CS 314: Principles of Programming Languages

Syllabus (subject to change)

Spring 2019

Overview

This course covers different paradigms of programming languages. We assume you are familiar with Java and C.

We'll consider topics such as:

- Imperative programming and Python
- Concepts underlying programming languages
  - Dynamic and static typing
  - Grammars
  - Lambda calculus
- Functional programming, Scheme, and Haskell
- Logic programming and Prolog

Staff

Instructor:

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TAs:

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Textbook

We'll refer to the textbook "Programming Language Pragmatics" as well as some other sources.

Assignments

There will be 4 programming projects covering the languages introduced in the course.

Exams

There will be an in-class midterm (3/14) and final (5/15, 4:00 – 7:00 pm). All exams are closed book.

Grading

The grading weights are as follows:

Item	Weight
Homeworks	40%
Midterm	30%
Final	30%

All grading disputes must be raised within one week of grades being returned. After this, grades are considered to be final.

Tentative schedule of topics

Lecture	Date	Topic
1	1/22	Introduction
2	1/24	Syntax & semantics
3	1/29	Imperative programming, python
4	1/31	Python
5	2/5	Python
6	2/7	Lambda calculus
7	2/12	Lambda calculus
8	2/14	Functional programming, Scheme
9	2/19	Scheme
10	2/21	Scheme
11	2/26	Scheme
12	2/28	Scheme
13	3/5	Scheme
14	3/7	Haskell
15	3/12	Haskell
	3/14	*midterm*
	3/19	(Spring break)
	3/21	(Spring break)
16	3/26	Haskell
17	3/28	Haskell
18	4/2	Haskell
19	4/4	Haskell
20	4/9	Haskell
21	4/11	Haskell
22	4/16	Logic programming, Prolog
23	4/18	Logic programming, Prolog
24	4/23	Logic programming, Prolog
25	4/25	Logic programming, Prolog
26	4/30	Logic programming, Prolog
27	5/2	Logic programming, Prolog