Data Structures (DATA)
CTY Course Syllabus

WEEK 1		WHAT (skill goals/knowledge goals, concepts/readings)	HOW (activities)
Sunday	Morning:		
	Afternoon:		
	Evening:	Class introductions	Discussion
Monday	Morning:	Algorithms; Tower of Hanoi	Lecture, discussion, problem-solving
	Afternoon:	Recursion, including binary search and Tower of Hanoi solution	Lecture, discussion
	Evening:	Palindrome problem; Recursion	Lecture, discussion, problem-solving
Tuesday	Morning:	Palindrome solution; List ADT	Lecture, discussion, problem-solving
	Afternoon:	List ADT, continued	Lecture, discussion
	Evening:	Everything to date	Problem-solving
Wednesday	Morning:	Stack ADT	Lecture, discussion
	Afternoon:	Queue ADT	Lecture, discussion
	Evening:	Running time analysis	Lecture, discussion
Thursday	Morning:	Running time analysis, continued; Everything to date	Lecture, discussion, problem-solving
	Afternoon:	List traversal; Tree ADT	Lecture, discussion
	Evening:	Everything to date	Problem-solving
Friday	Morning:	Tree implementations	Lecture, discussion
	Afternoon:	Everything to date	Problem-solving
	Evening:		

WEEK 2		WHAT (skill goals/knowledge goals, concepts/readings)	HOW (activities)
Sunday	Morning:		
	Afternoon:		
	Evening:	Everything to date	Test
Monday	Morning:	Everything to date	Go over test, extra practice, problem-solving
	Afternoon:	Dictionary ADT; Binary Search Tree	Lecture, discussion
	Evening:	Binary Search Tree, continued	Lecture, discussion, problem-solving
Tuesday	Morning:	Splay Tree; Amortized running time; Java's ArrayList	Lecture, discussion
	Afternoon:	2-3 Tree	Lecture, discussion
	Evening:	(a, b)-Tree; Everything to date	Lecture, discussion, problem-solving
Wednesday	Morning:	Hash Table	Lecture, discussion
	Afternoon:	Huffman Encoding	Lecture, discussion
	Evening:	Everything to date	Extra practice, problem-solving
Thursday	Morning:	Priority Queue ADT	Lecture, discussion
	Afternoon:	Priority Queue, continued; Heap	Lecture, discussion
	Evening:	Everything to date	Problem-solving
Friday	Morning:	Sorting	Lecture, discussion
	Afternoon:	Sorting, continued	Lecture, discussion
	Evening:		

WEEK 3		WHAT (skill goals/knowledge goals, concepts/readings)	HOW (activities)
Sunday	Morning:		
	Afternoon:		
	Evening:	Everything to date	Review, test, problem-solving
Monday	Morning:	Graph definitions; Graph traversals	Lecture, discussion
	Afternoon:	Graph traversals, continued	Lecture, discussion
	Evening:	Everything to date	Problem-solving
Tuesday	Morning:	Topological sort; Edge classification	Lecture, discussion
	Afternoon:	Minimum Spanning Tree	Lecture, discussion
	Evening:	Shortest path problems; Dijkstra's algorithm	Lecture, discussion, problem-solving
Wednesday	Morning:	Dijkstra's algorithm, continued; Floyd-Warshall algorithm	Lecture, discussion, problem-solving
	Afternoon:	Dynamic programming	Lecture, discussion, problem-solving
	Evening:	Everything to date	Problem-solving
Thursday	Morning:	Dynamic programming, continued	Lecture, discussion, problem-solving
	Afternoon:	Everything to date	Problem-solving
	Evening:	Everything to date	Review, Post-test
Friday	Morning:	NP-completeness; What to do about intractability	Lecture, discussion
	Afternoon:		
	Evening:		