

**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 - Gaussian Elimination - §5.2,5.3

- **No Homework Due**

Fri. 10/30 - 3-Space, 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**