

## DEPARTMENT OF MATHEMATICS SYLLABUS

Course # & Name:     MAT 16C: 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
0.5	C.1	Introduction to differential equations
1	C.2	Separation of variables (Show how to derive the exponential growth and decay formula).
1.5	C.3	First order linear DE's (Give students practice solving a mixture of separable and linear De's).
1.5	C.4	Applications of DE's (You may want to cover logistic growth on page 410; Notice the error in the Study Tip)
0.5	7.1	3-dimensional coordinates
1.5	7.2	Planes and quadric surfaces
0.5	7.3	Functions of several variables, level curves.
1.5	7.4	Partial derivatives
2	7.5	Relative extrema for functions of two variables.
1.5	7.6	Lagrange multipliers
1.5	7.8	Double integrals
1.5	7.9	Applications of double integrals: volume and average value (You may want to show how to find the volumes of solids bounded by 2 surfaces).
1	10.1	Sequences
1.5	10.2	Definition of infinite series, Divergence test, geometric series.
2	10.3	P-series, Ratio test (You may want to introduce the Comparison Test).
2	10.4	Power series, Taylor's Theorem.
0.5	10.4	Maclaurin series for sine and cosine, binomial series (Assign problems to estimate function values and definite integrals using these series)
1	10.5	Taylor polynomials (Taylor's Theorem with Remainder, page 694, is optional).
1	10.6	Newton's Method

Additional Notes:

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