Differential Equations

This course is an introduction to ordinary differential equations, and is taken by students in Honours Mathematics in the Faculty of Arts and Science. The course is more theoretical than MATH-226*. Linear algebra is used substantially throughout the course.


Prerequisite: MATH-110 or 111 or APSC-174* and MATH-120 or APSC-171*-172*.

Corequisite: MATH-280*.

Instructor: D. Offin

Evaluation: Final examination 65%
Midterm test 25%
Homework 10%

Outline:
- Separation of variables, Exact equations
- First order linear DEs
- Applications of first order DEs
- Second order linear DEs with applications to spring models and rotational models
- Linear Systems of differential equations
- Qualitative theory of nonlinear systems