

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

**Discipline Code**

NTWK

**Course Number**

2203

**Course Title**

Command Line Scripting

**Catalog Description**

This course offers an in-depth introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis. This course teaches IT students and professionals how to manage computer and networking operating systems in a command line environment. The command line environment is essential in efficiently managing today's complex OSs and NOSs. Students will become familiar with Python Scripts that are advanced in detail and complexity and learn how to apply these utilities in OS and NOS management. This course will require additional outside lab time.

**Prerequisites**

NTWK 2014 Network & Information Systems

PROG 1003 Programming Logic I

PROG 1003H-Programming Logic I-Honors

or Consent of Instructor

**Credit Hours**

3 credit hours

**Contact hours**

45 lecture/lab contact hours

**Load hours**

3 load hours

**Semesters Offered**

Spring, On Demand

**ACTS Equivalent**

N/A

**Grade Mode**

A-F

## Learning Outcomes

Students completing this course will:

- Recognize commands, functions and scripts in the CLI environment;
- Demonstrate usage and syntax for commands;
- Recognize commands, functions and scripts that automate system administration;
- Write, run, and debug a program;
- Construct logical conditions and choose appropriate control statements;
- Describe the software development cycle.
- Rewrite an existing program using debugging methods;
- Design and implement simple programs from user requirements
- Demonstrate input validation and error handling in programs.
- Explain problem-solving strategies.

## General Education Outcomes Supported

- Students can use computers proficiently

## Standard Practices

### Topics list

- Problem solving
- Object-oriented design
- Algorithms and IPO
- Input validation
- Error handling
- Abstraction
- Repetition
- Recursion
- Iteration patterns
- Nesting
- Data types and variables
- Strings
- Data structures
- Expressions
- Functions and methods
- Selection statements
- Control statements
- Loops
- File input/output
- Regular expressions and text processing
- Parameter passing
- Classes and objects
- Multiclass applications
- Class inheritance
- Event driven programming
- Data sources
- Data mining
- Data Analysis
- Cryptography
- Cryptoanalysis

## **Learning activities**

- A virtual environment for activities, assignments and projects utilizing a popular UNIX operating system.
- 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
- Lab assignments
- Hands-On activities
- Quizzes
- Projects
- Exams

## **Grading guidelines**

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

## **Revision Date**

May 20, 2020