MATH 215/255: Ordinary Differential Equations

Summary 2019 Course Outline

Instructor: Shirin Boroushaki
Email: shirinbr@math.ubc.ca
Office hours: Mon 3:30-5 pm and Wed 2:30-3:30 pm in LSK 300 or by appointment
Lecture time and location: Mon-Tue-Fri: 1-3pm, Wed 1-2pm in MATH 100

Course page: On Canvas
https://canvas.ubc.ca/courses/28445

Homework assignments and all relevant course information (such as changes to office hours if any, or solutions to homework problems if needed) will be posted on the Canvas page.

Registration: Questions regarding registration for this class should be addressed to the Mathematics Department office staff Room 121 Mathematics Building.

Textbook: Our main reference will be the online textbook *Diffy Qs* by Lebl. You can download the book (for free) or order a copy (for cheap) to be sent to you from this page: Diffy Qs.

Supplementary textbook: *Elementary differential equations and boundary value problems* by Boyce and DiPrima.

Course Description: This course is an introduction to ordinary differential equations (ODEs). We will cover most of chapters 1, 2, 3 , 6 and 8 of the textbook. In this course, you will learn techniques for explicitly solving several classes of ODEs. However, most ODEs cannot be solved explicitly and so we will introduce some numerical approximations to solutions of ODEs, and qualitative theory of ODEs. Many applications will be included.

Pre-reqs and Co-reqs:
Pre-reqs: Calculus II: One of MATH 101, MATH 103, MATH 105, MATH 121, SCIE 001 and Linear Algebra: one of MATH 152, MATH 221, MATH 223.
Co-reqs: Multivariable Calculus: One of MATH 200, MATH 217, MATH 226, MATH 253, MATH 263.

Important Dates:
First day of class: Monday, May 6
Midterm 1: Wednesday, May 22 (in class)
Midterm Break: June 3-7
Midterm 2: Wednesday, June 12 (in class)
Last day of classes: Thursday, June 20
Final exam: TBA

Course Evaluation:
WebWorK Assignments (10%)
iClicker (5%)
Midterm 1 (20%)
Midterm 2 (20%)
Final exam (45%)

WebWorK: There will be two WebWorK assignments in each week of the course.
- One is open on Mondays 9:00 am and closed on Thursdays 11:59 pm
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You should access the WebWorK link through Canvas in order for your grades to be saved properly on Canvas. Please read the instructions on the Canvas page. Solutions will be made available after the due date has passed. Homework extension requests will not be accommodated.

iClickers: We will be using iClickers in most classes to facilitate discussion and problem-solving. Points will be assigned for participation as well as for correctness, with equal emphasis on both. Please follow the link on Canvas to register your iClicker for this course. Please refrain from lending or borrowing clickers that are not registered under your name and student ID. Responses from clickers that do not belong to students on the class roster will be discarded.

Policies on midterms:
Missing a midterm normally results in a mark of 0. Exceptions may be granted in two cases: prior consent of the instructor or a medical emergency. In the latter case, the instructor must be notified within 48 hours of the missed test, and presented with a doctor's note immediately upon the student's return to UBC. In these cases, the proportion of the course mark allocated to the midterm will be re-allocated to the final exam.

No make-up midterms will be given.

Term marks may be scaled up or down on a class-wide basis, depending on performance on the final exam. This is to ensure fairness across all sections of the course.