**Fall-2019 | Programming Fundamentals**

**Books:**

A: C How to Program

B: Problem Solving and Program Design in C

Note: The chapter can be different due to version difference. Look for the chapter title instead.

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| **Topics Covered** | **Chapter** | **Book** |
| Introduction to Programming, problem modeling | Chapter 1 General Problem-Solving  Concepts:  - Problem Solving in Everyday Life  - Types of Problems | B |
| Flow Chart, Pseudocode, Variables, Constants | Chapter 2: Beginning Problem-Solving  Concepts for the Computer  - Constants and Variables, Data Types  Chapter 3: Planning Your Solution  - Organizing the Solution | B |
| Algorithm Design, Data Types, Format Specifiers, Operators (Relational, Athematic, Logical, Assignment) | Chapter 2: Introduction to Programming | A |
| If, Else, Nested If Else, Switch case, Introduction to Loop (For loop) | Chapter 3: Structured Program Development in C | A |
| Loops, Nested Loop, (Continue and break Keyword) | Chapter 4: C Program Control | A |
| **Mid1** |  | A |
| Functions, Recursion | Chapter 5: Functions | A |
| Introduction to Array (1- dimensional), Multiscript Arrays (2d-Arrays). | Chapter 6: Arrays | A |
| String Functions, Introduction to Structures, Structure array | Chapter 8: C Characters and Strings  Chapter 10: Structures (Introductions) | A |
| File Processing | Chapter 11: C File Processing | A |
| **Mid2** |  | A |
| Introduction to Pointers. | Chapter 7: C Pointers | A |
| Pointers to an array and structures. | Chapter 7: C Pointers | A |
| Double Pointers and void Pointers | Chapter 7: C Pointers | A |
| Dynamic Memory Allocation, Pointers functions | Chapter 7: C Pointers | A |
| **Project Evaluation** |  | A |