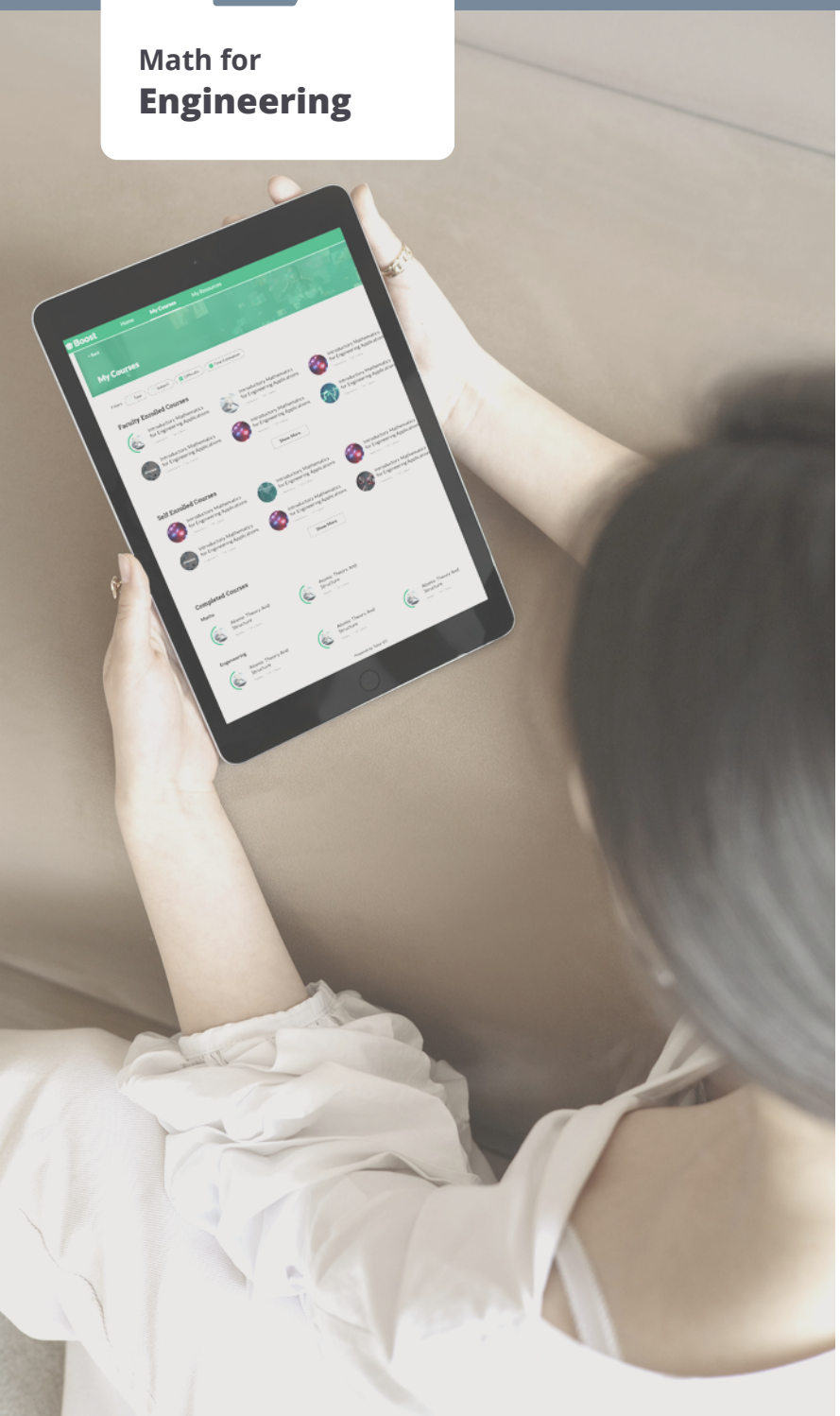
Boost

MATH FOR ENGINEERING

A DISCIPLINE COLLECTION

Math for
Engineering



OUR MISSION

At Boost, our mission is to ensure no student loses motivation or leaves education because they were unable to access effective, relevant tutorial support when they needed it the most.

WHAT WE DO

Boost offers curated collections of short, topic level videos designed to mimic a private tutor experience. Our learning pathways improve student outcomes when used as an independent study resource, course prerequisite, exam preparation, or virtual tutor. Learning pathways can be customised to university or department curricula to ensure students get the information they need to succeed.

