Northwest Arkansas Community College

Business and Computer Information Systems Division

Discipline Code
PROG

Course Number
1403

Course Title
Programming Logic II

Catalog Description
(F, S, On Demand) This course is a continuation of PROG 1003. After an introduction to object-oriented concepts, the course focuses on problem solving with the object-oriented paradigm. Topics covered are: control structures, classes, objects, encapsulation, polymorphism, inheritance, File I/O, exception handling, and the use of advanced data structures. (Outside lab time will be required) Prerequisites: PROG 1003.

Prerequisites
PROG 1003

Credit Hours
3 Credit Hours

Contact hours
45 Lecture/Lab Contact Hours

Load hours
3 Load Hours

Semesters Offered
Fall, Spring, On Demand

ACTS Equivalent
None

Grade Mode
A-F

Learning Outcomes

The student will:

- Develop and design appropriate procedures, functions, and classes for a given a task.
- Debug a given program.
- Create a program to read and write a given set of data to/from an external file
- Use the advanced data containers to manipulate data and perform a given task
- Design appropriate classes for a given set of related data
- Apply object-oriented design techniques of encapsulation, polymorphism, and data abstraction using classes to model real-world data.

General Education Outcomes Supported

None

Standard Practices

Topics list

- Program Development using an object-oriented approach
- Encapsulation
- Polymorphism
- Classes and Objects
- File IO
- Arithmetic Calculations
- Data manipulation
- Programming Control Sequence, selection, and repetition
- Advanced data containers

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, Exams, and Projects

- Program Level Project: The student will demonstrate an understanding and application of object-oriented programming concepts such as encapsulation, inheritance, polymorphism, and user-defined types.

Grading guidelines

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

Last Revision Date: Spring 2022