University of Asia Pacific (UAP)
Department of Computer Science and Engineering (CSE)

Course Outline

Program:	B.Sc. in Computer Science and Engineering (CSE)
Course Title:	Computer Fundamentals and Programming Lab
Course Code:	CSE 102
Semester:	Fall 2024
Level:	1st Year 1st Semester
Credit Hour:	1.5
Name & Designation of Teacher:	Asma Mariam, Lecturer Faria Zarin Subah, Lecturer
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Rationale:	This is a core course in the Bachelor of Computer Science and Engineering Program, which will help the students understand the fundamentals of computer and programming. The objectives of the course are to gain a basic knowledge of computer hardware and software, basic C programming, and implementing codes to solve problems.
Prerequisite:	None
Course Objective:	1. To gain confidence in using a computer for composing documents and communicating with the internet. 2. To learn the basic syntaxes and functionalities of C Programming Language
Course Synopsis:	

Computer Hardware: mouse, keyboard, monitor, CPU, printer, scanner, router, modem, memory, RAM; **Application Software:** Word Processing Software, Spreadsheet Software, Presentation Software, **Programme Planning Tools:** flowcharts, algorithms, pseudocodes; **Introduction to Programming:** basic input-output, data types, constants and variables; operators and expressions; type conversion; **Decision making:** branching and selection structures; if-else and switch statements, conditional operators; **Repetition and Loop Statements:** for loop, while loop, do-while loop, branching and looping, loop nesting; **Arrays:** introduction to arrays.

Course Learning Outcomes (CLO) and their mapping with Program Learning outcomes (PLO) and Teaching-Learning Assessment methods:

CLO No.	CLO Statements: Upon successful completion of the course, students should be able to:	Corresponding PLOs (Appendix-1)	Bloom's taxonomy domain/level (Appendix-2)	Delivery methods and activities	Assessment Tools
CLO1	**Create** documents, presentations and spreadsheets using related tools	e	Apply	Lecture, Practice sessions	Lab evaluation, assignments, presentation
CLO2	**Design** algorithms and flowcharts of problem solutions	c	Apply	Lecture, Problem Solving, Practice sessions	Lab evaluation, problem solving
CLO3	**Develop** simple C programs using, data types, operators, conditionals and loops	c	Apply	Lecture, Problem Solving, Practice sessions	Lab evaluation, problem solving

Weighting CLOs with Assessment methods:

Assessment Type	% weight	CLO1	CLO2	CLO3
Final Examination	**25%**			25
Continuous Evaluation: Class performance, Problem Solving Sessions, Presentation, Lab report	**75%**	55	20	
Total	**100%**	55	20	25

Teaching-learning and Assessment Strategy: Lectures, assignments, quizzes, exams Presentation

Lecture Schedule

Weeks	Topics / Content	CLO	Delivery methods and activities	Additional Materials
1	Basic introductory class	CLO1	Lecture, multimedia	Tutorial materials
2	Microsoft Word (Text basics, Formatting texts and paragraph, Proofing features, Modifying page layout)	CLO2	Lecture, multimedia, practice problem	Tutorial materials
3	Microsoft Word (Working with tables, Creating table of contents, logos, CV, etc., Inserting illustrations, header, footer, add-ins, links, comments, equations, Insert citations and bibliography) Lab Test on MS Word	CLO2	Lecture, multimedia, practice problem	Tutorial materials
4	Microsoft Powerpoint (Slide creation, Slide Design and Animation. Transition, Slideshow, etc.)	CLO2	Lecture, multimedia, practice problem	Tutorial materials
5	Microsoft Powerpoint (group presentation)	CLO2	Lecture, multimedia, practice problem	Tutorial materials