COLLECTION STATS

2148
Videos

680
Assessment Questions

166
Hours

263
Learning Objectives

COURSES	DESCRIPTION
Calc I: Limits	In this course, recommended for year 1 engineering students, you will review the definitions and applications of limits
Calc I: Differentiation	In this course, recommended for year 1 engineering students, you will review derivatives of a functon, tangets, normal lines and linear approximation as well as differentiabillity
Calc I: Integration	In this course, recommended for year 1 engineering students, you will review integration and its applications
Calc I: Functions and Curve Sketching	In this course, recommended for year 1 engineering students, you review the shape of functions and their derivatives as well as curve sketching
Complex Analysis: Complex Numbers	In this course, recommended for year 1 engineering students, you review foundational concepts of complex numbers
Calc I: Hyperbolic Functions	In this course, recommended for year 1 engineering students, you will learn to define hyperbolic functions and inverse hyperbolic functions by computing their limits and derivatives
ODE: 1st & 2nd Order Ordinary Differential Equations	In this course, recommended for year 1 engineering students, you will learn about about 1st & 2nd order ordinary differential equations nand their applications
Calc II: Taylor and Maclaurin Series	In this course, recommended for year 1 engineering students, you will learn how to apply the Taylor and Maclaurin series
Calc III: Fourier Series and Fourier Transform	In this course, recommended for year 1 engineering students, you will learn to apply the Fourier Series and the Fourier Transform
Linear Algebra: Matrix and Vector Algebra	In this course, recommended for year 1 and 2 engineering students, you will learn to perform basic algebraic operations with matrices and vectors
Calc II: Parameterized Curves	In this course, recommended for year 2 engineering students, you will learn how to calculate parametric curves, their derivatives, tangets and length
Calc III: Contours, Functions of Multiple Variables	In this course, recommended for year 2 engineering students, you will learn about multivariate functions and their contours
Calc II&III: Scalar and vector fields	In this course, recommended for year 2 engineering students, you will learn about scalar and vector fields

COURSES	DESCRIPTION
Calc II&III: Arc Length	In this course, recommended for year 2 engineering students, you will learn how to calculate arc length using polar coordinates and vector functions
Calc III: Partial Differentiation & Chain Rule (Multivariate)	In this course, recommended for year 2 engineering students, you will learn how to differentiate the function of two variables and use the Chain Rule
Calc III: Double and Triple Integrals, Jacobians and Change in Variable	In this course, recommended for year 2 engineering students, you will learn how to apply polar substitutions or change of variables to compute double integrals
Calc III: Line Integrals	In this course, recommended for year 2 engineering students, you will learn to identify and define line integrals
Calc III: Surface integration	In this course, recommended for year 2 engineering students, you will learn to complete general calculations with surface integrals
Calc III: Green's, Divergence and Stokes' Theorems	In this course, recommended for year 2 engineering students, you will learn to apply Green's Theorem, Divergence Theorem and Stokes' Theorem
Calc III: Stationary values (multivariate)	In this course, recommended for year 2 engineering students, you will learn to apply Extrema in 2 variables
ODE: Laplace Transform and Euler's Method	In this course, recommended for year 2 engineering students, you will learn to apply the Laplace Transform and Euler's Method
Linear Algebra: Eigenvetors, Eigenvalues and Diagonalization	In this course, recommended for year 2 engineering students, you will learn to apply Eigenvetors, Eigenvalues and Diagonalization
Linear Algebra: Gaussian Elimination	In this course, recommended for year 2 engineering students, you will learn to apply Gaussian Elimination
Linear Algebra: Linear Dependence	In this course, recommended for year 2 engineering students, you will interrogate linear combination, depenence and span
PDE: Characteristics, Classification and Sturn-Liouville Problems	In this course, recommended for year 2 engineering students, you will identify characteristics and classification of equations
PDE: The Wave Equation	In this course, recommended for year 2 engineering students, you will work through topics across partial differential equations
PDE: The Heat Equation	In this course, recommended for year 2 engineering students, you will work through topics across partial differential equations
PDE: The Laplace Equation	In this course, recommended for year 2 engineering students, you will work through application of the Laplace Equation in disks, annuli, wedge and rectangles

OUR CURATED COLLECTIONS

Subjects

Precalculus
Calculus I
Calculus II
Statistics
Probability
General Chemistry
Organic Chemistry I
Biochemistry

Disciplines

Math for Engineering
Math for Economics
Math for Medical Sciences

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 math 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

Theory Video → **Assessment Question 1** → **Exercise Video 1** → **Assessment Question 2** → **Exercise Video 2**

Students begin their journey by watching an initial Theory Video

Students test their understanding and receive immediate feedback

Students watch step-by-step, how to solve the assessment question so that incorrect answers receive both correction and an explanation

Questions increase difficulty to push students further in their learning

Step-by-step guided solutions reinforce concepts for correct answers, improving true understanding and confidence

Boost

Learn more at boost-proprep.com