COMP 3220
Principles of Programming Languages
Syllabus

Instructor

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Office: 3116 Shelby Center
Office Hours: T/H 2:00-3:00 and by appointment

Course Description

This course presents comparative study of programming languages from both theoretical and applied viewpoints. Topics include syntax and semantics, scope and binding times, storage allocation, parameter-passing techniques, control structures, run-time representation of programs and data. Detailed examples from the imperative, functional, object-oriented, and logical programming paradigms are covered. There are two primary goals for this course: (1) to learn various programming language concepts and paradigms that have been used over the years and (2) to acquire the skills necessary to learn a new language and quickly become proficient using it.

Course Objectives

Upon completion of this course, each student should be able to (1) develop the ability to implement algorithms using different languages, (2) gain the confidence to learn a new programming language well enough to implement algorithms, (3) learn the history of programming languages and how they were developed. (4) develop knowledge of various concepts and issues pertaining to programming languages, (5) gain knowledge of the implementation of programming languages, (6) gain knowledge

of the strengths and weaknesses of programming languages, as well as the domains for which they are intended.

Required Text

- Robert W. Sebesta, Concepts of Programming Languages – 10th ed., Pearson, 2012.

Course Requirements

- **Final Examination (30%)**. Final exam will be a closed-book comprehensive exam.

- **Midterm Examination (20%)**. Midterm will be a closed-book exam.

- **Homework Assignments (40%)**. You will be required to complete homeworks that involve questions related to covered material as well as programming assignments – no late assignments will be accepted and no make-up exams will be given, except in pre-arranged and emergency situations.

- **Participation (10%)** You are expected to attend to each class and read the announced material in advance to participate in class discussions. Class discussions are open-ended and designed to promote critical thinking about the content of the reading or presentations.

Grading

Assignment	Weight	Grading Guidelines
Final Exam	30%	90-100 : A
Midterm Exam	20%	80-89 : B
Homework Assignments	40%	70-79 : C
Participation	10%	below 60: F

Accommodation Policy

If you need special accommodations, please contact me during the first week of classes.

Policy on Academic Integrity and Plagiarism

Academic integrity is central to the learning and teaching process. Students are expected to conduct themselves in a manner that will contribute to the maintenance of academic integrity by making all reasonable efforts to prevent the occurrence of academic dishonesty. Academic dishonesty includes, but is not limited to, obtaining or giving aid on an examination, having unauthorized prior knowledge of an examination, doing work for another student, and plagiarism of all types. Plagiarism is the intentional or unintentional presentation of another persons idea or product as ones own. Plagiarism includes, but is not limited to, the following: copying verbatim all or part of anothers written work; using phrases, charts, figures, illustrations, or mathematical or scientific solutions without citing the source; paraphrasing ideas, conclusions, or research without citing the source

Schedule

Date	Topics
8/16	Course overview. Preliminaries (Chapter 1).
8/21,23	History of programming Languages (Chapter 2). Syntax and Semantics (Chapter 3). HW 1 Distributed (8/21).
8/28,30	Syntax and Semantics (Chapter 3). HW1 Due (8/28). HW 2 Distributed (8/30).
9/4,6	Names, Bindings, Scope (Chapter 4). Data Types (Chapter 5) HW 2 Due (9/6). HW 3 Distributed (9/6).
9/11,13	Data Types (Chapter 5) HW3 Due (9/13). HW4 Distributed (9/13).
9/18,20	Expressions and Assignment Statement (Chapter 7) HW 4 Due (9/20).
9/25,27	Statement Level Control Structures (Chapter 8) **Midterm Exam (9/27)**.
10/2,4	Abstract Data Types (Chapter 11). HW 5 Distributed (10/4)
10/9,11	Support for Object-Oriented Programming (Chapter 12). HW 6 Distributed (10/11). HW 5 Due (10/11).
10/16,18	Concurrency (Chapter 13). HW 7 Distributed (10/18). HW 6 Due (10/18).
10/23,25	Exception handling and Event Handling (Chapter 14). HW 8 Distributed (10/25). HW 7 Due (10/25).
10/30,11/1	Functional Programming Langauges (Chapter 15). HW 9 Distributed (11/1). HW 8 Due (10/25)
11/6, 8	Functional Programming Languages (Chapter 15). Logic Programming Languages (Chapter 16).
11/13,15	Logic Programming Languages (Chapter 16). HW 9 Due (11/15). HW 10 Distributed (11/15).
11/19,23	Thanksgiving Break. No Class.
11/27,29	Course Overview. HW 10 Due (11/29).
12/5	**Final Exam (4:00 − 6:30pm)**.