

Math 215/255, Summer1 2020, Elementary Differential Equations I, Ordinary Differential Equations

Class dates: May 11, 2020 to June 18, 2020

Class time: MTueF 1-3 and W 1-2

Class location: Collaborate Ultra (online)

Instructor: Najmul Abid

E-mail: nabid@math.ubc.ca

Office hours: MTue 3-4 @ Collaborate Ultra (online) or by appointments.

Textbook: *Notes on Diffy Qs: Differential Equations for Engineers*, by Jiří Lebl. This can be downloaded at <https://www.jirka.org/diffyqs/>. Class notes will be posted on Canvas course page after class.

Canvas course page: <https://canvas.ubc.ca/courses/50172>

Grade breakdown:

- HomeWork 20% (online)
- Midterm exam#1 20% (online)
- Midterm exam#2 20% (online)
- Final exam 40% (online)

Homework assignments: There will be six homework assignments in this course (one every week). All homework assignments will be conducted via WebWork. Homework assignments will be released on Monday noon and will be due on Sunday (same week) at 8:00 PM.

Exams: There will be two 45-minute online midterm exams during class hours on May 20 and June 10. The final exam is scheduled by the university which will be online as well. No calculators or notes will be allowed in the midterms and final exam.

Detailed Course Outline (with sections from textbook):

- Week #1, May 11-15: First order ODEs (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7).
- Week #2, May 18-22: Second order ODEs (2.1, 2.2, 2.5).
- Week #3, May 25-29: Second order ODEs (2.4, 2.6) & Laplace Transforms (6.1, 6.2).
- Week #4, June 1-5: Laplace transforms (6.3, 6.4) & Linear systems of ODEs (3.1, 3.2).
- Week #5, June 8-12: Linear systems of ODEs (3.3, 3.4, 3.5, 3.9) & Nonlinear systems (8.1).

- Week #6, June 15-19: Nonlinear systems (8.2, 8.3) & Review.

Policy on missing homework assignments, midterms, or final exam:

Homework assignments that are submitted late are not marked. There are no make-up tests for missed online (midterm) tests. If academic concession for a missed homework assignment or an online (midterm) test is requested by a student and approved by the course instructor, then the marks for the missed component are shifted onto the final examination. Examples of valid reasons include illness and being absent from home to represent the University, British Columbia or Canada in a competition or performance. Examples of reasons that are not valid include conflicts with personal travel schedules or conflicts with work schedules.

If the final examination is missed, a student can apply for academic concession to their dean, director or their designate (such as an academic advising office). A student's academic performance in a course up to the final examination is taken into consideration in granting deferred examination status (e.g. if a student is already failing then deferred examination status will not be granted). Note that a conflict with a student's personal travel schedule is not a valid reason for missing the final examination. A student who misses the final examination for this reason will receive a mark of 0 for the final examination and therefore will likely fail the course.

For more details on academic concession see the UBC Calendar website: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,329,0,0>.

University policies:

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available on the UBC Senate website <https://senate.ubc.ca/policies-resources-support-student-success>.