Tentative Course Outline and Readings

Note: The first 2 weeks assign a fair amount of reading. Take it seriously and start it immediately, as it will give you a valuable, solid basis for the first few assignments (some of which will be time-consuming) and for the course as a whole.

Week	Topics	Assigned Readings	Optional Reference Material
1	Introduction to functional programming and Lisp: general information, data types, and evaluation	Sebesta 15.1-15.4, 15.6, 15.9-15.10 Sebesta 5-5.3 Slade 2-2.4, 2.7-2.8, 3-3.5, 6-6.3	Sebesta Ch. 1-2 Sebesta 15.5, 15.7, 15.8 Slade Ch. 1
2	Procedures and parameters: Procedures, variables, binding, aliases, environments, parameter passing, optional parameters, scope	Sebesta 5.8-5.12, 9-9.5 Slade 2.9, 3.7-3.8, 4-4.6, 5-5.2, read 5.4 for bad ideas, 15-15.1	Slade 10-10.3
3	(Probably less than 1 full week): Formally describing semantics	Sebesta 3.5	Sebesta 3.4
4	(Probably starts during week #3): Advanced procedure-related issues: Recursion, procedures as data, activation records, runtime stack, tail recursion, static vs dynamic allocation	Sebesta 9.6, 9.10-9.11, Ch. 10 Slade 8-8.4, 15.4-15.6, 16.6	Slade 8.5
5-6	(2 weeks) Types: strong vs weak typing, static vs dynamic typing, type equivalence, type implementations, polymorphism, data abstraction	Sebesta 5.4-5.7, Ch. 6 Sebesta 8.7-8.8, Ch. 11, 12-12.3, 12.9-12.10 Slade 7.3, 12-12.2	Sebesta 12.4-12.8, 12.13, 12.14

--- Midterm Exam ---

7	Exception handling	Sebesta Ch. 14 Handouts: Exception handling	
8	A perspective on paradigms: comparison among imperative, functional (today and tomorrow), dataflow, OOP Dataflow programming languages	Handouts: TBA, Paradigms paper	Horowitz Ch. 13 (on reserve in library)
9-10	(2 weeks) Visual Programming with dataflow	Handouts: TBA	

--- Final Exam ---