

COURSE DESCRIPTION

Department and Course Number: COMP 6220

Course Title: Advanced Topics in Programming Languages

Total Credits: 3

Required: No

Prerequisites: COMP 3220

Class meetings per week: 3 hours

Lab meetings per week: 0 hours

Course Coordinator: Dr. Homer Carlisle

Date Prepared: February 14, 2004

Current Catalog Description:

Advanced topics in programming language concepts, design, and implementation.

Textbooks:

Finkel, Raphael. 1995. *Advanced Programming Language Design*. Addison-Wesley. ISBN 0-8053-1191-2.

References:

None.

Course Objectives:

To provide greater depth into the topics of COMP 3220 as a base for graduate work or a background for research topics in programming languages.

Prerequisites by Topic:

1. An introductory course in programming languages, principals, examples and paradigms

Topics Covered: (specify number of hours on each)

1. Review of concepts of programming languages (3 hours)
2. Control structures (3 hours)
3. Type theory (6 hours)
4. Object-oriented programming concepts and theory (6 hours)
5. Dataflow (3 hours)
6. Concurrent programming (6 hours)
7. Logic programming (6 hours)
8. Aggregates (3 hours)
9. Formal syntax and semantics (6 hours)
10. Case studies (1 hour)
11. Exams (2 hours)

Laboratory Projects: (specify number of weeks on each)

None.

Oral and Written Communications:

None.

Social and Ethical Issues:

None.

Theoretical Content:

Formal syntax and semantics and other language-theoretic topics are developed and applied in the course.

Problem Analysis and Solution Design:

None.

