SUBJECTS AND TOPICS COVERED

MATHEMATICS

Basic Arithmetic
Basic Geometry
Basic Algebra

ADVANCED ARITHMETIC

Complex Numbers
Prime Numbers
Number Theory
Irrational Numbers
Quotient and Remainder

ADVANCED GEOMETRY

Geometric Proofs
Projection
Parametric Equations
Polar Coordinates
Modeling
Planes
Congruence/Similarity
Conic Sections
Geometric Transformations
Vectors (Geometric)
Trigonometric Ratio

CALCULUS

Rate of Change
Partial Derivatives
Limits
Related Rates
Differential Equations
Implicit Differentiation
Integrals
Slope of a Tangent Line
Derivatives
Continuity
Optimization
Fundamental Theorem of Calculus
Vector (Calculus)
Series

LINEAR ALGEBRA

Gauss Elimination
Dot product/Cross Product
Vectors (Algebraic)
Orthogonality
Matrices
Eigen Decomposition
Determinant
Norm of a Vector
Vectorial Space

FUNCTIONS

Discrete Functions/Sequences
Quadratic Functions
Piecewise Functions
Rational Functions
Even/Odd Functions
Exponential/Logarithmic Functions
Trigonometric Functions
Polynomial Functions
Function Combination/Composition

EQUATIONS

Rational Equations
Quadratic Equations
Polynomial Equations
Trigonometric Equations and Identities
System of Linear Equations
Exponential Equations

MONEY/FINANCIAL MATHEMATICS

Annuities and Perpetuities
Profit and Loss
Compound Interest Loans and Investments
Reducing Balance Loans

SCIENTIFIC APPLICATION

Phase Shift
Exponential Growth/Decay
Scientific Notation

PROBABILITY

Expectation and Variance
Discrete Random Variable
Continuous Random Variable
Pascal's Triangle
Conditional Probability
Pascal's Triangle
Conditional Probability
Two-Way Tables and Venn Diagrams
Bayes' Rule
Counting
Sets and Events
Permutations and Combinations

STATISTICS

Data Management
Time Series
Data Display
Hypothesis Testing
Data Types
Measures of Variability
Measures of Central Tendency
Sampling Estimation
Line of Best Fit/Regression
Frequency Distribution

BIOLOGY

Evolution (Species)
Animal Biology
Biochemistry
Biology Labs
Cellular Biology
Ecology/Ecosystems
Genetics
Human Biology
Metabolic Processes
Microbiology
Molecular Biology
Plant Biology
Population Dynamics
Taxonomy/Classification

HEALTH SCIENCES

Biotechnology
Kinesiology
Medical Technologies
Nutritional Science
Pathogens/Diseases
Physiology
Science/Public Health Issues

PHYSICS

Electric Circuits
Electromagnetism and Electrostatics
Energy/Work/Power
Fluid Mechanics
Forces and Newton's Laws/Dynamics
Geometrical Optics
Gravitation
Kinematics
Nuclear Fission and Fusion
Physics Labs
Quantum Mechanics/Special Relativity
Thermodynamics
Waves/Sound/Light

CHEMISTRY

Acids/Bases
Atomic Theory
Chemical Equilibrium
Chemical Reactions
Chemistry Labs
Chemistry of Solutions
Energy Changes/Thermochemistry
Gases/Atmospheric Chemistry
Moles and Matter
Nomenclature/Periodic Classification
Organic Chemistry
Oxidation/Reduction

ENGLISH

English as a Second Language
Essay Writing
Literature Studies
Reading Comprehension

HISTORY

American History
Canadian History
European History
World History

GEOGRAPHY

Basic Geography
Cartography
Population/Demography
Resource Management
Travel/Tourism

LAW

American Law
Candian Law
International Law

POLITICS

American Politics
Canadian Politics
International Development/World Issues
Political Principles/Foundations

ECONOMICS/FINANCE

American Economy
Canadian Economy
Employment
Finance
Global Interdependence/Inequalities
Macroeconomics
Microeconomics
Personal Finance Economics
Principles of Economics

FRENCH

French Written Comprehension
French as a Second Language
French Literature
French Essay Writing

MANDARIN

Mandarin as a Second Language
Mandarin Essay Writing

SPANISH

Spanish as a second language
Spanish Essay Writing
Spanish Literature
Spanish Written Comprehension

ARABIC

Arabic as a second language
Arabic Essay Writing

COMPUTER SCIENCE

Algorithms
c++ / c / c# / objective c
Hardware
Java
Javascript
Operating Systems
PHP
Programming Basics
Python
Web Development html css

PHYSICAL SCIENCES

Astronomy/Space Exploration
Environmental Science
Geology/Earth History
Oceanography
Planetary Science

SOCIOLOGY/ANTHROPOLOGY

PSYCHOLOGY

PHILOSOPHY

RELIGION/THEOLOGY

ACCOUNTING

MARKETING

ART HISTORY

MUSIC THEORY