

**Northwest Arkansas Community College
Business & Computer Information Systems Division**

Discipline Code

PROG

Course Number

1204

Course Title

Programming Foundations I

Catalog Description

This is an introductory programming course for students majoring in computer science or computer engineering. Software development process: problem specification, program design, implementation, testing and documentation. Programming topics: data representation, conditional and iterative statements, functions, arrays, strings, file I/O, and classes using C++. This course transfers to the University of Arkansas as CSCE 2004. (Outside lab time will be required.)

Prerequisites/Co-requisites

CISQ 1103 and Math 0103, or higher (excluding MATH 1313). Math placement scores not sufficient, student must have passed MATH 0103 class. PROG 1003 (recommended).

Credit Hours

4 credit hours

Contact hours

60 Lecture/Lab Contact Hours

Load hours

4 load hours

Semesters Offered

Fall, On Demand

ACTS Equivalent

None

Grade Mode

A-F

Learning Outcomes

The student will:

- Demonstrate an understanding of the syntax, semantics, and use of fundamental programming features of C++ (variables, input/output, loops, conditionals, and functions).
- Create programs that use fundamental techniques for storing and manipulating data (arrays, strings, files, searching, sorting).
- Demonstrate an understanding of the syntax, semantics, and use of object-oriented features of C++ (abstract data types, constructors, methods, operator overloading).
- Create programs using an incremental software development process (specification, design, implementation, testing, and documentation).

General Education Outcomes Supported

None

Standard Practices

Topics list

- Structure of C++ Language
- Arrays – Single and Multi-dimensional
- Sequential Files
- Object-Oriented Programming and Design

Learning activities

- Assignments and Projects
- This course requires some in class, hands-on work and also additional hands-on work in a virtual or on-campus computer lab.

Assessments

Homework, Quizzes, and Exams

Grading guidelines

- A = 90-100%
- B = 80-89%
- C = 70-79%
- D = 60-69%
- F = 0-59%

Last Revision Date: Spring 2022