Spring 2009

CS 784: Programming Languages

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CS 784 Programming Languages

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- **Phone No.:** (937)-775-5109
- **Email:** t.k.prasad@wright.edu
- **Home Page:** http://www.cs.wright.edu/~tkprasad
- **Quarter:** Fall, 2009
- **Class Hrs:** TTh, 6:05pm-7:20pm, 271 Math and Micro Bio
- **Office Hrs:** TTh, 3-4pm (395 Joshi) (or by appointment)

**Course Objectives**

To provide a solid foundation for studying advanced topics in Programming Language Specification and Design.

**Prerequisites** CS 480/680 Comparative Languages

**Course Description**

This course introduces concepts related to the specification and design of high-level programming languages. It discusses different programming paradigms, algebraic specification and implementation of data types, and develops interpreters for specifying operationally the various programming language features/constructs. It also introduces attribute grammar formalism and axiomatic semantics briefly. The programming assignments will be coded in Scheme.

**Course Load**

The course load includes homeworks and programming assignments worth 35 points, a midterm exam worth 30 points, and a final exam worth 35 points.

**Reference**


Reference

6. The Teaching About Programming Languages Project
7. Chez Scheme Download Site (http://www.scheme.com)
8. DrScheme Download Site (http://www.drscheme.org/)

**Grading**
The letter grades will be assigned using the following scale: A[90-100], B[80-90), C[70-80), D[60-70), and F[0-60). However, I reserve the right to adjust the scale somewhat to utilize the gaps in the distribution.

### Class Schedule and Syllabus

<table>
<thead>
<tr>
<th>Class</th>
<th>Topics with links to Lecture Notes</th>
<th>Addl. Readings (EOPL-2nd ed)</th>
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<tr>
<td>Class 1</td>
<td>Evolution of Programming Languages</td>
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<td>Class 2</td>
<td>Scheme Metalanguage</td>
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<td>Class 3</td>
<td>Abstract Data Types; Algebraic Specs</td>
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<td>Class 5</td>
<td>Programming Paradigms</td>
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<td>Class 6</td>
<td>Abstract Syntax and its Representation</td>
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<td>Class 8</td>
<td>User-Defined Functions; Scoping</td>
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<td>Class 9</td>
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<td>Implementing Recursion</td>
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<td>Class 14</td>
<td>Interpreter for an Object-Oriented Language</td>
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<td>Class 15</td>
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<td>Class 16</td>
<td>Introduction to Attribute Grammars</td>
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<td>Class 17</td>
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<td>Class 18</td>
<td>Introduction to Axiomatic Semantics</td>
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<td>Class 19</td>
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<tr>
<td>Class 20</td>
<td>Wrap-up</td>
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Final Exam (June 11, 8pm-10pm)

### Old Exams (Fall 2008)

- Midterm (pdf).
- Final (pdf).

### Assignments (Spring 2009)

- Assignment 1.
- Assignment 2.
- Assignment 3. (asg3.ppt)

(03/25/09 10:28:03 AM)