CENG 442 - Programming Language Concepts

Semester: Spring 2015
Schedule: Section 1: Monday 11:20 - 13:10 HA04, Monday 15:20 - 17:10 H313
Section 2: Monday 11:20 - 13:10 HA04, Thursday 09:20 - 11:10 H314

Instructor: Melih Onus
Office Hours: Thursday 11:20 – 13:10, L221
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Description: Language categories, Language design, Programming languages evolution, Syntax, Semantics, Lexical and syntax analyzers, Names, Bindings, Type checking, Scoping, Data types, Expressions, Statements, Statement-level control structures, Subprograms, Abstract data types, Functional programming languages, Logic programming languages.

Objectives:
- To teach fundamental concepts underlying all programming languages.
- To teach main paradigms of programming languages.
- To make students acquaintance with how the concepts are handled in major programming languages.
- Be able to use language processors for language design and implementation.


References:
- Programming Language Concepts and Paradigms, David Watt, Prentice Hall.
- Comparative Programming Languages, Leslie B. Wilson, Robert G. Clark, Addison-Wesley.

Outline:

WEEK 1: Introduction, Preliminaries, and History (Chapter 1)
WEEK 2: Introduction, Preliminaries, and History (Chapter 2)
WEEK 3: Syntax and Semantics (Chapter 3)
WEEK 4: Lexical and Syntax Analysis (Chapter 4)
WEEK 5: Names, Bindings, Type checking, and Scoping (Chapter 5)
WEEK 6: Data types (Chapter 6)
WEEK 7: Expressions and Assignment statements (Chapter 7)
WEEK 8: Statement Level Control Structures (Chapter 8)
WEEK 9: Subprograms (Chapter 9)
WEEK 10: Implementing Subprograms (Chapter 9, 10)
WEEK 11: Abstract Data Types (Chapter 11)
WEEK 12: Functional Programming Languages (Chapter 15)
WEEK 13: Logic Programming Languages (Chapter 16)

Grading:
Attendance (%5), Quiz (%10), Project (%20), Lab Work (%20), Midterm (%20) (Open book, open notes), Final (%25) (Open book, open notes)

Attendance:
You have to attend %70 of lectures and %80 of labs. University Student Rules and Regulations Article 21. http://library.cankaya.edu.tr/yonetmelikler/013.doc. Otherwise, you will fail and get NA.