

## CC 112- Structured Programming

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**Hour:** Lecture: 2 Hrs.

Tutorial: 2 Hrs.

Credit: 3.

**Coordinator:** Abdelmonem Wahdan

**Text Book:**

- J.Hanly and E. Koffman, "C Program Design for Engineers", Addison Wesley, latest edition

**Specific course information**

- a. An introduction to C-language Programming is provided in this course, Variable/Constant definitions, Basic Programs, Sequential Programming, Conditional Programming, Looping and repetitions, Functions, Arrays as well as searching and sorting techniques.
- b. Prerequisite: CC111
- c. Designation: Required

**Specific goals for the course:**

- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- An ability to design and conduct experiments, analyze and interpret data.
- An ability to use the techniques, skills, and modern engineering tools necessary for mechanical engineering practice

**Course instruction outcomes:**

- The students will be able to perform Structured programming techniques associated with the C-Language, used to program most nowadays systems. Studying their application to practical problems with special emphasis on some practical applications concerning different disciplines.
- The students will learn C-language programming techniques, sequence, selection and repetition control structures, functions, Arrays, sorting and searching techniques.

**Student outcomes:**

B, C, K

**Topics Covered:**

- Overview of Programming and Problem Solving
- C Syntax and Semantics
- I/O Formatting and Arithmetic
- Conditions and Logical Expressions

- Selection Control Structures
- Repetitions (Part 1)
- Repetitions (Part 2)
- Functions (Part 1)
- Functions (Part 2)
- Arrays (Part 1)
- Arrays (Part 2)
- Programming applications – problem solving Tech ( Part 1)
- Programming applications – problem solving Tech( Part 2)

Course / credit hours	Math & Basic Sciences	Engineering Topics	General Education
Structured Programming /3		2	1