

**CS 405 PROGRAMMING LANGUAGES  
SYLLABUS  
SPRING 2004**  
<http://www.cis.uab.edu/info/dept/courses/cs405>

Instructor: Barrett Bryant, Ph. D. (bryant@cis.uab.edu)

Classroom: CH 430

Time: 11:00 A.M.-12:15 P.M. Tuesday and Thursday

Office: CH 127 (934-2213)

Office Hours: 2:00-3:00 P.M. Tuesday and Thursday or by appointment

Teaching Assistant: Alex Liu (cs405ta@cis.uab.edu)

Office Hours: Monday and Wednesday, 3:00-5:00 P.M., CH 153B (975-5796)

Textbook: *Concepts of Programming Languages*, 6th ed., by Robert W. Sebesta. Addison Wesley Longman, 2004.

Recommended: *Modern Compiler Implementation in Java: Basic Techniques*, 2nd ed., by Andrew W. Appel and Jens Palsberg. Cambridge University Press, 2002.

*Thinking in Java*, 3rd ed., by Bruce Eckel. Prentice-Hall, 2002, <http://www.bruceeckel.com>.

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|-------------|---|----------------|----------------|
| Time Table: | <u>Topic</u>                                      | <u>Chapter</u> | <u>Lecture</u> |
|             | Introduction                                      | 1-2            | 1              |
|             | Formal Syntax and Compiling                       | 3-4            | 2-6            |
|             | Denotational Semantics and Functional Programming | 3, 15          | 7-8, 10-11     |
|             | Axiomatic Semantics and Logic Programming         | 3, 16          | 12-15          |
|             | Names, Bindings, Type Checking, and Scopes        | 5              | 16             |
|             | Data Types  | 6              | 17             |
|             | Expressions                                       | 7              | 19-20          |
|             | Statements  | 8              | 21-22          |
|             | Subprograms                                       | 9-10           | 23-25          |
|             | Abstract Data Types                               | 11             | 26             |
|             | Object-Oriented Programming                       | 12             | 27             |
|             | Concurrency                                       | 13             | 28-29          |
|             | Exception Handling                                | 14             | 30             |

|          |            |     |
|----------|------------|-----|
| Grading: | Exam #1    | 1/6 |
|          | Exam #2    | 1/6 |
|          | Final Exam | 1/3 |
|          | Exercises  | 1/3 |

Grading Policy:

There will be two (2) 75-minute examinations, the first exam on Tuesday, February 3, and the second exam on Thursday, March 4. The final exam is on Thursday, April 29, at 1:15 P.M. In case of illness, death in the family, or other situation that will cause a student to miss an exam, arrangements must be made **before the time of the exam** to take the exam at a different time. Makeup exams will not be given without such **prior** approval. Besides exams, there will also be several written and programming exercises which will emphasize the theory covered by the lectures and text. Many of these exercises will build on each other in the form of a complete implementation of a programming language. Therefore, it is imperative that all assignments be done promptly. Assignments will be accepted at most one class meeting late, at a cost of 25% of the assignment credit. Otherwise, all assignments are due on the date indicated **by the beginning of the class period**. The exercises are to be done independently. Any single incident of copying or duplication of work will result in the division of credit among the collaborators. A subsequent occurrence of academic dishonesty will result in the grade of F for the course.

Prerequisites:

CS 303 Algorithms and Data Structures  
CS 350 Automata and Formal Language Theory  
each with a C or better