MATH 8B

Textbooks:

1. Sullivan: Trigonometry Supplement for Math 8B, 4th Custom Edition, available at the UCR Bookstore.

2. APEX Calculus, Version 3.0, available at

http://www.apexcalculus.com/downloads/

Suggested number of 50-minute lectures:

1.5 lectures – (Sullivan 6.1) Angle and their measure. (Omit arc length and sector of a circle; omit angular velocity.) (Sullivan 6.2) Trigonometric function: Unit Circle Approach.

1 lecture – (Sullivan 6.3) Properties of trigonometric functions.

1 lecture – (Sullivan 6.4) Graphs of sine and cosine functions.

1.5 lectures – (Sullivan 6.5) Graphs of tangent, cotangent, cosecant and secant functions. (Sullivan 6.6) Phase shift. (Omit modeling and curve fitting)

1.5 lectures – (Sullivan 7.1) The inverse sine, cosine and tangent functions. (Sullivan 7.2) The inverse trigonometric functions (continued).

1 lecture – (Sullivan 7.3) Trigonometric Equations. (Omit solving by using a graphing utility.)

1 lecture – (Sullivan 7.4) Trigonometric identities.

1.5 lectures – (Sullivan 7.5) Sum and Difference Formulas. (Sullivan 7.6) Double-angle and half-angle formulas. (Sullivan 8.1) Right triangle trigonometry.

1 lecture - (1.1) An introduction to limits. (1.2) Epsilon-delta definition of a limit. (Omit evaluation of limits using the definition.)

2 lectures - (1.3) Finding limits analytically.

1.5 lectures - (1.4) One sided limits. (1.5) Continuity.

1.5 lectures - (1.6) Limits involving infinity.

2 lectures - (2.1) Instantaneous rates of change: the derivative. (Omit normal line.) (2.2) Interpretations of the derivative.

1 lecture - (2.3) Basic differentiation rules.

2 lectures - (2.4) The product and quotient rules.

2 lectures - (2.5) The chain rule.

1.5 lectures - (2.6) Implicit differentiation.

1 lecture - (2.7) Derivatives of inverse functions.

1.5 lectures - (6.7) L'Hopital's rule.

2.5 lectures - (3.1) Extreme values. (3.2) Mean value theorem.

1.5 lectures - (3.3) Increasing and decreasing functions.

1.5 lectures - (3.4) Concavity and the second derivative.

1 lecture - (3.5) Curve sketching.

1.5 lectures - (4.2) Related rates.

1 lecture - (4.4) Differentials.