SUNY OLD WESTBURY

MATHEMATICS AND COMPUTER & INFORMATION SCIENCE DEPARTMENT

Computer Science

Bachelor of Science (B.S.) Degree in Computer & Information Science

A. CIS Major Requirements **17** courses (**68** credits)

1. All of the following CS courses **10** courses (**40** credits)

CS2510	Computer Programming I	4
CS2511	Computer Programming II	4
CS3620	Computer Architecture I	4
CS3810	Data Structures and Algorithms	4
CS3910	Java and Object-Oriented Programming	4
or		
CS3911	C++ and Object-Oriented Programming	4
CS4100	Technical Communications	4
CS4501	Software Engineering	4
CS4550	Database Management Systems	4
CS4720	Internet and Web Technologies	4
CS5910	System Design & Implementation	4

2. Required Electives - 3 CS courses (**12** credits)

CS4200	Mobile Programming via Android	4
CS4400	Artificial Intelligence	4
CS4705	Computer Security	4
CS4710	Applied Cryptography	4
CS5610	Operating Systems	4
CS5710	Computer Networks	4
CS5730	Computer Network Security	4
CS5810	Data Mining	4
Any 4000 or higher level CS course		4

3. Required Mathematics Courses **4** courses (**16** credits)

MA2310	Calculus and Analytic Geometry I	4
MA3030	Discrete Mathematics	4
MA3210	Introduction to Probability & Statistics	4
MA3160	Linear Algebra	4
or		
MA4100	Number Theory	4

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**

Department Chair: **Dr. Frank Sanacory** **sanacoryf@oldwestbury.edu** Tel: **516 876 3127**

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Prerequisites Guide

COURSE		PREREQUISITE Grade of **C** or higher
CS2510	Computer Programming I	MA1020
CS2511	Computer Programming II	CS2510
CS3620	Computer Architecture I	CS2511, MA3030
CS3810	Data Structures and Algorithms	CS2511, MA3030
CS3910	Java and Object-Oriented Programming	CS3810
CS3911	C++ and Object-Oriented Programming	CS2511, MA3030
CS4100	Technical Communications	Junior Standing in CIS/MIS, ECII
CS4501	Software Engineering	CS2511, CS3810 or CS3611, EC II
CS4550	Database Management Systems	CS2511, CS3810 or CS3611, EC I
CS4720	Internet and Web Technologies	CS4550
CS5910	Systems Design & Implementation	CS4501, CS4550, CS4720, ECII
	Computer Science Electives	
CS4200	Mobile Programming via Android	CS3810
CS4400	Artificial Intelligence	CS3810, MA3210
CS4705	Introduction to Computer Security	CS3810
CS5610	Operating System	CS3810, CS3620
CS5710	Computer Networks	CS4501 or CS4550, MA3210 or MA2000
CS5730	Computer Network Security	CS4710, CS5710
CS5810	Data Mining	CS4550, MA3210 or MA2000, ECII
	Mathematics - required courses	
MA2310	Calculus and Analytic Geometry I	MA2090
MA3030	Discrete Mathematics	MA2090 or MA2080
MA3210	Introduction to Probability & Statistics	MA2310 or MA2300
MA3160	Linear Algebra	MA2310 or MA2300
MA4100	Number Theory	MA3030