University of Alberta
Department of Mathematical & Statistical Sciences

MATH 201 (EB1) – Differential Equations – Fall 2015

Instructor: Dr. Arno BERGER
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Office Hours: MWF 4:15 – 6:00 pm or by appointment
Lecture Room & Time: N-RE 2-001, MWF 12:00 – 12:50 pm

Course Web Page:

www.math.ualberta.ca/~aberger/courses/math201_15/math201_15.html

(also accessible via MATH 201 eClass, section EB1).
Please make a habit of visiting this site regularly.

Course Description:
First-order equations; second-order linear equations: reduction of order, variation of parameters; Laplace transform; linear systems; power series; solution by series; separation of variables for PDEs.

Course Pre-/Corequisites:
Pre-/Corequisite: MATH 209 or 214.
Notes: (1) Open only to Engineering students and Science students in the following programs: Specialization Physics, Specialization Geophysics or Specialization Computing Science. (2) This course may not be taken for credit if credit has already been obtained in any of MATH 205, 334, or 336. (3) Students in all sections of this course will write a common final examination. Non-Engineering students who take this course will receive *3.0.

Required Textbook:
Elementary Differential Equations and Boundary Value Problems by W.E. Boyce and R.C. Di Prima (10th edition, Wiley 2012, or custom edition for U of A).

Syllabus:
This course offers an introduction to differential equations and their applications, roughly covering sections 1.3, 2.1, 2.2, 2.6, 3.1– 3.8, 5.1– 5.3, 6.1– 6.6, and 10.1– 10.7 of the textbook.

Grade Evaluation:
The course mark is to be calculated as follows:

Course Component	Weight of Total Mark	Date
Lab Work	10%	weekly, starting **8 September 2015**

Assignments	10%	weekly
Midterm Exam	30%	**24 October 2015**, **1:00-2:30 pm**
Final Exam	50%	**19 December 2015**, **9:00-11:00 am**

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.

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.

Labs:
There will be weekly labs, starting 8 September 2015. Expect bi-weekly quizzes to be conducted during labs; all quizzes will have equal weight.

Assignments:
There will be weekly web assignments during the term, each of equal weight. Students need to register at http://edugen.wileyplus.com/edugen/class/cls471866/ in order to be able to complete the assignments. More details on the homework will be given in class, as appropriate.

On-Line Homework Disclaimer: On-line homework is a component of this course and is provided by a third-party company. Please be aware that this company will be storing assessment information that may be associated with you. If you have any concerns about this, or if you do not wish any of your personal information conveyed to the third-party company, please contact the instructor of the course.

Exam Format and Aids:
All exams are closed-book and may have a multiple-choice component. No individual formula sheets, calculators and any other electronic aids are permitted during examinations.

Representative Evaluative Material:
You are encouraged to have a look at old MATH 201 exams (available from various Engineering undergraduate societies). Sample tests will also be made available on the course website prior to examinations.

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 Fall classes to request accommodation for the term (including the final exam). Instructors may request adequate documentation to substantiate the student request.

Missed Term Work or Midterm Exam:
The final lab and assignment marks will be computed based on *n-1* best out of *n* lab quizzes and assignments, respectively (*n* being the total number), i.e., students can miss

one lab quiz and one assignment without consequences for their marks. Beyond this, no excused absence for labs and assignments will be considered.

If you cannot write a 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, 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 a missed midterm will be transferred to the Final Exam. There will be no deferred midterms.

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 **9 January 2016** at **9 am** (register at **8:30 am**) in **CAB 357**.

Re-examination:
A student who writes the final examination and fails the course may apply for a re-examination. Re-examinations are rarely granted in the Faculty of Science. These exams are governed by University (Calendar section 23.5.5) and Faculty of Science Regulations (Calendar section 192.5.3). Misrepresentation of Facts to gain a re-examination is a serious breach of the *Code of Student Behaviour*.

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 and labs. 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 for U of A 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).

Decima Robinson Support Centre for Mathematical & Statistical Sciences:
Students who require additional help with assignments or have questions about the course material in general are encouraged to visit the Decima Robinson Support Centre (CAB 528). Graduate students will be available to provide one-on-one help. In order to get maximum help during each visit, students are asked to be specific about the problem with which they are seeking help. The Centre is open Monday to Friday, 9:00 – 15:00.

<u>Disclaimer:</u>

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.