

EEC120 Teaching/Evaluation Plan

Plan for EEC120 Computer Programming I

Week	Lecture	Laboratory	Notes
Week 01	- Course Introduction - Introduction to Computer Systems - Hardware (CPU, input, output) - Software (Kernel, OS, userspace) - Numbers & Logic - Introduction to Computer Programming - Algorithms: instruction sequencing - Flow-charts: visual representation - Interpreters $\Rightarrow$ scripts - Compiler and Linkers $\Rightarrow$ binary executables	Tools (compiler/IDE) Installation/Setup	[VIDEO GUIDE]???
Week 02	- Introduction to C language - Basic code structure (syntax) - Function and code-block - Simple text display - Creating first executable binary - Syntax (language) and semantic (decision logic) errors - Simple debugging	- Explore building binary from c source code - Explore creating text decorations using symbols	[VIDEO GUIDE]???

Week	Lecture	Laboratory	Notes
Week 03	- C Variables (data storage) 1. data types and sizes - C Operators 1. arithmetic and logic 2. boolean vs bitwise - Data processing 1. equations and tasks 2. (optional) math.h library functions	- Understanding storage types and practical use - Exploring code that does equations/calculations	Assignment 1 Queue
Week 04	- Flow control: Branches (selection) 1. if-else structure 2. switch-case structure 3. (optional) the ?: combo	- Understanding decision making process in code - Exploring code that control program flow	
Week 05	- Flow control: Loops (repetition) 1. for structure 2. while structure 3. do-while structure	- Understanding iterative flow in code - Exploring code that repeats itself	Assignment 1 Due (5%)
Week 06	- C (Data) Array 1. storage in groups 2. accessing array items (content)	- Understanding array as group-storage - Exploring code that process on arrays (read/write)	Lab Assessment 1 (10%)
Week 07	- C String 1. array of chars (null terminated) 2. (optional) string.h library functions	- Understanding string as char array - Exploring code that process on strings (read/write)	Mid-term Examination (20%)

Week	Lecture	Laboratory	Notes
Week 08	- C Pointers - indirect data access (data that holds address to other data) - array name as address - pointers in loops - pointer arithmetic	- Understanding pointers as method for indirect access - Exploring code that deals with (or use) pointers	Assignment 2 Queue
Week 09	- C Functions - function return value - function parameters (extra) data/variable scope and lifetime	- Understanding functions as building block for modular programming - Exploring code that has multiple functions	
Week 10	- File access (permanent storage) - accessing file on secondary memory (i.e. disks) - text vs binary file	- Understanding pros/cons of secondary storage - Exploring code that read/write from/to files	Assignment 2 Due (5%)
Week 11	- Practical Applications - requirements and considerations - C struct - data group - accessing data in struct	Lab Project	Lab Assessment 2 (10%)
Week 12	- Practical Applications (cont.) - requirements and considerations [Extra] use struct to create abstract data type [Extra] creating functions to process struct (towards oop?)	Lab Project (cont.)	

Week	Lecture	Laboratory	Notes
Week 13	• Practical Applications (cont.) ◦ requirements and considerations	• Lab Project (cont.)	
Week 14	• Practical Applications (cont.) ◦ requirements and considerations	• Lab Project (cont.)	Lab Project Due (10%)

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Last update: **2026/08/11 09:11**

