

## Calculus 1 Syllabus

Text: Essential Calculus by Stewart

Grading: Weekly Quiz (20), Midterm (40), Final (40)

### Office Hours

Day	Time	Instructor	Room
Monday	10:15-11:15	Laliberte	809
	1-2	Shatah	812
Tuesday	3:30-4:30	Laliberte	809
Wednesday	11-1	Damron	1109
	1-2	Stucchio	524
Thursday	1:30-2:30	Shatah	812
	2:00-3:00	Stucchio	524

### Course Topics

Lecture	Chapter	Topic
1	1.1	Functions and Their Representations
	1.2	A Catalog of Essential Functions
2	1.3	The Limit of a Function
	1.4	Calculating Limits
3	1.5	Continuity
	1.6	Limits Involving Infinity
4	2.1	Derivatives and Rates of Change
	2.2	The Derivative as a Function
5	2.2	The Derivative as a Function
	2.3	Basic Differentiation Formulas
6	2.4	The Product and Quotient Rules
	2.5	The Chain Rule
7	2.6	Implicit Differentiation
	2.7	Related Rules (Optional)
8	2.8	Linear Approximations and Differentials
9	3.1	Exponential Functions
	3.2	Inverse Functions and Logarithms
10	3.3	Derivatives of Logarithmic and Exponential Functions
	3.4	Exponential Growth and Decay

<b>Lecture</b>	<b>Chapter</b>	<b>Topic</b>
11	3.5	Inverse Trigonometric Functions
	3.6	Hyperbolic Functions (Optional)
	3.7	Indeterminate Forms and L'Hospital's Rule
12	4.1	Maximum and Minimum Values
	4.2	The Mean Value Theorem
13	4.3	Derivatives and Shapes of Graphs
	4.4	Curve Sketching (Optional)
	4.5	Optimization Problems
14	4.5	Optimization Problems
	4.6	Newton's Method
15	4.6	Newton's Method
	4.7	Antiderivatives
16	5.1	Areas and Distances
	5.2	The Definite Integral
17	5.2	The Definite Integral
	5.3	Evaluating Definite Integrals
18	5.3	Evaluating Definite Integrals
	5.4	The Fundamental Theorem of Calculus
19	5.4	The Fundamental Theorem of Calculus
	5.5	The Substitution Rule
20	5.5	The Substitution Rule
	6.1	Integration by Parts
21	6.1	Integration by Parts
	6.2	Trigonometric Integrals and Substitutions
22	6.3	Partial Fractions
23	6.5	Approximate Integration
24	6.6	Improper Integrals
25	7.1	Areas Between Curves
26		Review