APPLIED MATHEMATICS 217
"CALCULUS FOR ENGINEERS AND SCIENTISTS"

Calendar Description: H(3-1T-1.5)

Functions, limits, continuity derivations, Mean Value Theorem, integrals, Fundamental Theorem of Calculus, applications in the physical sciences.

Prerequisite: A grade of 70% or higher in Mathematics 30 or Pure Mathematics 30 and credit in Mathematics 31; or admission to the Faculty of Engineering including credit in Mathematics 30 or Pure Mathematics 30, and Mathematics 31.

Note: Credit for more than one of Applied Mathematics 217, Mathematics 249 and will not be allowed.

Syllabus

Topics	Number of Hours
Limits and Continuity	7
Derivatives and their basic properties, rules of differentiation, the mean value theorem, L'Hospital's rule	6
Application of derivatives: related rates, graphing, maximization, linearization, Newton's method	6
Antiderivatives, the definite integral, the fundamental theorem, substitutions	6
Exponentials and logarithms, inverse functions, growth and decay, inverse trigonometric functions, hyperbolic functions	7
Applications of integration: areas, volumes of revolution, volumes by slicing, arc length, surfaces of revolution	4
TOTAL	36

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