

Syllabus for CSC447, Winter 2014

Corin Pitcher

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Overview

Programming paradigms and language concepts: functional programming; comparison of object-oriented languages; type systems for functional and object-oriented languages; runtime systems for functional and object-oriented languages. A variety of programming languages will be used to illustrate concepts, e.g., JavaScript, Ruby, Scala, Scheme.

Instructor Information

- **Instructor** Dr. Corin Pitcher
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- **Instructor's Homepage** <http://fpl.cs.depaul.edu/cpitcher/>
- **Course's Homepage** <http://fpl.cs.depaul.edu/cpitcher/courses/plconcepts/>
- **Office Hours** : http://my.cdm.depaul.edu/people/facultyInfo_mycti.asp?id=104

Prerequisites

If you are not sure that you have satisfied the prerequisites, speak to the instructor before the second lecture.

Prerequisite Courses

- **Data Structures in Java II** (CSC403).
Older alternatives: CSC 383 or CSC 393.
- **Computer Systems II** (CSC407)
Older alternative: CSC374.

Prerequisite Skills

- Integrated Development Environment (IDE) support is unavailable for many tools, so you should be familiar with use of the command line:
 - Command Prompt or Powershell on Windows
 - a shell on Linux / OS X such as **bash** or **zsh**

Textbooks

There are two required textbooks:

- *Concepts in Programming Languages* by Mitchell.
Published by Cambridge University Press.
<http://www.cambridge.org/catalogue/catalogue.asp?isbn=0521780985>
- *Programming in Scala: A Comprehensive Step-by-step Guide* by Odersky, Spoon, and Venners, 2nd edition.
Published by Artima Press.
http://www.artima.com/shop/programming_in_scala_2ed.
<http://www.amazon.com/Programming-Scala-Comprehensive-Step-step/dp/0981531601>.

This is available in paperback and/or as a PDF ebook (for purchase).

If you wish to buy the PDF ebook or you want to buy the paperback and PDF ebook combo, visit the Artima Press website (see link above).

NOTE The second edition of *Programming in Scala* is the current version, but the first version will suffice for the course.

Assessment

The course grade will be based on:

Item	Weight
Homework assignments	25%
Midterm Exam	30%
Final Exam	45%

- The exams are multiple choice.
- The final exam is comprehensive, i.e., requires knowledge of the material covered in the entire course.
- To provide the same testing environment for in-class and Online Learning students, the instructor will not answer questions during the exams.

Policies

Attendance

1. Students are expected to either attend class or watch the online recording within 72 hours of its publication online.
2. The midterm exam and final exam dates are posted on the schedule on the [course homepage](#). You must attend the midterm and final exams. A medical note will be required for an absence. Business trips or vacations are not valid reasons for missing the exam.
3. Online Learning students must ensure that they can take the exams within the window specified on COL before the drop date. Please register for the exam as soon as possible.
4. **Lecture slides are a supplement to lectures only.** The slides are not intended to be read in lieu of listening to the lecture.

Homework

1. Students must keep backup copies of all submitted homework.
2. Students must verify that homework has been submitted correctly, i.e., download the submitted version and check that it is the one you intended to submit. NOTE: the Desire2Learn interface requires confirmation of the homework submission after the file has been uploaded.
3. Homework submissions are usually due by 5:00PM on the day of class. **Late submissions will not be accepted at all because each assignment is discussed in class.**

4. Homework submissions must be submitted through the online system.
Email submissions will not be accepted at all.
5. Submitted work must be worked on individually. You must not use or look at anyone else's solution, and you must clearly acknowledge any code that you obtain from other sources (such as books, magazines, or the Internet). If you are in any doubt, contact the instructor well before the submission date for advice. You may use as much code as you like (without acknowledgement) from the examples discussed in class. Plagiarism will result in penalties up to and including failing the course.

Expectations

1. Several languages and tools will be used. Students are expected to learn these languages and tools without the level of guidance that would be available for 100 and 200 level classes.
2. The course requires that students actively engage the material on your own. Students should not only read the notes and example programs, but also do self-tests, modify code, and run it. As always, figure out what you can definitely code, code it, try it, and then consider extending the boundaries.

Standard CDM Policies on Instructor Evaluation, Email, Plagiarism and Incompletes

The standard CDM School policies on Online Teaching Evaluation, Email, the Academic Integrity Policy, Plagiarism, Incompletes, and Resources for Students with Disabilities apply to this course. Please see

<http://www.cdm.depaul.edu/academics/pages/courseinfo.aspx?Subject=CSC&CatalogNbr=447>