

MATH M16B: Applied Calculus II

Course Objectives (COR)

- Evaluate definite and indefinite integrals using techniques including change of variables, integration by parts, and the Integral Table
- Apply integration techniques in finding the volume of a solid, consumer's surplus, producer's surplus, and exponential growth and decay.
- Evaluate the first and second partial derivatives of functions of several variables.
- Solve applied optimization problems for a function of several variables.
- Find a maximum or minimum value for a function of several variables subject to a given constraint.
- Evaluate double integrals of functions of several variables.
- Apply double integration techniques in evaluating volume of a solid.
- Solve simple and separable differential equations.
- Apply differential equations in the growth model and inhibited growth compute a Taylor polynomial of a given degree for a given function.model.
- Determine convergence and divergence of infinite sequences and series.

Course Learning Outcomes (CLO)

- Students completing this course will be able to determine the convergence of a geometric series.
- Students completing this course will be able to use a double-integral to find the volume of a solid.
- Students completing this course will be able to use partial derivatives to determine the extrema of a function of two variables.
- Students completing this course will be able to integrate using the method of parts