

CS111 Summer Session 2018 Tentative Schedule

Week	Date	Class Number	Subject	Readings	Assignment	Assignment Details
1	MON 7/02	1	Course overview and introduction Getting started in Python Data types and expressions Strings and lists	CS for All, Ch 1 Selections from Think Like a Computer Scientist in Python CS for All, 2.1, 2.2, 2.3	PS1 due TUE 7/03	Problem 1: The four fours challenge Problem 2: Indexing and slicing puzzles
	TUE 7/03	2	Functions, Parameters, and Return Values Local and global variables; the runtime stack Making decisions (conditional execution)	CS for All, 2.6, 2.7, 2.8 Selections from Think Like a Computer Scientist in Python	PS2 due WED 7/04	Problem 1: Functions with numeric inputs, part I (25) Problem 2: Tracing program execution (10) Problem 3: Tracing function calls (if/else) (10) Problem 4: Functions with numeric inputs, part II (if/else) (5) Problem 5: Functions on strings and lists, part I (no if/else) (25) Problem 6: Functions on strings and lists, part II (with decision logic) (25)
	THU 7/05	3	Introduce Recursion		PS3 due SAT 7/08	Problem 1: Thinking recursively -- tracing (10) Problem 2: Fun with recursion, part I (40) Problem 3: Fun with recursion, part II (50)
Week	Date	Class Number	Subject	Readings	Assignment	Assignment Details
2	MON 7/09	4	Functions and recursion (cont.) Higher-order functions List comprehensions	CS for All, 2.9, 2.10, 2.11, 2.12, 3.6	PS4 due TUE 7/10	Problem 1: List comprehensions (50) Problem 2: Tracing list comprehensions and recursion (50)
	TUE 7/10	5	More list comprehensions; lists of lists Encryption and decryption Algorithm design	CS for All, 3.1, 3.2, 3.3, 3.6	PS5 due WED 7/11	Problem 1: Caesar cipher and decipher (40) Problem 2: Algorithm design (40, lcs/map) Problem 3: More recursive algorithm design! (20, rem last, jotto)
	THU 7/12		QUIZ 1 9:00-9:30AM			
	THU 7/12	6	Representing information Binary numbers and conversions	CS for all 4.1, 4.2	PS6 due SAT 7/14	Problem 1: From binary to decimal and back! (30) Problem 2: Using your conversion functions (30) Problem 3: Recursive operations on binary numbers (40)
Week	Date	Class Number	Subject	Readings	Assignment	Assignment Details
3	MON 7/16	7	Digital Logic and Circuit Design	CS for All 4.3, 4.4	PS7 due TUE 7/17	Problem 1: XOR (20) Problem 2: Full Adder (20) Problem 3: 4-Bit Ripple-Carry Adder (20) Problem 4: 4x1 Multiplier (20) Problem 5: 4x2 Multiplier (20) Problem 6: 3x2 Divider (20 Optional Bonus)
	TUE 7/17	8	REVIEW OF TAUGHT LESSONS			
	THU 7/19		QUIZ 2 9:00-9:30AM			
	THU 7/19	9	Loops and imperative programming Cumulative computations Nested loops	CS for All 5.1, 5.2, 5.3	PS8 due SAT 7/21	Problem 1: Understanding loops Problem 2: Estimating pi Problem 3: Processing sequences with loops

CS111 Summer Session 2018 Tentative Schedule

Week	Date	Class Number	Subject	Readings	Assignment	Assignment Details
4	MON 7/23	10	Nested Loops Design using loops	CS for All 5.1, 5.2, 5.3	PS9 due TUE 7/24	Problem 1: Image processing with loops and image objects (40) Problem 2: More image processing (60) Skipped: TT securities
	TUE 7/24	11	References; mutable vs. immutable data 2-Dimensional Lists	CS for All 5.4, 5.5	PS10 due WED 7/25	Problem 1: 2-D lists Problem 2: Matrix operations Problem 3: Images as 2-D lists
	THU 7/26		QUIZ 3 9:00-9:30AM			
	THU 7/26	12	Object-oriented programming (OOP)	CS for All 6.1, 6.2, 6.3, 6.4, 6.5, 6.6	PS11 due SAT 7/28	Problem 1: Using string methods Problem 2: A Date class Problem 3: Date clients
Week	Date	Class Number	Subject	Readings	Assignment	Assignment Details
5	MON 7/30	13	File Processing Dictionaries	CS for All 5.5.6, 5.6; Additional Reading from Think Like A CS with Python on dictionaries	PS12 due TUE 7/31	Problem 1: More Date clients (with dict) Problem 2: Markov text generation
	TUE 7/31	14	Object Orientation (continued)	Reading on Inheritance	PS13 due WED 8/01	PS13: Connect Four Problem 1: Connect Four Board Class Problem 2: Connect Four Player Class Problem 3: Playing the Game
	THU 8/02		QUIZ 4 9:00-9:30AM			
	THU 8/02	15	Object Orientation (continued) Artificial Intelligence	CS for All 6.9	PS14 due SAT 8/04	PS14: Connect Four Problem 1: A RandomPlayer Problem 2: An AI Player
Week	Date	Class Number	Subject	Readings	Assignment	Assignment Details
6	MON 8/06	16	Final Project Overview Final Project: Search Algorithms		Final Project PART I, due TUE 8/07	Final Project: Part I: A Board class for the Eight Puzzle Part II: A State class
	TUE 8/07	17	Final Project: Search Algorithms		Final Project PART II, due THU 8/09 at 9pm	Part III: A Searcher class for random search Part IV: Subclasses for other search algorithms Part V: Compare algorithms, and try to speed things up!
	THU 8/09	18	FINAL EXAM DURING CLASS TIME			