

MATHEMATICS B.S.

Requirements

Code	Title	Units
Core Curriculum Requirements (https://catalog.vanguard.edu/college/core-curriculum/)		54-52
Major Core Requirements and Math Electives		50
General Electives		16-18
Total Units		120

Mathematics Major Core Requirements

Code	Title	Units
Lower Division		
MATH-180C	Calculus I	4
MATH-181C	Calculus II	4
CSCI-100C	Introduction to Computer Science	3
CSCI-100CL	Introduction to Computer Science Lab	1
MATH-265C	Intro to Statistical Methods	3
MATH-207	Computer Programming	3
MATH-281	Multivariable Calculus	4
MATH-285	Intro to Adv Mathematics	3
Upper Division		
MATH-300	Linear Algebra	3
MATH-310	Differential Equations	3
MATH-365	Probability and Statistics	3
MATH-390	Numerical Analysis	3
MATH-485	Undergraduate Research	2
or MATH-450	UG Research and Internship Program	
or MATH-488	Senior Project	
MATH-499C	Mathematics Capstone	2
MATH Core Electives		
Select nine units from the following:		9
MATH-330	Number Theory	
MATH-375	Discrete Mathematics	
MATH-400	Casualty & Actuarial Mathematics	
PSCI-223C & 223CL	Mechanics of Solids and Fluids and Mechanics of Solids and Fluids Lab	
DSCI-300	Database Management	
DSCI-350	Data Mining	
DSCI-410	Data Visualization	
Total Units		50

Four Year Plan

Disclaimer: This sample Four Year Plan is provided as a guide for the recommended sequencing of courses. Vanguard University requires that students complete a minimum of 120 units of required course work as outlined on the Requirements tab in order to receive a Bachelor of Arts, Bachelor of Music, Bachelor of Science, or Bachelor of Science in Nursing degree. It is the student's responsibility to confirm with the department

the course rotation before enrolling in courses. If applicable, please note the footnotes at the bottom of the page for additional information related to courses listed in a particular year and term. Questions, contact the Department of Physical Science and Mathematics.

Course	Title	Units
Year 1 Term 1		
CORE-100C	Cornerstone	1
MATH-180C	Calculus I	4
ENGL-120C	Persuasive Writing	3
KINE-145C	Lifetime Fitness/Wellness Lect	1
NT-101C	New Testament Survey	3
HIST-PLCR1	History Core Requirement (US History)	3
Units		15
Year 1 Term 2		
MATH-181C	Calculus II	4
THEO-PLHD	Theology Core Requirement	3
CSCI-100C	Introduction to Computer Science	3
CSCI-100CL	Introduction to Computer Science Lab	1
MATH-285	Intro to Adv Mathematics	3
KINE-146C	Lifetime Fitness/Well Activity	1
COMM-201C	Speech Composition and Presentation	3
Units		18
Year 2 Term 1		
MATH-281	Multivariable Calculus	4
PSCI-223C	Mechanics of Solids and Fluids	3
PSCI-223CL	Mechanics of Solids and Fluids Lab	1
MATH-300	Linear Algebra	3
MATH-375	Discrete Mathematics	3
Units		14
Year 2 Term 2		
MATH-265C	Intro to Statistical Methods	3
PSCI-225	Electricity and Magnetism	3
PSCI-225L	Electricity and Magnetism Lab	1
MATH-207	Computer Programming	3
MATH-PLUD3A	MATH Upper Division Elective (3-4 unit)	3-4
Units		13-14
Year 3 Term 1		
THEO-300C	Developing a Christian World View	3
SOC-PLCR	Social Science Core Curriculum Req'm't	3
MATH-410	Abstract Algebra	3
MATH-PLUD3A	MATH Upper Division Elective (3-4 unit)	3-4
OT-201C	Old Testament Survey	3
Units		15-16
Year 3 Term 2		
MATH-365	Probability and Statistics	3
MATH-485	Undergraduate Research	2
MATH-330	Number Theory	3
MATH-380	Elementary Analysis I	3



FINA-PLCR	Fine Arts Core Curriculum Requirement	3
Units		14
Year 4 Term 1		
MATH-390	Numerical Analysis	3
ENGL-220C	Researched Writing	3
HIST-PLCR2	History Core Requirement (World Civ)	3
MATH-PLUD3A	MATH Upper Division Elective (3-4 unit)	3-4
SOC-PLCR	Social Science Core Curriculum Reqmt	3
Units		15-16
Year 4 Term 2		
MATH-420	Higher Geometry	3
MATH-499C	Mathematics Capstone	2
ENGL-230C	Literature and the Human Experience	3
MATH-PLUD3A	MATH Upper Division Elective (3-4 unit)	3-4
CHIS-400C	Christian Heritage	3
Units		14-15
Total Units		118-122

