

CS 3723/3721: PROGRAMMING LANGUAGES
SPRING 2008, COURSE SYLLABUS

CS 3723: Tues/Thur 2:00-3:15pm in SB 2.02.06
CS 3721: Tues 3:30-4:20pm in SB 3.02.10A

Instructor

Instructor: Dr. Jeffery von Ronne
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Office Hours: Wed. 2:30-3:30pm, Thu. 3:30-4:30pm, and by appointment

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TA Email: akarmake@cs.utsa.edu btas@cs.utsa.edu

Textbook

The text book for this course will be John Mitchell's *Concepts in Programming*.

Links to additional tutorial and reference material for the various languages discussed in the class will be provided as needed. These will be posted to the class web site: <http://www.cs.utsa.edu/~vonronne/classes/cs3723-s07/>.

Prerequisites

Students are assumed to already be familiar with Java and C, basic data structures, and mathematical induction and other discrete mathematics topics. They should have this background if they have completed the prerequisites of:

1. CS 2213 and CS 2211: Advanced Programming
2. CS 3233 and CS 3231: Discrete Mathematical Structures

Concurrent enrollment in both CS 3721 and CS 3723 is required.

Course Description and Goals

An introduction to high-level procedural, functional, and object-oriented languages, their theoretical foundations, organization, and implementation. Topics include formal syntax, compilers and interpreters, types systems, scoping and activation records, control structures, and data abstraction.

At the end of this course, students should:

1. better understand the historical development of programming languages,
2. have the conceptual framework to better understand new programming languages,
3. have a deeper understanding of how programs are implemented and how this affects the performance and behavior of both programs and development tools,
4. understand how the programming languages we are familiar with influence our approach to programming problems, and
5. increase their repertoire of problem solving strategies.

Course Outline

Lectures (CS 3723) are expected to cover the topics found in parts I-III of the text book mostly in the order they are covered in the text book:

1. introduction
2. computability
3. recursion and Lisp
4. lambda calculus
5. syntax and compilers
6. Algol and ML
7. type systems
8. scopes and functions
9. control structures
10. data structures
11. object-orientation, including Simula, Smalltalk, C++ and Java

The recitations (CS 3721) will be used primarily for laboratory activities exploring distinctive features of various programming languages under the guidance of the TA.

Assignments, Exams, and Grading

There will normally be one homework and one laboratory activity assigned each week. Assignments will be due promptly at the beginning of class on the date due. Late homework and laboratory assignments will be accepted within 24 hours of the due date but will be assessed a 20% penalty. The homework with the lowest score and the laboratory assignment with the lowest score will be dropped and not count towards the students final grade.

In addition to a comprehensive final exams (10:30am May 8), there will be two non-comprehensive midterm exams during (tentatively scheduled for 2pm on February 26 and April 3). Make up exams will not be given except in the case of excused absences as provided for by university-wide policy. If a student's grade on the final exam (adjusted for differences in the grading scale) is higher than their lowest midterm exam grade, the adjusted final exam score will be used in place of that midterm exam grade.

Final grades will be assigned using the weighted average of the following components:

Homeworks	15%
Lab Assignments	15%
First Exam	20%
Second Exam	20%
Final Exam	30%

A total score of 90% will earn an 'A,' a total score of 80% will earn at least a 'B,' a total score of 70% will earn at least a 'C,' and a total score of 60% will earn at least a 'D'. The instructor reserve the right, however, to lower the grading scale if necessary to match the difficulty of the exams.

There will be a single grade assigned for both CS 3721 and CS 3723.

Attendance

Attendance in the lecture and recitation is expected and some of the required material may be provided only in lecture or in the recitation.

Scholastic Dishonesty

Unless stated otherwise in the instructions for the particular assignment, Students may collaborate with other students on the homework assignments and laboratory activities, but each student must turn in their own set of solutions, list everyone they collaborated with, understand all of their own solutions, and use their own words for free form answers.

Students are expected to behave ethically and work individually on the examinations. Please refer to UTSA's Student Code of Conduct for a description of expected behavior and the potential penalties for scholastic dishonesty.

Drop Date

March 25 is the deadline for sophomores and above to drop this course with a grade of 'W.'