

Course Title and Code	CS213 Programming Languages Concepts
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I. Course Identification and General Information:

Course Title	Programming Languages Concepts	Course Code	CS213	Pre-requisite	CS182
Department	Computer Science	Course Level	5	Credit Hours	3(3+0)

II. Course Description/Topics: The following course topics will be covered.

- Introduction to Programming Languages Concepts.
- Evolution of the Major Programming Languages.
- Describing Syntax and Semantics.
- Imperative Languages.
- Functional Programming Languages.
- Logic Programming Languages
- Names, Bindings, Type Checking, and Scopes
- OOP Languages.
- Data Types.
- Expressions and Assignment Statements.
- Statement-Level Control Structures
- Subprograms and Implementing Subprograms.
- Abstract Data Types.
- Concurrency.
- Exception Handling and Event Handling.

III. Course Outcomes: Summary of the main learning outcomes for students enrolled in the course.

- Recognize how a language's underlying computation model can impact how one writes programs in that language.
- Quickly learn new programming languages and how to apply them to effectively solve programming problems.
- Understand how programming language features are implemented.
- Reason about the tradeoffs among different languages and use a variety of programming languages with some proficiency.
- Introduction to Criteria and categories of programming languages.
- History of programming languages.
- Syntax and semantics.
- Logic programming languages (Prolog).
- Functional programming Languages (Lisp)
- Names, Data types and binding.
- Control statements.

IV. Required Text:

- Robert W. Sebesta., Concepts of programming languages (6th edition), 2008, Addison-Wesley, ISBN: 0-321-19362-8.

V. References:

- John Mitchell, Concepts in Programming Languages", 2002, ISBN: 9780521780988.
- Multiple Web sites dedicated to Concepts of Programming Languages.