



**Mathematics 117      Topics from Applied Mathematics 217**

Inverse functions and inverse trigonometric functions. Hyperbolic and inverse hyperbolic functions. Indeterminate forms. Applications of integration.

Course Hours: E(8 hours)

Prerequisite(s): [Mathematics 249](#) or [251](#) or [281](#) or consent of the Department.

Antirequisite(s): Credit for both [Mathematics 117](#) and 017 will not be allowed.

Notes: Designed to rectify a deficiency for those students whose first Calculus course did not cover some of the topics from [Applied Mathematics 217](#).

NOT INCLUDED IN GPA

*Syllabus*

<u>Topics</u>	<u>Number of Hours</u>
Inverse functions: Definitions, properties, Derivatives of inverse functions.	1
Inverse Trigonometric functions: Definitions and properties, Derivatives and Integrals involving inverse trigonometric functions.	2
Hyperbolic and Inverse Hyperbolic functions: Definitions and properties, Identities, Derivatives and integrals involving Hyperbolic or inverse Hyperbolic functions.	1
Other Indeterminate Forms: The indeterminate forms $\frac{0}{0}$ , $\frac{\infty}{\infty}$ , L'Hopital rule, other forms: $0 \cdot \infty$ , $0^0$ , $1^\infty$ , or $\infty^0$ .	2
Applications of Integrations: Volumes of solid of revolution, Arc length of a plane curve, areas of surfaces of revolution.	2
	8

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02:09:23  
renamed MATH 117 07:07:01  
Prerequisite change: 2009:07:01  
MF:jml