

Department of Computer Science and Engineering
CS 301: Programming Languages
Spring 2002

Instructor: **Dr. Mostafa Aref,** Room No: Tech 140, Phone: 576-4760
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Office Hours: 2:15 pm – 3:45 am Mondays & Wednesdays or by appointment

Text Book: "Concepts of Programming Languages," by R. W. Sebesta, (5th edition),
Addison-Wesley; 2002; ISBN: 0-201-75295-6.

Course Description:

Concepts of Programming languages: Syntax and semantics; Data types; Control structures; subprograms; Exception handling; Run-time storage management. Programming paradigms: Imperative; Functional; Logic; Object-oriented and Concurrent.

Grading Policy:

Activity	Weight
Quizzes	20%
Programming Assignments	40%
Final Exam	40%

Material to be covered:

Material	Topic
Chapters 1	Introduction Motivation for studying programming languages.
Chapter 2	Evolution of Programming Languages Reading Assignment
Chapters 5 – 10	Basic Concepts and The Imperative Paradigm Naming & Binding: Names, Bindings, Type Checking, & Scopes Data Types. Expressions and the Assignment Statement Statement Level Control Structures Subprograms, Implementing Subprograms
Chapters 11 – 12	The Object-Oriented Paradigm Abstract Data Types. Inheritance and Polymorphism Message Passing. Review of Major OO languages
Chapter 14	Exception Handling Exception handling in C++, Ada, and Java
Chapters 15	The Functional Paradigm Functions. Composition. Functionals Applications of Functional Languages
Chapter 16	The Logic Programming Paradigm Predicate Calculus. Theorem Proving. Horn Clauses and Unification Applications of Logic Programming
Chapter 13	Concurrency