OFFICIAL SYLLABUS
MATH 150 - CALCULUS I

(Adopted - Fall 2010; Committee: Z. Agustin, G. Pelekanos, S. Staples)
Textbook: CALCULUS, Early Transcendentals, 6th Ed., by J. Stewart

Ch. 2. Limits and Derivatives

- **2.1 The Tangent and Velocity Problems**
- **2.2 The Limit of a Function**
- **2.3 Calculating Limits Using the Limit Laws**
- **2.4 The Precise Definition of a Limit**
- **2.5 Continuity**
- **2.6 Limits at Infinity; Horizontal Asymptotes**
- **2.7 Derivatives and Rates of Change**
- **2.8 The Derivative as a Function**

Ch. 3. Differentiation Rules

- **3.1 Derivatives of Polynomials and Exponential Functions**
- **3.2 The Product and Quotient Rules**
- **3.3 Derivatives of Trigonometric Functions**
- **3.4 The Chain Rule**
- **3.5 Implicit Differentiation**
- **3.6 Derivatives of Logarithmic Functions**
- **3.7 Rates of Change in the Natural and Social Sciences**
- **3.8 Exponential Growth and Decay**
- **3.9 Related Rates**
- **3.10 Linear Approximations and Differentials**
- **3.11 Hyperbolic Functions**

Ch. 4. Applications of Differentiation

- **4.1 Maximum and Minimum Values**
- **4.2 The Mean Value Theorem**
- **4.3 How Derivatives Affect the Shape of a Graph**
- **4.4 Indeterminate Forms and L'Hospital's Rule**
- **4.5 Summary of Curve Sketching**
- **4.7 Optimization Problems**
- **4.9 Antiderivatives**

Ch. 5 Integrals

- **5.1 Areas and Distances**
- **5.2 The Definite Integral**
- **5.3 The Fundamental Theorem of Calculus**
- **5.4 Indefinite Integrals and the Net Change Theorem**
- **5.5 The Substitution Rule**

Any instructor should cover all of the material specified; additional sections are optional.