Math 147 – Weekly Schedule

Textbook: *Calculus for Biology and Medicine* by Neuhauser and Roper, 4th edition

- **Week 1** – 1.2, 1.3, 1.4. Topics Covered: Lines, Unit Circle, Trigonometry, Exponentials and Logarithms, Exponential Functions, Inverse Functions, Logarithmic Functions, Trigonometric Functions, Graphing
- **Week 2** – 1.4, 3.1. Topics Covered: Graphing (cont.) with Emphasis on Semilog and Double-log plots, Limits
- **Week 3** – 3.2, 3.3, 3.4. Topics Covered: Continuity, Limits at Infinity, Sandwich Theorem, Trigonometric Limits
- **Week 4** – 3.5, 4.1, 4.2. Topics Covered: Properties of Continuous Functions, Formal Definition of the Derivative, Properties of the Derivatives
- **Week 5** – 4.3, 4.4. Topics Covered: Simple Derivatives, Product & Quotient Rule. **Exam 1 (1.2-1.4, 3.1-3.5, 4.1-4.2)**
- **Week 6** – 4.5, 4.8, 4.6. Topics Covered: Chain Rule, Derivatives of Trigonometric Functions, Implicit Differentiation
- **Week 7** – 4.6, 4.7, 4.9. Topics Covered: Related Rates, Higher Derivatives, Derivatives of Exponential Functions
- **Week 8** – 4.10, 4.11, 5.1. Topics Covered: Derivatives of Inverse Functions, Logarithmic Functions, and the Inverse Tangent Function, Linear Approximation, Extrema and the Mean Value Theorem
- **Week 9** – 5.1, 5.2, 5.3. Topics Covered: Extrema and the Mean Value Theorem (cont.), Monotonicity, Concavity, Extrema, Inflection Points. **Exam 2 (4.3-4.11)**
- **Week 10** – 5.6, 5.4, 5.5. Topics Covered: Graphing, Optimization, L'Hopital's Rule
- **Week 11** – 5.5, 2.1, 2.2, 2.3. Topics Covered: L'Hopital's Rule (cont.), Exponential Growth and Decay, Sequences, Recurrence Equations (Recursions)
- **Week 12** – 5.7, 5.10. Topics Covered: Cobwebbing, Stability, Introduction to Antiderivatives
- **Week 13** – 5.10, 6.1. Topics Covered: Antiderivatives (cont.), The Definite Integral
- **Week 14** – 6.2, 7.1. Topics Covered: The Fundamental Theorem of Calculus, Substitution. **Exam 3 (5.1-5.7, 2.1-2.3, 5.10, 6.1)**
- **Week 15** – 7.1, Review. Topics Covered: Substitution (cont.), Review