6	Microsoft Excel (demonstration)	CLO2	Lecture, multimedia, practice problem	Tutorial materials
7	Microsoft Excel (lab test)	CLO2	Lecture, multimedia, practice problem	Tutorial materials
8	Computer component and command prompt	CLO1	Lecture, multimedia,	Tutorial materials
			practice problem	
9	Introduction to C Programming: (input-output, data types, constants and variables; operators and expressions; type conversion) Lab test on computer component and command prompt	CLO4	Lecture, multimedia, practice problem	Tutorial materials
10	C programming (project update + exercise + new topic) i/o & operator	CLO4	Lecture, multimedia,	YouTube Playlist
11	C programming (project update + exercise + new topic) conditional	CLO3	Lecture, multimedia,	Tutorial Notebook
12	C programming (project update + exercise + new topic) loop	CLO3	Lecture, multimedia, practice problem	Slide
13	C programming (project update + exercise + new topic) array	CLO4	Lecture, multimedia, practice problem	Slide
14	**C Programming project (calculator) final submission**			

Minimum attendance: 70% class attendance is mandatory for a student in order to appear at the final examination.

Required References:

Teach Yourself C
- Herbet Schildt

#Structured C/C Plus Plus Programming
- Dr. Mohammad Kaykobad

Esho Programming Shikhi
- Tamim Shariar Subeen

Recommended References:

Grading System: As per the approved grading scale of University of Asia Pacific

(Appendix-3).

Special Instructions:

Late attendance: Students who will enter the class after the attendance call will be marked as absent.

Assignment: **Unfinished** work should be submitted as an assignment. **Additional** assignments may be given as needed. Copied homework will be graded as zero. Late submission will result in a 50% deduction in score.

Student's responsibilities: Students must come to the class prepared for the course material covered in the previous class (es).
They must submit their assignments on time.

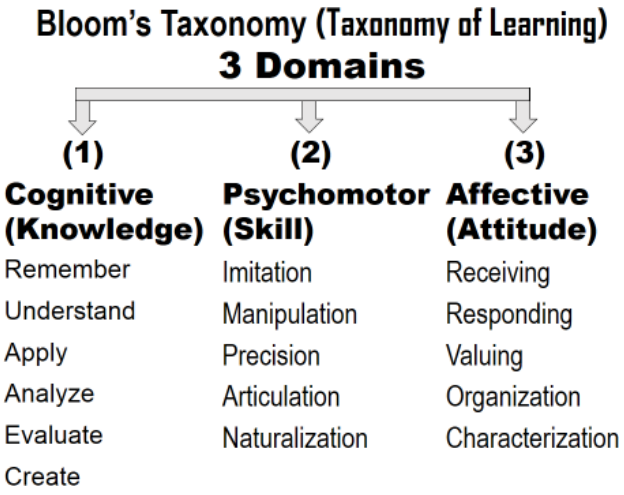
Prepared by (Course Teacher)	**Checked by** (Chairman, PSAC committee)	**Approved by** (Head of the Department)

Appendix-1:

Washington Accord Program Outcomes (PO) for engineering programs:

PLO	Differentiating Characteristic
a	Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialization as specified in K1 to K4 respectively to the solution of complex engineering problems
b	Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. (K1 to K4)
c	Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations. (K5)
d	Conduct investigations of complex problems using research-based knowledge (K8) and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.
e	Create, select and apply appropriate techniques, resources and modern engineering and IT tools, including prediction and modeling, to complex engineering activities with an understanding of their limitations.
f	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems. (K7)
g	Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts. (K7)
h	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice. (K7)
i	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
j	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
k	Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
l	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Appendix-2



Appendix-3

UAP Grading Policy:

Numeric Grade	Letter Grade	Grade Point
80% and above	A+	4.00
75% to less than 80%	A	3.75
70% to less than 75%	A-	3.50
65% to less than 70%	B+	3.25
60% to less than 65%	B	3.00
55% to less than 60%	B-	2.75
50% to less than 55%	C+	2.50
45% to less than 50%	C	2.25
40% to less than 45%	D	2.00
Less than 40%	F	0.00