Programming Language: Python

Course Information

Class Hours: Facilitation Times Vary – Contact instructor

Course Duration: 3 Weeks, 45 Hours

Textbook: Barry, P. (2016b). *Head First Python: A Brain-Friendly Guide* (2nd ed.). O'Reilly Media.

Course Description

Programming Language: Python (WPS 101) is a module that will show students the fundamentals of programming by using a very easy-to-understand language called Python. Python is a general-purpose, high-level programming language whose design philosophy emphasizes code readability. Python claims to combine "remarkable power with very clear syntax" and its standard library is large and comprehensive.

Hour Breakdown

Theory Hours:	**15 hours**
Practical Hours:	**30 hours**

Pre-requisites

Programming Concepts

Required Textbook

ISBN-13: 978-0596802370

Barry, P. (2016b). *Head First Python: A Brain-Friendly Guide* (2nd ed.). O'Reilly Media.

Learning Objectives

- Explain the Basics of Programming Concepts
  - Programming fundamentals
  - Program flow
  - Variables
  - If statements
  - Loops
  - Interpreters
  - Using the command window
  - Working with textual data
  - String literals
  - Character encodings

    - Manipulating strings
    - Searching text
- Describe the function of Advanced Programming Concepts
    - Functions
    - Techniques for reusing code
    - Returning data
    - Using parameters
    - Overloaded functions
    - Variable scope
    - Using class libraries
    - Arrays and collections
    - Declaring and using arrays
    - Sorting data
- Outline the basics of Data Storage
    - Working with existing files
    - Reading data from a text file
    - Storing data from a file
    - Sorting data from a file
    - Database basics
    - Organizing data
    - Creating a basic database
    - Working with primary keys
    - Working with hash keys
    - Modular programming fundamentals
    - Creating a module
    - Reusing code
    - Updating code for new requirements
    - Data formatting
    - Systems upgrading
- List and Describe Graphical User Interface (GUI) Components
    - GUI fundamentals
    - Layout of a form
    - Basic GUI design
    - Using GUI libraries
    - Introduction to GUI libraries
    - Graphics and sounds libraries
    - Data handling with widgets

Grades Breakdown

Daily Assignments.....45%

Week 1Test.....10%

Week 2Test.....15%

Final Project.....30%

The passing grade for this course is <60%>. Students are responsible for the full completion of all required assessments. Rubrics have been provided to showcase grading templates and are to be used forfull assessment comprehension

Daily Assignments

Each day of this 3-week course will provide the students the opportunity to practice their programming development with tools presented in this course. One of the key elements in creating software developers is to outline the foundations in small bites. Each day of this course, students are responsible for the completion of daily assignments, which will be taken up with the instructor during their scheduled facilitation times.

Week 1 & 2 Tests

Week 1 & 2 Tests will consist of the student's demonstration of their abilities and comprehension of contentthat was presented in the first/second week of the course. This includes (but is not limited to,) fundamental concepts and console applications.

Final Project

The final exam is a demonstration of function creation. Students will have the opportunity to showcase their newly acquired abilities in a final project that is a culmination of the skills and knowledge learned in the duration of this course.

Late Submission Policy: Late assignments will be subject to a deduction of 10%, per day to a max total 50% deduction. Work will not be accepted past 5 days, rendering student marks at zero

Course Schedule

Week	Topics	Chapter Reading	Testing & Assignments
Week 1	Fundamental Concepts and Console Applications	Chapter 1,2,3,4	Completion of daily assignments and 1 Test
Week 2	Moving from console to GUI applications and database basics	Chapters 5,6,7,8	Completion of daily assignmentsand Final Project

*Dates may change subject to unforeseen issues; one week of notice will be provided where possible.

Using PRICE in Evaluation

Introduction

Based on feedback from a cross-section of our community partners (employers, clinical sites, workforce centers), Herzing has developed a framework of behaviors and attributes, that support a successful and meaningful career. This framework is called the "PRICE of Success."

Employer feedback regarding our graduates has almost always included comments about students having strong "soft" skills including professionalism, a customer focus, and knowing how to best interact with clients and coworkers. This is the purpose of the PRICE framework.

