

MAT267 - Advanced Ordinary Differential Equations

[36L/12T]

Instructors

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Office Hours Tuesdays, 4-5

Course Description

A theoretical course on Ordinary Differential Equations. First-order equations: separable equations, exact equations, integrating factors. Variational problems, Euler-Lagrange equations. Linear equations and first-order systems. Fundamental matrices, Wronskians. Non-linear equations. Existence and uniqueness theorems. Method of power series. Elementary qualitative theory; stability, phase plane, stationary points. Oscillation theorem, Sturm comparison. Applications in mechanics, physics, chemistry, biology and economics.

Textbook. Morris Tenenbaum, Harry Pollard: Ordinary Differential Equations, Dover.

Course Website. The website for the course is

<http://www.math.utoronto.ca/mein/teaching/MAT267/MAT267.html>

Homework Assignments

There will be 8 online Homework assignments, which you must submit by the due date. These assignments will be given throughout the course which will cover the recent material discussed in lectures. These are designed to assist students in understanding the course material. They also serve as good practice for term tests, and the final exam. You are expected to work on the questions assigned, and if you cannot solve a problem, you should ask your TA and/or the instructor for help.

Term Tests

There will be 1 term tests. More details about the term test will be given later. You must bring your student card to each term test. No aids will be allowed.

Missing Term Work

If you cannot show up for a test because of illness or any other special reason, you **MUST** submit the official UofT medical certificate, which can be downloaded from the course website.

There will be **NO** make-up tests. The marking scheme will be adjusted appropriately for students who have missed a test because of illness or any other (approved) legitimate reason.

Final Exam

The final exam will take place during the examination period, and will be 3h long. it will cover all the material presented in lectures and tutorials.

Aids permitted: None

Marking Scheme

Your final grade is determined in the following way:

Homework		20 %
Term Test 1	03/08/2018	30 %
Final Exam		50 %
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		100 %

Code of Behaviour / Plagiarism

Students should become familiar with and are expected to adhere to the Code of Behaviour on Academic Matters which can be found at:

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>