm

Note: The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this document. Students must verify this date on BearTracks when the Final Exam Schedule is posted.

An overall mark of 50% guarantees a grade of at least D, and an overall mark of 90% guarantees a grade of at least A-.

Grades are unofficial until approved by the Department and/or Faculty offering the course.

Assignments:

There will be four assignments during the term. All assignments and their solutions will be posted on the course website. You do not need to submit assignments because they will not be graded due to the existence of AI like ChatGPT.

Quizzes and Final Exam:

Textbooks, lecture notes, online materials, calculators and formula sheets are NOT permitted in quizzes or final exam. For Quiz 2 and Final Exam, you will have a hard copy of the table of Laplace transforms provided with the exam (the table will be provided on the course website, so you know what that is ahead).

Please bring your photo ID (ONEcard) and put it on your table in quizzes or final exam. The proctor will ask each student to sign a roster sheet and match your ID with you.

The TA will mark quizzes, and the instructors will mark the Final Exam.

Excused Absence Where the Cause is Religious Belief:

For an excused absence where the cause is religious belief, a student must contact the instructors within one week of the start of Spring classes to request accommodation for the term (including the final exam). Instructors may request adequate documentation to substantiate the student request.

Missed Quizzes or Term Work:

If you cannot write a quiz due to incapacitating illness, severe domestic affliction or other compelling reasons you can apply for an excused absence. In order to do so, you must present supporting documentation pertaining to the absence to the instructors within two working days following the scheduled date of the missed quiz, or as soon as you are able, having regard to the circumstances underlying the absence. In all cases, instructors may request adequate documentation to substantiate the reason for the absence at their discretion. If the reason for your absence is deemed valid, the weight of Quiz 1 can be transferred to Quiz 2, the weight of Quiz 2 can be transferred to the Final Exam.

An excused absence is a privilege and not a right; there is no guarantee that an absence will be excused. Misrepresentation of facts to gain an excused absence is a serious breach of the Code of Student Behaviour.

Missed Final Examination:

A student who cannot write the final examination due to incapacitating illness, severe domestic affliction or other compelling reasons may apply for a deferred final examination. Such an application must be made to the student's Faculty office within two working days of the missed examination and must be supported by a Statutory Declaration (in lieu of a medical statement form) or other appropriate documentation (Calendar section 23.5.6).

Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. Misrepresentation of facts to gain a deferred examination is a serious breach of the Code of Student Behaviour.

The deferred final examination is scheduled as follows:

Date: To be determined.
Time: To be determined.
Location: To be determined.

Student Responsibilities**Academic Integrity:**

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.governance.ualberta.ca) and avoid any behaviour which

could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All forms of academic dishonesty are unacceptable at the University. Any suspected offence will be reported to the Faculty of Science. Anyone who is found in violation of the Code of Student Behaviour may receive a sanction. Typical sanctions include conduct probation, a mark reduction or a mark of zero on an assessment, a grade reduction or a grade of F in a course, a remark on the transcript, and a recommendation for suspension or expulsion.

Students are expected to familiarize themselves with the Academic Integrity resources (covering the topics of cheating, collaboration, plagiarism, and substantial assistance) on the website of the Office of the Dean of Students: <https://www.ualberta.ca/en/alfresco/uappol/academic/student-academic-integrity/policy/student-academic-integrity-policy.pdf>

Students Eligible for Accessibility-Related Accommodations:

In accordance with the University of Alberta's Discrimination, Harassment, and Duty to Accommodate policy, accommodation support is available to eligible students who encounter limitations or restrictions to their ability to perform the daily activities necessary to pursue studies at a post-secondary level due to medical conditions and/or non-medical protected grounds. Accommodations are coordinated through the Academic Success Centre, and students can learn more about eligibility on the Register for Accommodations website: <https://www.ualberta.ca/en/current-students/academic-success-centre/accessibility-resources/register/index.html>

It is recommended that students apply AS SOON AS POSSIBLE in order to ensure sufficient time to complete accommodation registration and coordination. Students are advised to review and adhere to published deadlines for accommodation approval and for specific accommodation requests (e.g., exam registration submission deadlines). Students who request accommodations less than a month in advance of the academic term for which they require accommodations may experience unavoidable delays or consequences in their academic programs, and may need to consider alternative academic schedules.

Disclaimer:

Any typographical errors in this Course Outline are subject to change and will be announced in class.