

CS and Prog with Python - Syllabus outline v2

DRAFT

Chk	Wk	Topic *	Python	Book assignment **
✓	1	Intro & overview of CS & programming		
✓	1	Comp arch intro & overview		OP A6
✓	2	Prog desn & dev, outline, struc, top-down, exec vs non-exec, algorithms		OP pp.1-22
~	2	Variables, expressions, precedence, simple data type, literals, cmts	= for assignment, # for comment	OP A2, IPT 1.3, 1.5-1.6
✓	2	Simple I/O	print(), input()	IPT 1.2, 1.4
✓	2	Sequence struc, block struc		OP pp.23-31
	3	Debugging, testing, test data	assert	OP A5
	3	Computing env't, system svcs (particularly related to I/O)		IPT 1-1.1
	3	Built-in functions		
	3	If-Then-Else conditionals	If, Then, Else, == comparison	OP pp.33-40, IPT 2-2.4
	4	Iteration	while, for, break	OP pp.41-50, IPT 3-3.3
	4	Full formatted I/O, system I/O	printf()	
	4	Select Case	Case, match	
	5	Subprogs (subrtns, functions, procedures), stubs	def, return, import	OP pp77-78, IPT ch 4
	5	Character manipulation, data representation, numerical errors		IPT ch 5
	6	Objects, classes		
	6	More data types	lists [], tuples () range	IPT ch 6
	7	Systems analysis		OP A7
	7	Recursion		
	7	Calling convntions, writing functions, function headers		OP pp77-78, IPT ch 4
	7	Arrays, vectors, matrices, multidimensional		IPT ch 7
	8	Sorting and searching		
	8	Cybersecurity		
	8	Comp arch, multiproc, strucs		
	9	Databases and IS		
	9	Networking struc		
	9	Table-driven & transaction-oriented programs		

* Later topics are optional as needed and as time permits

** OP = "On Programming" book (Opa's book)
IPT = online Inro to Python textbook in CodeHS.com

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