

Syllabus

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The complete Systematic Program Design course consists of 3 parts, each of which is 4-5 weeks long. In part 3, each week consists of 1 or 2 modules, and those modules all have a similar structure, comprised of:

- An overview describing the module learning goals and summarizing the work required to complete the module.
- A number of blended topic lectures, consisting of video interspersed with questions for you to answer.
- A set of problems that will let you practice the new design techniques before the quiz.
- A module quiz. The module quiz is either a set of questions on the week's material, or a self-assessed design problem.
- A module wrap up.

The following chart provides an overview of the course topics:

Week	Module Name	Lectures	Time to complete	Practice Problems	Quiz
	Overall learning goal				
Part 1 of the course covers BSL, the HtDF, HtDD and HtDW Recipes, and Compound Data.					
Part 2 of the course covers arbitrary-sized data including lists and trees; the use of helper functions; functions consuming two complex types; and the use of local expressions to improve program clarity and/or performance.					
1	Abstraction	7	8-12 Hours	3	Multiple Choice Design Quiz
	Learn how to design functions that are more general and versatile using abstraction.				
2	Generative Recursion	3	5-6 Hours	2	Multiple Choice Design Quiz
	Learn how to use generative recursion to create fractals.				
	Search	9	8-9 Hours	0	
	Expand on generative recursion to solve search problems, such as Sudoku.				
3	Accumulators	5	9-10 Hours	3	Multiple Choice Design Quiz
	Learn how and when to use accumulators in several ways.				
4	Graphs	4	7-8 Hours	3	Multiple Choice Design Quiz
	Learn to identify when information naturally forms a graph, and learn to write functions operatingon such data.				



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