SUNY OLD WESTBURY

MATHEMATICS AND COMPUTER & INFORMATION SCIENCE DEPARTMENT

Mathematics

Bachelor of Science (B.S.) Degree in Mathematics

A. Mathematics Major Requirements: **14** courses (**56** credits)

1. **All of the following Courses**: **11** courses (**44** credits)

MA2310 Calculus and Analytic Geometry I	4
MA2320 Calculus and Analytic Geometry II	4
MA3030 Discrete Mathematics	4
MA3160 Linear Algebra	4
MA3210 Introduction to Probability & Statistics	4
MA3330 Calculus and Analytic Geometry III	4
MA3520 Transition to Advanced Mathematics	4
MA4360 Differential Equations	4
MA5120 Abstract Algebra I	4
MA5320 Advanced Calculus I	4
CS2510 Computer Programming I or CS2521 Intro to Scientific Programming	4

2. **Mathematics Major Electives Courses** : **3** courses (**12** credits)

Take any 4000 or 5000 level mathematics courses
or
CS3810 Data Structures & Algorithms

B. Department Requirements

- A grade of **C** or higher is needed in all required mathematics and computer science courses
- A minimum of **28** credits (**7** courses) of the required major courses at or above the **3000 level** must be completed at Old Westbury

C. Liberal Education Requirements

- Refer to the Liberal Education Curriculum Guidelines

D. General Electives

- In consultation with academic advisor, for a total of 120 credits

E. College Wide Requirements

- **120** credits overall (40 credits at Old Westbury, may transfer a maximum of 80 credits)
- **45** Upper Division credits (3000, 4000, or 5000 level courses)
- **60** Liberal Arts credits
- Cumulative Grade Point Average of **2.0**

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Prerequisites Guide

COURSES	PREREQUISITE Grade of C or better
MA2310 Calculus and Analytic Geometry I	**MA2090** Precalculus
MA2320 Calculus and Analytic Geometry II	**MA2310** Calculus and Analytic Geometry I
MA3030 Discrete Mathematics	**MA2090** Precalculus or **MA2080** Precalculus for Business & Economics
MA3160 Linear Algebra	**MA2310** Calculus and Analytic Geometry I or **MA2300** Calculus for Business & Economics
MA3210 Intro. to Probability & Statistics	**MA2310** Calculus and Analytic Geometry I or **MA2300** Calculus for Business & Economics
MA3330 Calculus and Analytic Geometry III	**MA2320** Calculus and Analytic Geometry II
MA3520 Transition to Advanced Mathematics	**MA2320** Calculus and Analytic Geometry II **MA3030** Discrete Mathematics
MA4360 Differential Equations	**MA2320** Calculus and Analytic Geometry II
MA5120 Abstract Algebra I	**MA3160** Linear Algebra **MA3520** Transition to Advanced Mathematics **EC II** English Composition II
MA5320 Advanced Calculus I	**MA2320** Calculus and Analytic Geometry II **MA3520** Transition to Advanced Mathematics **EC II** English Composition II
CS2510 Computer Programming I	**MA1020** or **MA2090**

Mathematics Major Electives

MA4100 Number Theory	**MA3030** Discrete Mathematics
MA4160 Advanced Linear Algebra	**MA3160** Linear Algebra
MA4200 Probability	**MA3330** Calculus and Analytic Geometry III
MA4510 Geometry	**MA2320** Calculus and Analytic Geometry II
MA4910 Operations Research I	**MA3160** Linear Algebra
MA5380 Complex Analysis	**MA3330** Calculus and Analytic Geometry III
CS2511 Computer Programming II	**CS2510** Computer Programming I
CS2521 Intro to Scientific Programming	**MA2310** Calculus and Analytic Geometry I or **MA2300** Calculus for Business & Economics
CS3180 Data Structures & Algorithms	**CS2511** Computer Programming II