

## MATHEMATICS 253 "CALCULUS II"

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

Inverses of trigonometric functions. Methods of integration, improper integrals. Separable differential equations, first and second order linear differential equations, applications.

**Prerequisite:** Mathematics 249 or 251 or Applied Mathematics 217.

**Note:** Credit for more than one of Mathematics 253, 263 and Applied Mathematics 219 will not be allowed.

**Note:** This course is a prerequisite for many 300-level courses in Pure Mathematics, Applied Mathematics, Statistics and Actuarial Science.

### *Syllabus*

<u>Topics</u>	<u>Number of Hours</u>
Inverse functions, inverse trigonometric functions	5
Techniques of integration, numerical integration, improper integrals	9
Applications of integrals (area, volumes)	5
Taylor polynomials	5
Differential equations: separable, linear first and second order, constant coefficients, undetermined coefficients, variation of parameters	12
<b>TOTAL HOURS</b>	<b>36</b>

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