Covered Topics

* Overview of C - efficient, portable, power and flexibility, programmer oriented
* Language Features - imperative language, top-down planning, structures programming and modular design
* Advantage of using C - small, fast programs, reliable, easy to learn and understand
* HOw to use a modern, cross-platform integrated Development Environment (Microsoft Visual Studio Code) to write, edit and debug your C code.
* Basic C concepts - structure of a program, comments, output using printf, “Hello World”
* Makefiles - how to build
* Variables - declaring and using them
* Data types - int, float, double, char, etc (as well as enums)
* Basic operators - logical, arithmetic and assignment
* conditional statements - making decisions (id, switch)
* Repeating code - looping (for, while and do-while)
* Arrays - defining and initializing, multi-dimensional
* Functions - declaration and use, arguments and parameters, call by value vs. call by reference
* Debugging - call stack, common mistakes, understanding compiler messages
* Structs - initializing, nested structures, variants
* Character Strings - basics, arrays of chars, character operators
* **Pointers** - definition and use, using with functions and arrays, malloc, pointer arithmetic
* The preprocessor - #define #include
* Input and Output - getchar, scanf
* File input/output - reading and writing to a file, file operations
* Standard C Library - string functions, math functions, utility functions, standard header files

Course Outcomes

* You will able to write beginner C programs
* ou will be able to write efficient, high quality C code

- You will be able to write efficient, high quality C code

- modular

- low coupling

* You will be able to find and fix your errors
* UNderstand compiler messages
* You will understand fundamental aspects of the C programing language
* you will have **FUN**