

# BSC. MAJOR IN MATHEMATICS

The Department of Computer Science, Mathematics & Physics offers a Double Major, Major and Minor in Mathematics.

*It is a requirement of the discipline that, to pass any Mathematics course, students must pass the Final exam and attain an overall course grade of more than 50%.*

*Provided below is a complete list of all the courses offered in the Major in Mathematics:*

## MAJOR IN MATHEMATICS:

### LEVEL I

MATH1141 Introductory Linear Algebra & Analytical Geometry

MATH1152 Sets and Number Systems

MATH1190 Calculus A

MATH1195 Calculus B

MATH1235 Python Programming & Mathematical Software

### LEVEL II

MATH2304 Multivariable Calculus

MATH2310 Abstract Algebra 1

MATH2315 Linear Algebra 1

MATH2321 Real Analysis 1

MATH2305 Differential Equations

### LEVEL III

MATH3543 Abstract Algebra 2

MATH3545 Linear Algebra 2

MATH3550 Real Analysis 2

### AND

MATH3555 Complex Analysis

### OR

MATH3560 Metric Spaces

### AND Three (3) Credits) from Mathematics Elective Courses:

MATH2325 Elementary Number Theory

MATH2330 Probability Theory 1

MATH2335 Statistics 1

MATH3555 Complex Analysis

MATH3560 Metric Spaces

MATH3565 Probability Theory 2

MATH3570 Statistics 2  
MATH3575 Topics in Numerical Analysis  
MATH3580 Fourier Analysis with Partial Differential Equations  
MATH3600 Topics in Discrete & Computational Geometry  
MATH3605 Topics in Graph Theory  
MATH3620 Financial Mathematics 1  
MATH3621 Financial Mathematics 2  
MATH3955 Mathematics Internship

**MINOR IN MATHEMATICS [Fifteen (15) Credits at Level II]:**

**LEVEL II**

MATH2304 Multivariable Calculus  
MATH2310 Abstract Algebra 1  
MATH2315 Linear Algebra 1  
MATH2321 Real Analysis 1  
MATH2305 Differential Equations

## **DOUBLE MAJOR IN MATHEMATICS:**

### **LEVEL I**

MATH1141 Introductory Linear Algebra & Analytical Geometry

MATH1190 Calculus A

MATH1195 Calculus B

MATH1152 Sets and Number Systems

MATH1235 Python Programming & Mathematical Software

MATH1230 Introductory Applied Statistics 1

### **LEVEL II**

MATH2304 Multivariable Calculus

MATH2305 Differential Equations

MATH2310 Abstract Algebra 1

MATH2315 Linear Algebra 1

MATH2321 Real Analysis 1

MATH2330 Probability Theory 1

MATH2335 Statistics 1

### **LEVEL III**

MATH3543 Abstract Algebra 2

MATH3545 Linear Algebra 2

MATH3550 Real Analysis 2

### **AND**

MATH3555 Complex Analysis

### **OR**

MATH3560 Metric Spaces

### **AND Twenty-Seven (27) credits from Mathematics Elective Courses:**

MATH2325 Elementary Number Theory

MATH3555 Complex Analysis

MATH3560 Metric Spaces

MATH3565 Probability Theory 2

MATH3570 Statistics 2

MATH3575 Topics in Numerical Analysis

MATH3580 Fourier Analysis with Partial Differential Equations

MATH3600 Topics in Discrete & Computational Geometry

MATH3605 Topics in Graph Theory

MATH3590 Research Project in Mathematics

MATH3955 Mathematics Internship

**Equivalences between Old and New Mathematics Courses For the Purpose of Fulfilling Major and Minor Requirements.**

**Previous 4-Credit Course**

MATH1101 Basic Mathematics I  
MATH1102 Basic Mathematics II

MATH1110 Applied Statistics

MATH1120 Calculus I

MATH1130 Calculus II

No Equivalence

MATH2100 Abstract Algebra

MATH2110 Linear Algebra

MATH2120 Analysis & Methods 1

MATH2130 Ordinary Differential Equations

MATH2140 Probability Theory

MATH2150 Mathematical Statistics

MATH3160 Number Theory

MATH3100: Multivariate Analysis

MATH3120: Numerical Analysis

MATH3130: Optimization Theory

MATH3140: Fourier Analysis & PDE

MATH3150: Complex Variables 1

MATH3170: Advanced Algebra

MATH3180: Introduction to Topology

MATH3190: Matrix Analysis

MATH3220: Sampling Theory

MATH3300: Mathematics Research Project

MATH3375: Discrete & Computational  
Geometry

MATH3400: Graph Theory

MATH3450: Statistical Theory 1

MATH3460: Statistical Theory 2

No Equivalence

No Equivalence

**New 3-Credit Course**

MATH1152 Sets and Number Systems

MATH1141 Introductory Linear Algebra & Analytical  
Geometry

MATH1230 Introductory Applied Statistics 1

MATH1190 Calculus A (and part of MATH1195)

MATH1195 Calculus B (and part of MATH2304)

MATH1235 Python Programming & Mathematical  
Software

MATH2310 Abstract Algebra 1

MATH2315 Linear Algebra 1

MATH2321 Real Analysis 1 (and part of MATH3550)

MATH2305 Differential Equations

MATH2330 Probability Theory 1

MATH2335 Statistics 1

Math2325 Elementary Number Theory

No Equivalence

MATH3575: Topics in Numerical Analysis

No Equivalence

MATH3580: Fourier Analysis with Partial Differential  
Equations

MATH3555: Complex Analysis

MATH3543: Abstract Algebra 2

MATH3560: Metric Spaces

MATH3545: Linear Algebra 2

No Equivalence

MATH3590: Research Project in Mathematics

MATH3600: Topics in Discrete & Computational  
Geometry

MATH3605: Topics in Graph Theory

MATH3565: Probability Theory 2

MATH3570: Statistics 2

MATH3620: Financial Mathematics 1

MATH3621: Financial Mathematics 2

For further details on the Mathematics programme, contact the Discipline Coordinator for the Mathematics programme – Dr. Peter Chami, via email at [peter.chami@cavehill.uwi.edu](mailto:peter.chami@cavehill.uwi.edu), or via telephone at (246) 417-4369 or (246) 417-4365.