CSCI 305—Programming Languages

Textbook: Concepts of Programming Languages
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1. About CSCI 305

- Course home page: http://www.cs.montana.edu/bhz/teaching.htm, though most of the teaching materials will be on D2L (all the assignments will be done through D2L).

- **Prerequisites:** CSCI 132, CSCI 246. CSCI 112 (Programming with C) is highly recommended.

- **Contents:** Imperative Programming Languages (30%), Object-Oriented Programming Languages (30%), Functional Programming Languages (20%), and Logic Programming Languages (20%)

- It is not about learning 4-5 new languages and become experts in one semester! (Nobody could do that.) Instead, we mainly focus on the constructs of programming languages. See next slides for details.

- Nonetheless, to make your learning experience rich and diverse. The following 4 languages will be covered/used, mostly through programming labs (or, take-home programming assignments): Perl, Python, Scheme, Prolog.
2. Evaluation of CSCI 305

- Participation (10%): 6 random in-class tests, 20-25 minutes, 5 will be counted.

- Assignments (20%): Multiple-choice assignments given at least a week before the due time, take-home. No late assignment is accepted and there is no make-up assignment. Done through D2L.

- Programming Labs (40%): Take-home programming assignments, given at least 2 weeks before the due time. No late assignment is accepted and there is no make-up lab. Done through D2L.

- Mid-term Exam (15%): Written, in-class. The exact date will be announced at least 2 weeks before the exam.

- Final Exam (15%): Written, in-class. The exact date will be announced at least 2 weeks before the exam.
3. Objectives of CSCI 305

- Understand the history of programming and the development of languages
- Interpret and develop specifications for programming languages
- Understand different models for programming and for associated languages
- Understand the relationship between system architecture and programming languages
- Understand the relationship between programming language features and how the language is translated
- Understand how language designers take different design approaches based on language goals
- Gain practical experience with several new programming languages
- Be prepared to take CSCI 468, Compilers
Announcements/Rules:

• This should not be your first programming course, though the title of the course suggests to be. Consider taking CSCI 111, CSCI 112, or CSCI 132, if you have no programming experience at all.

• CSCI 246 is a prerequisite for this course, if you do not have that and there is no critical reason, you should withdraw, take CSCI 246 in the fall and come back to take this course in 2017.

• Assignments must be done independently by each student, unless explicit instructions are given for forming teams. (When team assignments are not allowed, discussions between students are still OK, but each student must prepare his/her own solution — similar ideas might lead to slightly different final solutions.) For more information regarding academic integrity, please check [http://www.montana.edu/policy/student_conduct](http://www.montana.edu/policy/student_conduct).