C0S 360: Programming Languages

Fall 2010

Instructor: Suad Alagić

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Lecture Hours
Tuesday, Thursday, 4:10 – 5:25 PM

Office Hours
Tuesday, Thursday, 2:35 – 4:05 PM

Course Content
This course covers the core notions underlying a variety of modern programming languages.

Main Topics

- Syntax of programming languages
- Semantics of programming languages
- Data types
- Control structures
- Run-time models
- Object-oriented programming languages
- Functional programming languages
- Logic programming languages
- Formal semantics
- Concurrent programming languages (time permitting)
Text


Prerequisites

The catalog requirement is COS 285. The required background could also be obtained from other courses offered by the Department provided it is approved by the instructor.

Course outcomes

In this course students will acquire background in principles of programming languages and systems that will be a basis for:

- understanding of the core notions of programming languages such as syntax, semantics, types, and implementation models.
- understanding of a variety of programming languages (procedural, object-oriented, functional, logic), their design principles, and their implications on programming.
- application of the principles underlying programming languages and their mathematical foundations in modeling and design of computer software.
- usage of modern concepts, theories, techniques, and tools associated with programming languages.

Grading

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<thead>
<tr>
<th></th>
<th>Percentage of the overall grade</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>70</td>
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<tr>
<td>Mid-term Exam</td>
<td>10</td>
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<tr>
<td>Final Exam</td>
<td>20</td>
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Final Exam

The final exam according to the USM schedule.