

**Associate in Science Degree
Northern Oklahoma College**
Division of Business

**Bachelor of Science Degree
Northwestern Oklahoma State University**
School of Arts and Sciences

Computer Science, Pre-Professional

The Associate in Science degree program in Computer Science consists of 60 hours designed to provide the student with the first two years of general education and program requirements for transfer seamlessly to the Bachelor of Science degree in Computer Science at Northwestern Oklahoma State University.

Computer Science—Major/Minor Option

Transfer students who have completed an Associate in Science degree in Computer Science from Northern Oklahoma College will have met the NWOSU General Education Requirements.

PROGRAM REQUIREMENTS

Credit Hours

GENERAL EDUCATION	37	
ENGLISH COMPOSITION		
ENGL 1113 English Composition I	3	
ENGL 1213 English Composition II	3	
HISTORY AND GOVERNMENT		
HIST 1483 American History to 1865 (or)		
HIST 1493 American History since 1865	3	
POLI 1113 American National Government	3	
HUMANITIES		
PHIL 2213 Ethics (or)	3	
PHIL 2223 Business Ethics and one course to be chosen from those listed with		
International Dimension	3	
MATHEMATICS		
MATH 1513 College Algebra or higher	3	
SCIENCE		
Two sciences with lab	8	
COMPUTER SCIENCE		
CS 1113 Computer Concepts	3	
ORIENTATION		
ORNT 1101 Freshman Orientation	1	
GENERAL EDUCATION ELECTIVES		4
SPCH 1713 Intro to Oral Communication	3	
PROGRAM REQUIREMENTS	18-20	
ACCT 2103 Accounting I-Financial	3	
CS 1013 Visual Basic Programming	3	
ECON 2123 Microeconomic Principles (or)		
ECON 2113 Macroeconomic Principles	3	
MATH 2103 Elementary Calculus (or)		
MATH 2145 Calculus I (or)		
MATH 2023 Elementary Statistics	3-5	
CS 2313 Programming with C++	3	
CS 2303 Java Programming	3	
RECOMMENDED PROGRAM ELECTIVES	5-6	
ACCT 2203 Accounting II-Managerial	3	
CS 2123 Business Tech & Applications	3	
ECON 2123 Microeconomic Principles (or)		
ECON 2113 Macroeconomic principles	3	
MATH 2023 Elementary Statistics	3	
MATH 2155 Calculus II	5	
TOTAL CREDIT HOURS	60	

PROGRAM REQUIREMENTS

Credit Hours

MAJOR REQUIREMENTS	63
CMSC 2003 Programming Concepts	3
CMSC 2103 Computer Programming I	3
CMSC 3003 Data Management Systems	3
CMSC 3033 Object Oriented Program in Java	3
CMSC 3063 Python Programming	3
CMSC 3093 Telecommunications	3
CMSC 3203 Computer Programming II	3
CMSC 3313 Human Interface Design	3
CMSC 3353 Java Script	3
CMSC 3403 Computer Organization	3
CMSC 3513 Information Security	3
CMSC 4003 Advanced Database & Server Systems	3
CMSC 4213 Computer Forensics	3
CMSC 4603 Operating Systems	3
CMSC 4703 Data Structures	3
*MATH 2013 Statistics	3
**Electives in Computer Sciences	15

*Students who complete these courses at NOC are not required to repeat them at NWOSU.

**Majors/minors may substitute up to 6 hours of upper-division MATH courses to count as elective advanced computer science.

NOTE 1: CMSC 1103 Microcomputer Applications will not count toward major or minor.

NOTE 2: Major/Minor students must take MATH 1513 College Algebra AND MATH 1613 Trigonometry.