Ministry of Higher Education
Pkfokam Institute of Excellence
Department of Telecommunication Sciences
Department of Computing and Software Engineering
Course Code: CS1003
Course Name: Introduction to C programming language
Semester: Fall 2017

SYLLABUS

Instructor Information:
Instructor's Name: Mr. Herman MEKONTSO
Email: metchiha@gmail.com
Phone: (+237)693 031 561
Office Hours: By appointment

Lecture Meeting Times:
Normal class: Thursday: 01:00pm – 03:00 pm
Lab: Friday 08:00 am - 11:00 pm

Required course material:

- *Required Text*: C – The Programming Language, Second Edition, Brian W. Kernighan and Denis M. Ritchie, AT & T Bell Laboratories, Murray Hill, New Jersey, PRENTICE HALL, Englewood Cliffs

Pre - requisites: None

Credit Hours: 3-2-3

Course description:
This course provides an introduction to computer science with a focus on structured programming. Topics include an overview of programming, algorithm development, simple data types, arithmetic and logical operators, selection and repetition structures, and arrays, structures and files. The student will be offer a comprehensive C programming course

Course objectives:
After successfully completing this course, students will able to:

1. Accurately use primitive data types and arithmetic expressions in programs.
2. Apply basic procedural programming constructions in program solutions, including logical expressions, selection, repetition, and files
3. Solve programming problems which include array handling, searching, and sorting, handling files
4. Implement basic dynamic data structures like linked list
5. Implement small projects consisting of aggregation of modules implemented in separated files
6. Develop correct, efficient, and documented code.
7. Compile and run programs in the Windows environment.

8. Show proof of mastering of the course through a successful implementation of a project

How to Succeed in this Class:
Here are five things you can do that will greatly improve your chances of making a satisfactory grade in this class:

- ***Read the syllabus:*** It is a lot of trouble to prepare so detailed a syllabus. You should assume I had a reason for it. You should read every word in the syllabus before the second class. I will not be sympathetic to complaints that you didn't understand something about the course if it's written down in the syllabus.
- ***Read the textbook*****:** You will get a lot more out of this class, and so be able to give back more on the assignments and examinations, if you read the assigned parts of the textbook before class. In my experience, students who don't complete the reading before class either never complete it or try to cram it all in just before the exams. That doesn't work.
- ***Come to class:*** Participation forms a part of your course grade. Furthermore, if you miss class, you are missing an opportunity to have things that may not be clear explained to you, to ask me questions, and to interact with your colleagues and me. If classes weren't important, we wouldn't have them. **You are allowed to write tests and exams only if you have attended to at least 75% of classes.**
- ***Do the homework:*** You cannot pass the course without doing at least most of the homework. The homework assignments build upon one another. If you get behind, you will find it very difficult to catch up.
- ***Allow enough time:*** More unsatisfactory grades are due to procrastination than any other cause. Do not assume that you can complete the homework and reading assignments in the thirty minutes before class; you cannot. The most successful students complete this work the weekend before it is due.
- Collaboration with your classmates in studying and understanding the material is part of the collegiate experience, and is strongly encouraged. Collaboration on written assignments is permitted and encouraged, but each student must turn in work written in his or her own words. Copying another's work will be considered cheating; all students involved will receive a grade of zero, a reduction in the course grade, and possibly other penalties including failure of the course and dismissal from the Institute. Unless you are specifically advised otherwise by the instructor, any work submitted for credit must be completely the work of the individual student.
- Collaboration or cheating on examinations will result in a grade of zero, a reduction in the course grade, and possibly other penalties including failure of the course and dismissal from the University. Plagiarism, fabrication, or other academic misconduct will result in a grade of zero, a reduction in the course grade, and possibly other penalties, including failure of the course and dismissal from the Institute.

WHAT I EXPECT FROM YOU:

- ✓ You will be in your seats at the start of the class period.
- ✓ You will remain in class for the full period.
- ✓ You will keep cell phones and other gear quiet.
- ✓ Only one person will talk at a time.
- ✓ If you bring food, bring enough for everyone!
- ✓ You will prepare for each session by having done the assigned reading.
- ✓ You will do your own work. There are severe penalties for cheating.

- ✓ You will complete your work on time.

WHAT YOU MAY EXPECT FROM ME

- ✓ I will be in class on time, every time.
- ✓ I will be prepared to cover the scheduled material thoroughly.
- ✓ Your work will be graded and returned promptly; generally within two weeks for work submitted on time.
- ✓ I will listen respectfully to your opinions.
- ✓ I will answer your questions promptly and carefully; if I do not know an answer, I'll find out.
- ✓ I will help you succeed.

