MATHEMATICS 46-001

INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS

Text:  *Elementary Differential Equations*, by W. F. Trench

Instructor: Zhuang-dan Daniel Guan

Class:  TTh: 11.10—12.30pm. Spr. 2355

First class: April 3 Tuesday.

Office Hours: T 3.30—5.00pm 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, Laplace transforms and elementary applications to the physical and biological sciences.

Outline for Mathematics 46-001

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

<table>
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<tr>
<th>TOPICS</th>
<th>SUGGESTED NO. OF 80 MIN. CLASSES</th>
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Introduction, first order differential equations ........................................6
(S§ 1.1—1.3, 2.1—2.6)

Applications of the first order equations .......................................................2
(S§ 3.1—3.2, 4.1)

Second order linear equations .................................................................5
(S§ 5.1—5.7)

Applications of the second order linear equations .........................................2
(S§ 6.1—6.2)

Laplace transforms .................................................................3
(S§ 8.1—8.3, 8.6)

**Tests:** Midterm will be on the seventh week and counts 30% of the total credits; Final: June 12 8—11am Tuesday, 50%.

**Homework:** Homework assigned during each Thursday lecture is due to the following Thursday. Homework is important, it counts for 10% of the total credit.

There will be two quizzes in the discussion sections, one in the fourth week and the other in the ninth week. Quizzes are also important, they count for another 10% of the total credit.