

Ordinary Differential Equations MTH 235

Summer-2015 Schedule

This Schedule is tentative and subject to changes which must be announced in class.

- Week 01

5/18 **Welcome!** Introduction to ODE. **Section 1.1:** Linear Differential Equations with constant coefficients.

5/19 **Section 1.2:** Linear Differential Equations with variable coefficients. **Section 1.3:** Separable Equations.

5/20 **Recitation.** **Section 1.3:** Separable Equations.

5/22 **Section 1.4:** Exact Equations part 1. **Section 1.4:** Exact Equations part 2.

- Week 02

5/25 **No class.** Memorial Day. University Closed.

5/26 **Recitation.** **Section 1.5:** Applications (Newton's Cooling Law and Salt in a Water Tank) .

5/27 **Section 2.1 part 1:** Second Order Linear Equations. **Review Exam #1.**

5/29 **Exam#1** Covering sections 1.1-1.5

- Week 03

6/1 **Section 2.1 part 2:** Second Order Linear Equations. **Section 2.2:** Reduction Methods.

6/2 **Section 2.3 part 1:** Homogeneous Equations. **Recitation.**

6/3 **Section 2.3 part 2:** Homogeneous Equations. **Section 2.4 part 1** Nonhomogeneous equations.

6/5 **Section 2.4 part 2:** Nonhomogeneous equations. **Recitation.**

- Week 04

6/8 **Section 2.5:** Applications. **Section 3.1 Part 1:** Power series Regular points.

6/9 **Section 3.1 part 2:** Power series Regular points. **Review Exam #2.**

6/10 **Exam #2** Covering 2.1-2.5, 3.1.

6/12 **Section 4.1:** Laplace Transform. **Section 4.2:** Laplace Transform and I.V.P.

- Week 05

6/15 **Recitation.** **Section 4.3:** Discontinuous Sources.

6/16 **Section 4.4:** Generalized Sources. **Section 4.5:** Convolution.

6/17 **Recitation.** 8.1-8.3 Review Linear Algebra and complex numbers.

6/19 **Section 8.1-8.3** Review Linear Algebra and complex numbers.

6/19 Section 5.1: First Order Linear Systems.

- **Week 06**

6/22 Section 5.2: Diagonalizable Systems. **Section 5.3 part 1:** Two by Two Linear Systems.

6/23 Section 5.3 part 2: Two by Two Linear Systems . **Section 7.1:** Eigenvalue Problems.

6/24 Section 7.2 part 1: Fourier Series. **Review Exam#3.**

6/26 Exam#3 Covering Sections 4.1-4.5, 5.1-5.4 .

- **Week 07**

6/29 Section 7.2 part 2: Fourier Series. **Section 7.3** Heat Equation.

6/30 Review Final Exam

7/1 Final Exam Covering all sections!