



COURSE OUTLINE: MTH626 - CALCULUS

Prepared: Mathematics Department

Approved: Greg Farish, Chair, Aviation Technology - Flight

Course Code: Title	MTH626: CALCULUS						
Program Number: Name	4061: AVIATION TECHNOLOGY						
Department:	MATHEMATICS						
Academic Year:	2023-2024						
Course Description:	This course is a continuation of MTH613 and provides the student with a more advanced study of calculus. Topics of study include differentiation and integration of algebraic, trigonometric, exponential and logarithmic functions with an emphasis on applications.						
Total Credits:	4						
Hours/Week:	4						
Total Hours:	56						
Prerequisites:	MTH613						
Corequisites:	There are no co-requisites for this course.						
Substitutes:	MTH577						
This course is a pre-requisite for:	MTH654						
Essential Employability Skills (EES) addressed in this course:	EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 10 Manage the use of time and other resources to complete projects.						
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.						
Books and Required Resources:	See Instructor for Course Materials Calculator-SharpEL-520XTB (available in the bookstore)						
Course Outcomes and Learning Objectives:	<table border="1"> <thead> <tr> <th>Course Outcome 1</th> <th>Learning Objectives for Course Outcome 1</th> </tr> </thead> <tbody> <tr> <td>1. Applications of Integration</td> <td>1.1 Applications of the Definite Integral 1.2 Areas by Integration 1.3 Volumes by Integration 1.4 Other Applications of Integration</td> </tr> <tr> <th>Course Outcome 2</th> <th>Learning Objectives for Course Outcome 2</th> </tr> </tbody> </table>	Course Outcome 1	Learning Objectives for Course Outcome 1	1. Applications of Integration	1.1 Applications of the Definite Integral 1.2 Areas by Integration 1.3 Volumes by Integration 1.4 Other Applications of Integration	Course Outcome 2	Learning Objectives for Course Outcome 2
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1. Applications of Integration	1.1 Applications of the Definite Integral 1.2 Areas by Integration 1.3 Volumes by Integration 1.4 Other Applications of Integration						
Course Outcome 2	Learning Objectives for Course Outcome 2						



	2. Understanding topics in Trigonometry	2.1 Observe Fundamental Trigonometric Identities 2.2 Recognizing Sum and Difference Formulas 2.3 Recognizing Double-Angle and Half-Angle Formulas 2.4 Solve Trigonometric Equations
	Course Outcome 3	Learning Objectives for Course Outcome 3
	3. Differentiation of the Transcendental Functions	3.1 Finding Derivatives of Sine and Cosine Functions 3.2 Finding Derivatives of other Trigonometric Functions 3.3 Finding Derivatives of the Inverse Trigonometric Functions 3.4 Finding Derivatives of Logarithmic and Exponential Functions 3.5 Understanding L`Hospitals Rule 3.6 Applications
	Course Outcome 4	Learning Objectives for Course Outcome 4
	4. Techniques of Integration	4.1 Understanding the General Power Formula 4.2 Understanding the Basic Logarithmic Form 4.3 Understanding the Exponential Form 4.4 Recognizing the Basic Trigonometric Forms 4.5 Recognizing the Other Trigonometric Forms and the Inverse Forms

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments/Quizzes/Attendance	30%
Tests	70%

Date:

June 1, 2023

Addendum:

Please refer to the course outline addendum on the Learning Management System for further information.

