# EEC120 Teaching/Evaluation Plan

| Week | Lecture | Laboratory | Notes |
|---|---|---|---|
| **Week 01** | • Course Introduction (EEC120 Computer Programming I)<br>• Introduction to Computer Systems<br>1. Hardware (CPU, input, output)<br>2. Software (Kernel, OS, userspace)<br>3. Numbers & Logic<br>• Introduction to Computer Programming<br>1. Algorithms: instruction sequencing<br>2. Flow-charts: visual representation<br>3. Interpreters ⇒ scripts<br>4. Compiler and Linkers ⇒ binary executables | • Tools (compiler/IDE) Installation/Setup | • **[VIDEO GUIDE]**??? |
| **Week 02** | • Introduction to C language<br>1. Basic code structure (syntax)<br>2. Function and code-block<br>3. Simple text display<br>• Creating first executable binary<br>1. Syntax (language) and semantic (decision logic) errors<br>2. Simple debugging | • Explore building binary from c source code<br>• Explore creating text decorations using symbols | • **[VIDEO GUIDE]**??? |

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

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| **Week 08** | • C Pointers<br>1. indirect data access (data that holds address to other data)<br>2. array name as address<br>3. pointers in loops<br>4. pointer arithmetic | • Understanding pointers as method for indirect access<br>• Exploring code that deals with (or use) pointers | **Assignment 2 Queue** |
| **Week 09** | • C Functions<br>1. function return value<br>2. function parameters<br>3. (extra) data/variable scope and lifetime | • Understanding functions as building block for modular programming<br>• Exploring code that has multiple functions | |
| **Week 10** | • File access (permanent storage)<br>1. accessing file on secondary memory (i.e. disks)<br>2. text vs binary file | • Understanding pros/cons of secondary storage<br>• Exploring code that read/write from/to files | **Assignment 2 Due (5%)** |
| **Week 11** | • Practical Applications<br>◦ requirements and considerations<br>• C struct<br>1. data group<br>2. accessing data in struct | • Lab Project<br>• (extra) use struct to create abstract data type<br>• (extra) creating functions to process struct (towards oop?) | **Lab Assessment 2 (10%)** |
| **Week 12** | • Practical Applications (cont.)<br>◦ requirements and considerations | • Lab Project (cont.) | |
| **Week 13** | • Practical Applications (cont.)<br>◦ requirements and considerations | • Lab Project (cont.) | |

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| **Week 14** | • Practical Applications (cont.)<br>◦ requirements and considerations | • Lab Project (cont.) | **Lab Project Due (10%)** |

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