Grading plan

The percentage weight for each element of the course is as follow:

Subject	Percentage
Assignments	10%
Test 1	25%
Test 2 (Midterm)	
Test 3	
Class participation	10%
Lab and Projects	20%
Quizzes	15%
Final Exam	20%

Grading scale

GRADE	**SCORE**
A	[90;100]
B	[80;90[(Passing grade)
C	[70;80[
D	[60;70[
F	[0;60[

Course Outlines:

Chapter 0: Introduction to algorithm

Chapter 1: A Tutorial Introduction to the C programming language

1.1 Getting Started
1.2 Variables and Arithmetic Expressions
1.3 The For Statement
1.4 Symbolic Constants
1.5 Character Input and Output
1.6 Arrays
1.7 Functions
1.8 Arguments – Call by value

5.9 Pointers vs. Multi-dimensional Arrays
5.10 Command-line Arguments
5.11 Pointers to Functions
5.12 Complicated Declarations

Chapter 6: Structures

6.1 Basics of Structures
6.2 Structures and Functions
6.3 Arrays of Structures
6.4 Pointers to Structures
6.5 Self-referential Structures
6.6 Table Lookup
6.7 Typedef
6.8 Unions
6.8 Bit-fields

Chapter 7: Input and Output

7.1 Standard Input and Output
7.2 Formatted Output –Printf
7.3 Variable-length Argument Lists
7.4 Formatted Input – Scanf
7.5 File Access
7.6 Error Handling – Stderr and Exit
7.7 Line Input and Output
7.8 Miscellaneous Functions

Chapter 8: Linked lists

7.1 Defining a linked list
7.2 Creating a linked list
7.3 Traversing a linked list
7.4 Inserting a data into a linked list
7.5 Updating a linked list
7.6 Deleting an element from a linked list

Tentative Class Calendar

Week	**Thursday**	**Friday**
1	Syllabus presentation	Ch0 Intro to algorithm
2	Ch0 Intro to algorithm (cont) **Ass 1 out**	Ch0 Intro to algorithm (cont) Quizz
3	Ch0 Intro to algorithm (cont) **Ass 1 in Ass 2 out**	Ch0 Intro to algorithm (cont)
4	Ch0 Intro to algorithm (cont) **Ass 4 in Ass 5 out**	**Test 1**
5	Programming Activity 1: Setting the programming environment. - Installing and configuring programming tools	Programing Activity 1 (Cont): - Overviewing and experiencing Primitive data types - Overviewing and experiencing

	- Structure of a C program - Writing and testing the first program (helloWorld!!)	operations on primitive data types
6	Programming activity 2: Control Flow - Selection statements - Loops	Programming activity 3: Defining and using objects in C. - Defining objects - Declaring and using objects (part 1)
7	Programming Activity 4: arrays, strings - Arrays definition, declarations and uses - String handling - The string.h library	**Test2**
8	Programming Activity 5: Pointers - What is a pointer? - Arrays as pointers - Strings as pointers - Operations on arrays - Operations on strings	Programming Activity 6: Linked list operations - Defining a linked list - Creating a linked list - Traversing a linked list - Inserting a data into a linked list - Updating a linked list - Deleting an element from a linked list
9	Quizz	Programming Activity 7: Sub programs - Defining a sub program - Declaring a subprogram - Calling (invoking a subprogram) - Experiencing with simple and complex arguments
10	Programming Activity 8: File handling in C: - Opening a file - Closing a file - Writing in a file - Appending data in an existing file - Reading from a file - Examples with array and linked lists	**Quizz**
11	Programming Activity 9: Multiple file programming in C: - Defining data types and declaring functions in header files - Including files and using functions from other files - Implementing in .c files, functions declared in header files - Writing a main program combining functions defined in other files - Compile and run on command line a program written in separated files.	**Test 3**
12	Programming Activity 10: More on arrays Manipulation:	Quiz

13	Projects	Projects
14		
15		
16		
17		
18		

Assignment Policies:
When turning in your assignments, **it must start with a cover sheet** followed by the program listing (source code with comments), followed by the output. All assignments must be stapled, in a binder or otherwise fastened together. Program assignments will be graded heavily for correct results, but emphasis will also be placed upon accurate and neat documentation as well as effective and proper use of the C language.

All programming assignments must include the student's name and the assignment number. Remember that everyone is working on the same lab…without your name. We don't know whose it is! We need the front page from your lab assignment, followed by what is required for each lab. For each set of partners we only need 1 copy of the lab.

Cover Sheet:

Name: _____

Introduction to the C-programming language

Assignment #_____

Instructors: M. Mekontso

Honor Pledge

On my honor as a student, I have neither ***given*** nor ***received*** unauthorized aid on this assignment.

Signed _____