

Course Number	CS 511	Course Title	Formal Specification of Programming Languages				
Semester Hours	3	Course Coordinator	Norman Carver				
		FA20					
Catalog Description	A survey of modeling techniques and Meta languages for the formal specification of the syntax and semantics of high-level programming languages.						
Textbooks							
References							
Course Learning Outcomes							
<ul style="list-style-type: none"> • To be able to read and comprehend formal definitions of programming languages • To have a deeper understanding of the design and structure of programming languages • To be aware of several diverse approaches to formal semantics • To be aware of the potential applications of formal language specification, such as program verification and compiler generation 							
Assessment of the Contribution to Student Outcomes							
Outcome →	1	2	3	4	5	6	7
Assessed →	X	X	X		X		
Prerequisites by Topic							
CS 311.							

Major Topics Covered in the Course

1. BNF and its variants
2. Attribute grammars
3. Two-level grammars
4. Operational semantics and Vienna Definition Languages
5. Denotational semantics
6. Axiomatic semantics
7. Programming languages as metalanguages