# MATHEMATICS 46-002

# INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS

**Text:** *Differential Equations*, by R. Bronson and G. B. Costa, third edition

**Instructor:** Zhuang-dan Daniel Guan

**Class:** TTh: 2.10—3.30pm. OLMH. 1208

**First class:** Mar. 31 Tuesday.

**Office Hour:** F 1.30—3pm or by appointment in Surge 237.

This is a course covering the basic material on differential equations. Topics covered include first order equations, linear second order equations and elementary applications to the physical and biological sciences.

## Outline for Mathematics 46-010

We plan to cover the following sections and expect your eager and sincere participations:

TOPICS                                         SUGGESTED NO. OF
80 MIN. CLASSES

Introduction, first order differential equations ........................................7
(Chapter 1, 4, 5, 6 or 2, 5, 6, 7 in the content of the ebook)

Applications of the first order differential equations ...................................1
Chapter 7 or 8 in the content of the ebook)

Second order linear equations .......................................................8
(Chapter 9, 11, 12, 13 or 10, 12, 13, 14 in the content of the ebook)

Applications of the second order linear differential equations ..........................1
(Chapter 14 or 15 in the content of the ebook)

**Tests:** Midterm will be on the sixth week (May 7) or later and counts 20% of the total credits; Final will be on June 11, 11.30—2.30pm Thursday, 35%.

**Homework and Quizzes:** Homework assigned after each lecture through WeBWorK is due after a week. It will be counted 25%

There will be a quiz in the discussion sections byweekly (once in each two weeks) starting from the second Wednesday April 8. The quizzes are also important, they count for another 20% of the total credit. We will have 1% bonus in discussion or deduction for participations. **Have a nice quarter.**