

## MATHEMATICS 46

### INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS

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

This is a course covering the standard 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.

TOPICS	SUGGESTED NO. OF WEEKS' COVERAGE
Introduction, first order equations ..... 2 (§§ 1.1–1.3, 2.1–2.6)	
Applications of first order equations ..... 2 (§§ 3.1–3.2, 4.1–4.3)	
Second order linear equations ..... 2 (§§ 5.1–5.7)	
Applications of second order linear equations ..... 1 (§§ 6.1–6.3)	
Laplace transforms ..... 1 (§§ 8.1–8.3, 8.6 if time permits)	

If there is still extra time remaining after coverage of these topics, then a corresponding amount of material on series solutions from Chapter 7 may also be included if the instructor wishes to do so.