To effectively communicate the importance of these skills and ensure that students entering the workforce possess these abilities, assessments in many of our courses should incorporate these ideals and qualities as part of the evaluation process. The following is an outline of how to effectively incorporate PRICE into student evaluations.

Evaluating PRICE

Professionalism

Overview:

- Assume responsibility for my own actions
- Demonstrate professional and appropriate communication skills
- Present an appropriate professional appearance for the environment
- Handle sensitive or difficult issues with grace and confidence

This aspect of PRICE can be addressed in evaluation using the following:

- Respond appropriately to feedback from assignments, tests, and exercises
- Dress appropriately for any presentations, role plays, video sessions, etc.
- Interact with students and faculty in an appropriate way

Respect

Overview:

- Provide consideration and mutual respect to other students, instructors, staff, and colleagues
- Approach others with a positive mindset
- Exhibit respect in all settings including internship or clinical rotations
- Demonstrate genuine interest in the thoughts, opinions, values, and needs of others

This aspect of PRICE can be addressed in evaluation using the following:

- Demonstrate respect for other's opinions and ideas, particularly when there is disagreement
- Show positivity in relation to the coursework and student progress
- Avoid verbal and non-verbal displays of impatience with faculty or other students
- Encourage others to engage with the class and the material

Integrity

Overview:

- Practice academic and professional integrity
- Follow rules and policies of the environment
- Exhibit effort necessary to accomplish goals and objectives
- Give proper credit to others for their work and contributions

This aspect of PRICE can be addressed in evaluation using the following:

- Ensure that all work is properly cited and sourced when referring to the work of others
- When helping others, provide direction and support, and not final answers
- Make sure that all the rules and guidelines for coursework are followed
- Point out any errors in marking, particularly when receiving unearned grades

Caring

Overview:

- Exhibit a customer-focus and caring mindset in the workplace and clinical settings
- Approach others with a positive attitude
- Provide encouragement and support to fellow students and colleagues
- Build relationships through honest communication and follow-through
- Make meaningful social impact through community involvement

This aspect of PRICE can be addressed in evaluation using the following:

- Assist other students with their work
- Provide constructive feedback regarding the course content and coursework
- Show empathy and support to students having difficulty with the material
- Relate the content of the courses to how it can help employers and the community at large

Engagement

Overview:

- Actively contribute to the classroom and workplace environment
- Participate in and support positive community events
- Seek opportunities to perform above minimum expectations in the workplace and classroom
- Maintain a continuous improvement mindset

This aspect of PRICE can be addressed in evaluation using the following:

- Doing more than the bare minimum for assignments and other coursework
- Participate equally in group work and projects
- Ask questions in class discussions
- Respond substantively to posts in discussion forums
- Excellent attendance in class or virtual sessions

Academic Policies & Procedures

The Herzing College Handbook addresses academic dishonesty in general in the “Student Conduct” section of the College Handbook. Cheating, Plagiarism, and Paraphrasing are addressed in greater detail below.

Cheating is defined as “the giving or receiving of aid, whether written, oral or otherwise, in order for a student to receive undeserved credit on class work, homework, tests or any other assignment that is his or her own responsibility.” While collaboration on class assignments is encouraged, each student must submit their own work.

Plagiarism violates the central core of Herzing College’s educational philosophy. It involves stealing another person's work and claiming it as your own. It occurs whenever one directly copies another person’s intellectual effort and integrates it into your class work without giving proper credit to the author.

Paraphrasing is defined as “a restatement of a text or passage giving the meaning in another form” (Webster’s New Universal Unabridged Dictionary, 1996). When one paraphrases but intentionally omits authorship of the work, this, too, is a serious violation of academic honesty.

As a Herzing College student, you have an individual responsibility to understand what cheating, plagiarism, and paraphrasing are. You must also be aware that the consequences for doing any of these activities are severe. Whenever you have doubt about what constitutes cheating, plagiarism or paraphrasing, contact your instructor. With the advent of the Internet, the potential for cheating by simply cutting and pasting information into your paper is tempting. Be aware that these dishonest activities will not be tolerated and instructors have access to increasingly sophisticated search engines to “test” the validity of your work. Plagiarism, in particular, is easily traced.