Acc Calculus Unit 6 Differential Equations

Content Area: **Math**
Course(s): **Accelerated Calculus**
Time Period: **Marking Period 3**
Length: **2 weeks**
Status: **Published**

Unit Overview

This unit combines techological and conceptual topics with a number of real-life applications. We will solve differential equations for both general and particular solutions.

Enduring Understandings

- Antidifferentiation is an underlying concept involved in solving separable differential equations.
- Solving separable differential equations involves determining a function or relation given its rate of change.

Essential Questions

- How do you approximate the particular solution of a differential equation?
- How are differential equations used in application problems, such as the exponential growth and decay model?
- How do you solve separable differential equations?

New Jersey Student Learning Standards (No CCS)

N/A

Interdisciplinary Connections

LA.W.9-10.6	Use technology, including the Internet, to produce, share, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
SCI.HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.

Technology Standards

TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.
TECH.8.1.12.D.CS3	Exhibit leadership for digital citizenship.
TECH.8.1.12.E.CS4	Process data and report results.
TECH.8.1.12.F.CS3	Collect and analyze data to identify solutions and/or make informed decisions.
TECH.8.1.12.F.CS4	Use multiple processes and diverse perspectives to explore alternative solutions.
TECH.8.2.12.C.CS2	The application of engineering design.

21st Century Themes/Careers

CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.

Financial Literacy Integration

PFL.9.1.12.C.1	Compare and contrast the financial benefits of different products and services offered by a variety of financial institutions.
PFL.9.1.12.C.2	Compare and compute interest and compound interest and develop an amortization table using business tools.
PFL.9.1.12.C.3	Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit.