

APS 105 Lecture and Lab Schedule Winter 2018						
Week #	Date of Monday	Lect #	Content	Carter Text Sections	Tutorial	Lab - Friday of this week and Monday of Next
1	1/Jan	1	Introduction to Course; lab 0 discussion including software demo	1.2		
2	8/Jan	2	Structure of Computers: CPU, Memory, I/O; A simple program that inputs, computes and outputs	1.1, 1.7, 1.8	No Tutorial	Lab 0 - Login to ECF; assign students to TAs; introduction to Linux and CodeLite
		3	Process of developing and debugging software; Example program with Fractional Variables, the 'double' type; rules for variable names	1.3, 1.4		
		4	Representation of numbers in binary and effect of number of bits; Types of variables - int and double, Lab 1	1.5, 1.6		
3	15/Jan	5	Example calculation program with input and output using printf and scanf general form; example calculation; Lab 1	1.8; Appendix B	Tutorial 1	Lab 1 - Review Linux/ CodeLite & A Simple Calculation, lab starts Friday, Jan 12
		6	Calculations: operators +-*/%, example program; math functions, random #s	2.1, 2.2, 2.6		
		7	Random numbers and Rint(), mixing integers and doubles in calculations, casting; Lab 2 discussion	2.3, 2.5, 2.6		
4	22/Jan	8	Making decisions example, if, else, conditional expressions, relational operators, control flow; BOOL Type; roulette example	3.1, 3.2	Tutorial 2	Lab 2 - More Complex Calculation
		9	Char Type - Comparing characters, complex logical expressions and conditions, lazy evaluation, multiple conditions, dangling else	3.3, 3.4		
		10	Repetition (loops) - example, while loop, flow, do while, example, Lab 3 Discussion	4.1, 4.2		
5	29/Jan	11	For loops, flow, example, when to use while, for, dowhile, complex conditions in for, nested loops;	4.3, 4.4, 4.5	Tutorial 3	Lab 3 - Decisions and Simple Loops
		12	More nested loop examples; Functions, motivation and example with parameters, and prototypes	4.6, 5.1, 5.2		
		13	Functions, sending information to functions (parameters/arguments;) call by value. Variable Scope in functions; Lab 4 discussion	5.3, 5.6		

6	5/Feb	14	Boolean return value, introduction to Pointers;	5.4, 5.6	Tutorial 4	Lab 4 - Loops and Functions
		15	More pointers, using to receive info back;	5.7		
		16	more on scope; Larger function example - include logic example - Goldbach's conjecture	5.8		
7	12/Feb	17	Introduction to Arrays - declaration, initialization, simple use;	6.1, 6.2	Tutorial 5	Lab 5 - Functions and Logic and Debugging; both Lab 6 and Lab 7 to be released this week
		18	Arrays and Pointers; Lab 5 discussion	6.3		
		19	Midterm Review; solve problems; previous midterms	6.4		
	19/Feb	READING WEEK, No Classes, No Tutorials, No Labs				
8	26/Feb	20	Arrays continued, 2D Arrays	6.3	No Tutorial	No labs due Friday/ Monday of Midterm Week, Midterm March 1 2018, at 6pm-8pm
		21	2D Array Example; Multi-Dimensional Arrays, passing Multi-D arrays	6.3		
		22	Example, size of types, sizeof operator, byte addressing, & Arrays; dynamic memory allocation, Lab 6 discussion	6.3, 10.2		
9	5/Mar	23	Pointer Arithmetic; Introduction to strings; strings example, strings I/O	7.2, 7.4	Tutorial 6	Lab 6 - Game Lab Part 1; Lab 8 released this week
		24	String functions, Arrays of strings; Lab 7 discussion	7.3, 7.5		
		25	Recursion	8.1, 8.2		
10	12/Mar	26	Bigger Example of Recursion	8.5	Tutorial 7	Lab 7- Game Lab Part 2
		27	Structs - Neuron Example; dynamic allocation of structs	10.1		
		28	Introduction to Linked Lists	8.10, 10.3		
11	19/Mar	29	Operations on Linked Lists	10.4	Tutorial 8	Lab 8 - Linked Lists; Lab 9 released this week
		30	More operations on Linked Lists; Lab 8	10.4		
		31	Searching	9.1, 9.2		
12	26/Mar	32	Sorting 1 - bubble sort, Selection sort;	9.5, 9.4	Tutorial 9	No labs due - work on Lab 9
		33	Sorting 2 - Insertion Sort, QuickSort; Lab 9	9.3, 9.7		
		34	Sorting 3 - Quicksort actual code	9.7		

13	2/Apr	35	Binary Trees and Algorithms (Linked List review)	10.4	Tutorial 10	Lab 9 - Searching and Sorting
		36	Binary Trees and Algorithms	10.7		
		37	Binary Trees and Algorithms, continued	10.7, 10.8		
14	9/Apr	38	Course Review/Exam Discussion		No Tutorial	No Labs
		39	Extra Lecture for LEC0101 and LEC0102			
	Wednesday, April 11, 2018 is the last day of Lectures					
	Friday, March 30 is Good Friday holiday, University closed, LEC0103 and LEC0104 have no lectures on that day					