



CALCULUS II

A SUBJECT COLLECTION

OUR MISSION

At Boost by Proprep, we envision a world where students of diverse backgrounds have the strong mathematical foundations they need *today*, to thrive in successful STEM careers *tomorrow*.

WHAT WE DO

Boost provides quality STEM content and flexible features to improve learning outcomes and save instructors time, while keeping them at the heart of the learning experience. Boost can be used effectively as an independent study resource for students, as well as within the classroom.

COLLECTION STATS



533

Videos



182

Assessment Questions



57

Hours



56

Learning Objectives



TOPIC	SUBTOPIC
Applications of the Definite Integral - Area and Curve Length	Areas
	Curve Length
	Work
	Center of Mass
	Hydrostatic Pressure and Force
	Probability
	Mean Value Theorem for Integrals
	Average Function Value
	Numerical Integration
	Volume - Solids of Revolution
	Volume by Integrating Cross Sections
	Surface Area - Solids of Revolution
Improper Integrals	Improper Integrals
Ordinary Differential Equations	Introduction to ODE
	Separation of Variables
	Homogeneous Equations
	Linear Equations of the 1st Order
	ODE Word Problems
Parametric Equations	Parametric Equations and Curves
	Tangents with Parametric Equations
	Area with Parametric Equations
	Surface Area with Parametric Equations
	Curve Length with Parametric Equations
Polar Coordinates	Introduction to Polar Coordinates
	Conversion between Polar and Cartesian Coordinates
	Tangent Lines in Polar Coordinates

TOPIC	SUBTOPIC
Polar Coordinates	Area in Polar Coordinates
	Arc Length in Polar Coordinates
	Surface Area in Polar Coordinates
Sequences	Introduction to Sequences
	Convergence of a Sequence, Monotone Sequences
	Cauchy Criterion, Bolzano - Weierstrass Theorem
	Sequence with No Limit
Infinite Series	Infinite Geometric Series
	The Harmonic Series and The P-Series
	Algebraic Properties of Series
	The Divergence Test
	The Integral Test
	The Limit Comparison Test
	The Ratio Test
	The Alternating Series Test
	Absolute and Conditional Convergence of Series
Power Series	Power Series
Taylor and Maclaurin Series	Taylor and Maclaurin Series
	Basic Exercises with Maclaurin Series
	Expansions about General Point
	Finding Nonzero Terms in Expansions
	Sum of Series Using Taylor and Maclaurin Expansions
	Finding Limits Using Expansions
	Computations with Taylor Series



OUR CURATED COLLECTIONS

Subjects

Precalculus
Calculus I
Calculus II
Statistics

Probability
Chemistry
Biology

Disciplines

Math for Engineering
Math for Business
Math for Medical Studies



Content

- ✓ Bite-sized video tutorials help student learn at their own pace
- ✓ Step-by-step practice videos improve learning outcomes and practical understanding
- ✓ Curated courses may be assigned by instructors or taken by students independently
- ✓ Assessments measure student progress
- ✓ Customizable courses may be edited to suit the needs of specific learners



Flexibility

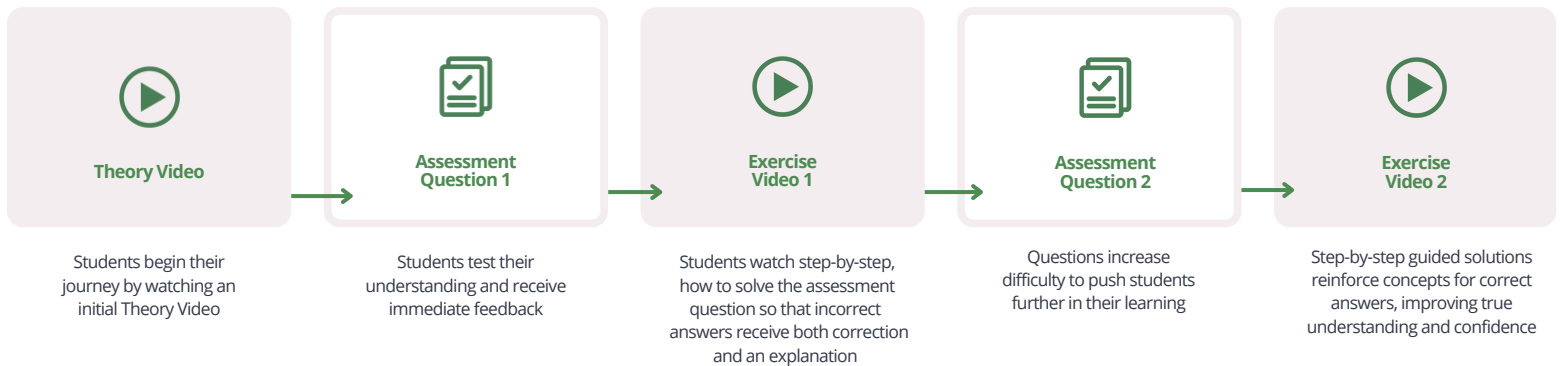
- ✓ Database of tutorial and practice videos provide students a boost in foundational STEM topics
- ✓ Flexible teaching resources for blended learning models
- ✓ Collection of curated online courses for use in blended learning or as prerequisites
- ✓ Editing tool to create and customize courses that meet your learners' needs



Technology

- ✓ Assign curated course playlists and assessments to your learners
- ✓ Track progress of your learners with live metrics and data visualization
- ✓ Create original courses from our library of over 5,000 videos and 1,700 questions
- ✓ Upload your own content to customize any course
- ✓ Search and save videos from the content library for future viewing

OUR COURSE FLOW



Learn more at boost.proprep.com