هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Computer Essential**
Course Code:	**191CSC**
Program:	**MMET, EPET, CHET**
Department:	**Basic Sciences and Supporting Studies**
College:	**College of Applied Industrial Technology**
Institution:	**Jazan University**
Version:	**T-104-2022**
Last Revision Date:	**2023**

Table of Contents:

A. General information about the course:

Course Identification					
1. Credit hours:	1				
2. Course type					
a.	University ☐	College ☐	Department☒	Track☐	Others☐
b.	Required ☒	Elective☐			
3. Level/year at which this course is offered: 1st Level/ 1st Year					
4. Course general Description This course introduces the fundamental concepts and features of Computer. It includes the basics of computer hardware, software, input/output devices, computer network, computer user/client, computer architecture, programming, data representation, advantages and applications. This course also covers C++ programming language. This is an introductory course designed for any student interested in using computation to enhance their problem-solving abilities. Students will use their problem-solving abilities to implement basic programs in C++.					
5. Pre-requirements for this course (if any): None					
6. Co- requirements for this course (if any): None					
7. Course Main Objective(s) ***a)*** *Discuss the Basic Hardware and Software components of a Personal Computers and their applications.* ***b)*** *Explain the Basic Fundamentals of Data representation, Algorithms, Flowcharts and computer programming languages.* ***c)*** *Explain the fundamentals of C++ programming.* *Explain the use of procedural statements - assignments, conditional statements, loops, iterations, strings and lists*					

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	24	100
2.	E-learning		
3.	Hybrid • Traditional classroom • E-learning		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	-
2.	Laboratory/Studio	24
3.	Field	-
4.	Tutorial	-
5.	Others (specify)	-
	Total	24

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	**Describe** the major components of a personal computer, including input, output and process, storage, communications hardware and describe their functionalities.	K12	Lecture, active learning, discussion	Quizzes, Assignments, & exams
1.2	**Define** the fundamentals of Programming.	K12	Lecture, active learning, discussion	Quizzes, Assignments, & exams
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Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.0	Skills			
2.1	**Apply** various number system concepts and solve number system conversion problems.	S12	Lecture, active learning, discussion	Quizzes, Assignments, & exams
2.2	**Design** algorithms and flowchart for a basic given problem.	S22	Lecture, active learning, discussion	Quizzes, Assignments, & exams
2.3	**Develop** a program to solve a given problem using the language syntax and semantics.	S22	Lecture, active learning, discussion	Quizzes, Assignments, & exams
3.0	Values, autonomy, and responsibility			
3.1	**Ability** to work in a team to solve a given problem.	V22	Class room activities	Class room activities
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C. Course Content

No	List of Topics	Contact Hours
1.	**Introduction to the Computer Hardwares** What is a Computer? Hardware Data vs. Information, Software, Computer Users, End users, Programmers, Computer categories.	5
2.	**Computer Digital and Numeric System** Data and Program Representation, Digital Data Representation, Byte, Bit, Bit pattern, Data Types, Data representation: Coding Systems for Text-Based Data, Image representation methods, Audio representation, and Video representation. The Binary Numbering System: Binary Number, Decimal Number, Hexadecimal Number, Octal Number, Binary to Decimal Conversion, Decimal to Binary Conversion, Inside the System Unit, The Motherboard, The CPU, Memory.	6
3	**Computer Software and Internet** System Software, Application Software, Utility Software, Internet Browsers, Cookies, Ethical Hacking, Plugins, MS word.	6
4	**Programming** Algorithms, Flowchart, Pseudo Codes, Programming Languages, Machine Languages, Low Level Languages, High Level Languages, and Natural Languages	5

5	**Revision**	2
Total		24

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Mid Term	7th Week	20%
2.	Assignment	8th Week	10%
3.	Lab Exam	10th-11th Week	20%
4	Self Study Report	11th Week	10%
5	Final Exam	As scheduled	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	• Understanding Computers Today and Tomorrow, Deborah Morley, Charles S. Parker, Course Technology, Cengage Learning, 15th Edition, 2015, ISBN: 9781285767277. • Programming with C++, John R. Hubbard, Second Edition, Schaum's Outline Series, McGRAW HILL, ISBN 0-07-135346-1.
Supportive References	• C++ Programming: A step-by-step Beginner's Guide to Learn the Fundamentals of A Multi-Paradigm Programming Language and Begin to Manage Data including… First Program (Computer Science), Kindle Edition, Author: Alen Grid, Copyright 2020, ISBN: 97988673272497. • C++ Primer (5th Edition), Stanley Lippman, Jose Lajoie, Barbara Moo, Publisher: Addison-Wesley, Pearson Education, Canada, ISBN-13-978-0-321-71411-4; ISBN-10-0321-71411-3 • Effective Morder C++: 42 Specific ways to improve your use of C++11 and C++14 (1st Edition), Author: Scott Meyers, Publisher: O'Reilly, ISBN: 978-1-491-90399-5.
Electronic Materials	*Audio/ Video*
Other Learning Materials	Not utilized

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Available
Technology equipment (projector, smart board, software)	Available
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Class Teacher	Quiz, Test, Exam
Effectiveness of students assessment	Class Teacher	Servey
Quality of learning resources	Institution	Online Direct Survey
The extent to which CLOs have been achieved	Course Coordinator	Direct Survey
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	Electrical Engineering Technology (EET)
REFERENCE NO.	CAITEET23031
DATE	3 09 2023