



**BAKER COLLEGE**  
**STUDENT LEARNING OUTCOMES**

**CS1650 Python Programming**

**3 Semester Hours**

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**Student Learning Outcomes & Enabling Objectives**

1. Analyze the evolution and use of Python.
    - a. Identify why programmers use Python.
    - b. Define the types of applications Python is best suited for.
    - c. Identify the limitations of the Python programming language.
  2. Develop a problem-solving process.
    - a. Analyze a problem
    - b. Plan the solution of a problem using tools such as algorithms, flowcharts, stories, or transition diagrams. Implement the plan in running code and test the resulting program.
    - c. Organize complex problems into modular components.
  3. Demonstrate an understanding of Python terminology, syntax, and methodology.
    - a. Define key terms and commands.
    - b. Compare the different flow control mechanisms including the following: Selection (if else), Repetition (for, while), Invocation (function def call)
  4. Perform calculations as required to meet program specifications.
    - a. Distinguish between the different data and variable types and differentiate when each type should be used.
    - b. Translate mathematical formulas to working Python code and/or procedures.
  5. Complete a programming assignment.
    - a. Develop a Python program.
    - b. Document a Python program.
    - c. Design a Python program.
    - d. Debug a Python program.
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## **Big Ideas and Essential Questions**

### **Big Ideas**

- Evolution of Python
- Core principles and use of Python programming language
- Problem solving and program development using the Python programming environment

### **Essential Questions**

1. What is the Python programming environment?
2. Why do programmers use the Python programming environment?
3. What are the elements of the Python programming environment?
4. What kind of applications is Python particularly well suited for implementing?
5. What are the limitations of the Python programming environment?

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These SLOs are approved for experiential credit.

**Effective: Fall 2020**