



BAKER COLLEGE
STUDENT LEARNING OUTCOMES

CS3910 Emerging Programming Languages
3 Semester Hours

Student Learning Outcomes & Enabling Objectives

1. Understand the reasons for studying programming language concepts and syntax.
 - a. Describe preliminary concepts of programming languages
 - b. Explain evolution of the major programming languages
 2. Understand how basic language concepts are implemented in code
 - a. Describe syntax and semantics
 - b. Describe lexical and syntax analysis
 - c. Describe names, bindings, type checking, and scopes
 - d. Explain the differences between basic language concept implementations
 3. Understand the different language implementations of basic data types, assignment statements and control structures
 - a. Describe data type implementations
 - b. Describe expressions and assignment statement implementations
 - c. Describe statement-level control structures
 - d. Explain abstract data types and encapsulation constructs'
 - e. Demonstrate support for object oriented programming'
 4. Understand the implementation of subroutines
 - a. Explain subprogram language implementations
 - b. Demonstrate the implementation of subprograms
 5. Understand and demonstrate concurrency and exception handling language implementations
 - a. Describe and demonstrate concurrency and threads
 - b. Describe and demonstrate exception handling and event handling
 6. Analyze different programming methodologies
 - a. Demonstrate functional programming languages
 - b. Describe logic programming languages
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Big Ideas and Essential Questions

There are three things you must master:

1. Understand why there are so many different languages
2. Understand how each language implements and constructs differently
3. Understand how to use a language for its intended purpose

Learn how to choose the right language for the programming task so that:

- It works well
- Other people can understand it
- Future modifications and improvements are less likely to cause headaches

Essential Questions:

1. What are the core modern languages and what was their evolutionary order?
2. What are some new languages and why were they created?
3. How would one learn a new language for a new code requirement?
4. What are the basic programming language concepts?

These SLOs are approved for experiential credit.

Effective: Fall 2020