DEPARTMENT OF MATHEMATICS
SYLLABUS

Course # & Name: MAT 16A: Short Calculus

Recommended Text(s) & Price: Calculus: An Applied Approach, 7th Edition, by Larson/Edwards ($117.00)

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Lecture(s)	Sections	Comments/Topics
1	1.1 – 1.3	Cartesian plane, distance formula, midpoint formula, graphs, intercepts, circles, and lines (Review the definition of absolute value on page O-8).
1.5	1.4	Functions, composition of functions, and inverse.
1.5	1.5	Limits
1	3.6	Vertical asymptotes and finite limits; horizontal asymptotes and limits of infinity.
1	1.6	Continuity
2	2.1	Slope of the tangent line, definition of the derivative, differentiability and continuity.
1	8.1 – 8.3	Trigonometry review
0.5	2..2	Constant rule, power rule, constant multiple rule, sum and differences rules.
1	2.3	Average rate change, instantaneous rate of change, velocity, marginals in economics.
1	2.4	Product and quotient rules.
1	8.4	Derivatives or trig functions.
1	2.5	Chain rule, general power rule (Include relevant problems from section 8.4).
0.5	2.6	Higher order derivatives, acceleration.
1	2.7	Implicit differentiation (Include relevant problems from Section 8.4).
1.5	2.8	Related rates.
1	3.1	Increasing and decreasing functions, critical numbers.
1.5	3.2	Relative extrema, the first-derivative test, absolute extrema (Include relevant problems from section 8.4 and page 612).
1	3.3	Concavity, points of inflection, the second-derivative test.
2	3.4	Optimization problems (You may want to assign some problems from section 3.5).
2	3.7	Sketching graphs (You may want to assign some problems from section 3.6).
1	3.8	Differentials (Explain estimating function values using differentials).

Additional Notes: