

University of Alberta
Department of Mathematical & Statistical Sciences

MATH 334 – Introduction to Differential Equations
Winter 2016

Instructor: Dr. Arno BERGER
Office: CAB 683
E-mail: berger@ualberta.ca
Office Hours: TWR 1:30 – 3:00 pm or by appointment
Lecture Room & Time: CAB 243, TR 11:00 – 12:20 pm

Course Web Page:

www.math.ualberta.ca/~aberger/courses/math334_16/math334_16.html

Please make a habit of visiting this site regularly.

Course Description:

First order equations, linear equations of higher order. Power series solution. Laplace transform methods. Introduction to special functions. Introduction to linear systems.

Course Prerequisites:

Prerequisites: MATH 125 or 127 and one of MATH 209, 214 or 217.

Corequisite: MATH 215 or 317.

Required Textbook:

Stanley J. Farlow, *An Introduction to Differential Equations and their Applications*, Dover 2006.

You can obtain a copy of this inexpensive textbook from the University bookstore, the Dover website (store.doverpublications.com) and many online bookstores.

Syllabus:

This course is an introduction to ordinary differential equations and their many applications in science. It covers much of Chapters 1–6 of the textbook.

Grade Evaluation:

The course mark is to be calculated as follows:

Course Component	Weight of Total Mark	Date
Assignments	16%	weekly; due Thursday at 4pm
Quiz I	12%	28 January 2016 , in class
Midterm	25%	3 March 2016 , in class
Quiz II	12%	24 March 2016 , in class

Final Exam	35%	15 April 2016, 9 am
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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. There is no possibility of a re-examination in this course.

The final letter grade is determined from the course mark as follows: An overall mark of 50% or more guarantees a passing grade of at least D; an overall course mark of 90% or more guarantees a grade of at least A-. Grades are unofficial until approved by the Department and/or Faculty offering the course.

Assignments:

Up to ten weekly assignments will be posted on eClass, at least one week prior to their respective due date. Assignments typically consist of **mandatory** and **optional** problems. For mandatory problems, full solutions will be posted on eClass. For optional problems, final answers can be found in the back of the textbook. No solutions will be posted for optional problems, but you are encouraged to seek help from your instructor if you encounter difficulties with these. Unless announced otherwise in class and on the course website, assignments are due on **Thursday, at 4 pm**. Please deposit your assignment into the MATH 334 assignment box on the third floor in CAB. Please make sure all pages of your submission are stapled together and your name is clearly written on the front page. **Late submissions will not be accepted!**

Late or missed assignments:

No late submissions of assignments will be accepted, and students missing one or several assignments will forfeit the corresponding marks.

Exam Format:

All exams are closed-book and may have a multiple-choice component. Quizzes are multiple-choice only and last about 40 minutes in class. The duration of the midterm is one full class (80 minutes), and the final is a two-hour exam. All exam questions will be similar to problems considered in class and as part of homework assignments.

Exam Aids:

No individual formula sheets, calculators and any other electronic aids are permitted during examinations. A copy of the table of Laplace transforms from the textbook will be provided for every student, as appropriate.

Representative Evaluative Material:

You are encouraged to have a look at old MATH 334 exams (available from the Department of Mathematical & Statistical Sciences). Sample tests may also be made available on eClass prior to examinations.

Missed quizzes and midterm:

If you cannot write a quiz or midterm 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

instructor within two working days following the scheduled date of the missed midterm, or as soon as you are able, having regard to the circumstances underlying the absence. In all cases, your instructor may request adequate documentation to substantiate the reason for the absence at his discretion. If the reason for your absence is deemed valid, the weight of a missed quiz or midterm will be transferred in equal parts to all subsequent examinations. There will be no deferred quizzes or midterm.

Excused Absence Where the Cause is Religious Belief:

For an excused absence where the cause is religious belief, a student must contact the instructor within two weeks of the start of Winter 2016 classes to request accommodation for the term (including the final exam). Instructors may request adequate documentation to substantiate the student request.

Note: 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 can 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 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*. Any deferred final examinations are scheduled for **7 May 2016 at 9 am** (register at **8:30 am**) in **CAB 357**.

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 dishonesty are unacceptable at the University. Any offense will be reported to the Senior Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offenses. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question, and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science the sanction for **cheating** on any examination will include **a disciplinary failing grade** (no exceptions) and senior students should expect a period of suspension or expulsion from the University of Alberta.

Exams:

Your student photo I.D. is required at exams to verify your identity. Students will not be allowed to begin an examination after it has been in progress for 30 minutes. Students must remain in the exam room until at least 30 minutes have elapsed. Electronic equipment must not be brought into examination rooms.

Cell Phones:

Cell phones are to be turned off during lectures. Cell phones are not to be brought to exams.

Audio or Video Recording:

Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor.

Students Eligible for Accessibility-Related Accommodations (students registered with Student Accessibility Services):

Eligible students have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling exam accommodations in accordance with SAS deadlines and procedures is essential. Please note that adherence to procedures and deadlines is required to provide accommodations. Please contact Student Accessibility Services (www.ssds.ualberta.ca) for further information.

Student Success Centre:

Students who want to improve their learning and academic capacity (such as better time management, study skills or examination skills) are encouraged to contact the Student Success Centre (2-300 Students' Union Building).

Disclaimer:

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

A policy about course outlines can be found in §23.4(2) of the University Calendar.
