HIGHLAND COMMUNITY COLLEGE

Department:

Computer Support Technology

Course Description:

This course is designed as an introduction to computer programming. The course will cover basic programming skills such as working with different data types, decision making, looping arrays and subroutines, and database interfacing. The course will introduce students to programming using the Python language.

Course Competencies:

The learning outcomes and competencies detailed in this syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups for this course as approved by the Kansas Board of Regents.

Upon completion of the course, the student should be able to:

1. Explain the fundamentals of the Python programming language
2. Illustrate well-written and readable program using a disciplined coding style, including documentation and indentation standards
3. Demonstrate how to implement logic involving sequence, selections, and repetition using Python
4. Write useful, well-designed programs for personal computers and handheld devices that solve practical business problems
5. Work with data to generate interactive visualizations
6. Create and customize simple web apps and deploy them safely online
7. Independently explore other uses of Python programming

Course Content:

A. Part I: Basics
   a. Getting Started
   b. Variables and Simple Data Types
   c. Introducing Lists
   d. Working with Lists
   e. if Statements
   f. Dictionaries
   g. User Input and while Loops
   h. Functions
   i. Classes
   j. Files and Exceptions
   k. Testing Your Code
B. Part II: Projects
   a. A Ship that Fires Bullets
   b. Aliens!
   c. Scoring
   d. Generating Data

      e.   Downloading Data
      f.   Working with APIs
      g.   Getting Started with Django
      h.   User Accounts
      i.   Styling and Deploying an App

Learning Assessments:

Competencies will be assessed by assignments, case problems, quizzes, chapter tests, hands-on projects, lab assignments, a midterm test, and a final test. The test can be in the objective format or in a problem solving format.

Instructional Materials:

Textbooks: Matthes, E. (2023). *Python Crash Course: A Hands-On, Project-Based Introduction to Programming*, (3rd ed.)*. San Francisco, CA: No Starch Press. ISBN 978-1718502703

Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the "Disabilities Self-Identification Form" on our Disability Services website.

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.

A Note on Harassment, Discrimination and Sexual Misconduct

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an online report about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our Equity Grievance Policy.