

Mathematics 108
Fall 1998 Tentative Schedule

Text: "Math 108 Lecture Notes, Fall 1998" by Alex Himonas and Alan Howard, to which the sections listed below correspond.

Week 1:

Wed. 8/26 - Introduction, Review of Derivatives, The Indefinite Integral - §1.1
Fri. 8/28 - The Initial Value Problem (with intro to DEs) and the Substitution Method - §1.2,1.3

Week 2:

Mon. 8/31 - Integration by Substitution and Parts - §1.3
Wed. 9/2 - Integration by Parts and Partial Fractions - §1.3
- **Week 1 Homework Due**
Fri. 9/4 - The Definite Integral of Nonnegative Functions - §1.4

Week 3:

Mon. 9/7 - The Definite Integral in General - §1.5
Wed. 9/9 - The Fundamental Theorem of Calculus - §1.6,1.7
- **Week 2 Homework Due**
Fri. 9/11 - Area Between Two Curves - §1.8

Week 4:

Mon. 9/14 - Numerical Methods of Integration - §3.2
Wed. 9/16 - Review for Exam 1
- **Week 3 Homework and Computer Homework 1 Due**
Fri. 9/18 - **Exam 1** on Ch. 1 and §3.2

Week 5:

Mon. 9/21 - Average Value of Functions - §2.1
Wed. 9/23 - From Marginal Function to Total Function - §2.2
- **Week 4 Homework Due**
Fri. 9/25 - Consumer and Producer Surplus - §2.3

Week 6:

Mon. 9/28 - Future and Present Value, Continuous Income Streams - §2.4
Wed. 9/30 - More on Income Streams
- **Week 5 Homework Due**
Fri. 10/2 - Improper Integrals and Perpetual Income Streams - §3.1

Week 7:

Mon. 10/5 - Separable Differential Equations - §4.1,4.2
Wed. 10/7 - More on Differential Equations
- **Week 6 Homework and Computer Homework 2 Due**
Fri. 10/9 - The Logistic Growth Model - §4.3

Week 8:

Mon. 10/12 - Review for Exam 2
Wed. 10/14 - **Exam 2** on Ch. 2, §3.1, §4.1-4.3
- **Week 7 Homework Due**
Fri. 10/16 - The Solow Growth Model - §4.4

FALL BREAK!!

Week 9:

Mon. 10/26 - Input/Output Model and Gaussian Elimination - §5.1,5.2

Wed. 10/28 - 3-Space and Vectors - §5.4,6.1

- **No Homework Due**

Fri. 10/30 - Planes and Linear Functions - §6.1

Week 10:

Mon. 11/2 - Sketching Surfaces in 3-Space and Level Curves - §6.2

Wed. 11/4 - Partial Derivatives - §6.3

- **Week 9 Homework Due**

Fri. 11/6 - Maxima and Minima for Functions of Two Variables - §6.4

Week 11:

Mon. 11/9 - The Method of Least Squares - §6.5

Wed. 11/11 - Constrained Optimization and Lagrange Multipliers - §6.6

- **Week 10 Homework and Computer Homework 3 Due**

Fri. 11/13 - More Lagrange Multipliers

Week 12:

Mon. 11/16 - Review for Exam 3

Wed. 11/18 - **Exam 3** on Ch. 5, 6

- **Week 11 Homework Due**

Fri. 11/20 - Introduction to Probability - §7.1,7.2

Week 13:

Mon. 11/23 - Discrete Random Variables, Expected Value and Variance - §7.3

Wed. 11/25 - More on Random Variables

- **Computer Homework 4 Due, No Regular Homework Due**

THANKSGIVING BREAK!!**Week 14:**

Mon. 11/30 - Continuous Random Variables - §7.4

Wed. 12/2 - Expected Value, Variance, and Standard Deviation - §7.5

- **Week 13 Homework Due**

Fri. 12/4 - Exponential and Normal Probability Densities - §7.6

Week 15:

Mon. 12/7 - Finish Chapter 7

Wed. 12/9 - Review for Final Exam

- **Week 14 Homework Due**

Week 16:

Wed. 12/16 - **FINAL EXAM** (cumulative) 1:45-3:45 p.m.

Computer Demonstrations To Be Done In Class:

- Antidifferentiation and The Initial Value Problem - with §1.1-1.2
- Integration Techniques and Numerical Integration - with Ch. 1 and §3.2 - optional
- Riemann Sums - with §1.4, 1.5 - **Computer Assignment**
- Consumer and Producer Surplus - with §2.3 - **Computer Assignment**
- Solow Growth Model - with §4.4
- Input-Output Model - with §5.1 - optional
- Surface Sketching and Level Curves - with §6.2 - **Computer Assignment**
- Method of Least Squares - with §6.5 - **Computer Assignment**