

**Department of Electrical and Computer Engineering**  
**University of Puerto Rico**  
 Mayagüez Campus

**ICOM 4036 – Structure and Properties of Programming Languages**  
**Course Outline – Fall 2007**

Topics	Required Reading <sup>1</sup>	Estimated Hours
<b>Course Introduction and Overview</b> PL Design Criteria, Overview of PL Translation	PLP 1.1-1.7	2
<b>The Nature of Computing</b>	Lecture Notes	2
<b>Programming Language Specification &amp; Translation</b>	PLP 2.1-2.2,2.4	3
<b>Programming Paradigms I: Low-level programming</b>	PLP 5.1-5.5,5.7	3
<b>EXAM I</b>		N/A
<b>Programming Paradigms II: Imperative Programming</b>	Fortran Manuals	1
<b>Programming Paradigms III: Functional Programming</b>	Scheme Manuals	3
<b>Programming Paradigms IV: Logic Programming</b>	Prolog Manuals	3
<b>Names, Lifetimes, Scopes and Bindings</b>	PLP 3.1-3.7	2
<b>EXAM II</b>		N/A
<b>Control Flow</b>	PLP 6.1-6.6,6.8	1
<b>Type Systems</b>	PLP 7.1-7.8 7.10-7.11	2
<b>Subroutines, Control Abstraction, Exceptions and Concurrency</b>	PLP 8.1-8.7	3
<b>Object-Oriented Programming I: Classes, Data Abstraction, Inheritance and Subtype Polymorphism</b>	PLP 10.1-10.4 Java Docs	1
<b>Object-Oriented Programming II: Multiple Inheritance and Interfaces</b>	PLP Ch 10 Java Docs	2
<b>EXAM III</b>		N/A
<b>Programming Paradigms V: WebApp Frameworks</b>	Online Docs	2
<b>FINAL EXAM</b>		N/A
<b>Total class periods</b>		<b>30</b>

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<sup>1</sup> Lecture notes and slides constitute required reading for all topics in the course