1. Teaching Institution	UNIVERSITY OF TECHNOLOGY BAHRAIN		
2. Department/Domain	COLLEGE OF COMPUTER STUDIES – DEPARTMENT OF COMPUTER SCIENCE		
3. Course Code	**CSIT611/IENF611/ CENG411/ CSCI617 / CSCI411**	**Course Title**	**Introduction to Computing**
Course Description	This course covers a detailed knowledge and understanding of basic IT infrastructure. Students will gain proficiency in articulating the concept of preventive maintenance, identifying relevant resources, and discussing common challenges associated with computers. Additionally, the curriculum provides an overview of major operating systems, including Windows, Linux, and Mac OS, covering topics such as hardware administration, resource allocation, data management, and graphical user interface design. Furthermore, it ensures thorough coverage of five domains, with mobile devices, networking, hardware, virtualization and cloud computing, and hardware and network troubleshooting.		
4. Programme(s) to which it contributes	Bachelor of Science in Computer Science		
5. Modes of Attendance offered	Actual classroom learning interactive		
6. Year / Trimester in the Curriculum Plan	1st Year Level, 1st Trimester		
7. NQF Level	Level 6		
8. Number of Notional hours	90 notional hours (56 Contact Hours, 26 Directed Learning, 8 Independent Learning)		
9. Total Credit Units (Equivalent NQF Credit)	9 NQF Credits		
10. Date of production/revision	September 2023		

11. Learning Outcomes, Teaching, Learning and Assessment Methods

Course Intended Learning Outcomes

C1. Identify potential hardware and infrastructure requirements of a computer systems.
C2. Analyze and discuss common challenges associated with computer hardware and related components.
C3. Explain the fundamental concepts, technologies, and best practices associated with mobile devices, networking, hardware, virtualization, and cloud computing.
C4. Apply troubleshooting skills and identify issues, apply appropriate diagnostic tools and techniques, and implement solutions to resolve issues efficiently.

12. Infrastructure

Textbook	1. Kevin Wilson, Computer Fundamentals: The Step-by-step Guide to Understanding Computers, 2021 2. Kevin Wilson, Essential Computer Hardware Second Edition: The Illustrated Guide to Understanding Computer Hardware (Computer Essentials), 2019 3. A.B. Chaudhuri, Flowchart and Algorithm Basics: The Art of Programming, 2020 4. Discovering Computers fundamentals. Shelly Cashman, 2011 Edition

	5. Computers Are Your Future. Catherine LaBerta. 12th Edition.
References	1. Understanding Computers: Today and Tomorrow. Deborah Morley & Charlie S. Parker, 16th E., 2017 2. (e-book)Computing Fundamentals: Introduction to Computers; 978-1-119-03962-4; NOV 2014
Other Suggested Readings (e.g. related research, periodicals, articles, websites, IT applications/software, etc.)	1. https://www.readanybook.com/search?q=cloud%20computing 2. https://www.readanybook.com/search?q=Virtualization%20and%20Cloud%20Computing 3. https://z-lib.io/s/Hardware? 4. https://www.readanybook.com/search?q=Hardware%20and%20Network%20Troubleshooting 5. https://www.readanybook.com/search?q=CompTIA%20A+

13. Admissions			
Pre-requisites	None		
Minimum number of students	8		
Maximum number of students	25		
14. Grading System			
Assessment Type	**Weight %**	**% Grade Distribution**	**Schedule (Week No.)**
Assignment/Homework	**1**	**20%**	5
Midterm exam	**1**	**20%**	7
Lab Project	**1**	**20%**	8
Final Exams (Lab)	**1**	**20%**	12
Final Exams (Lec)	**1**	**20%**	14
	Total	**100%**	

Week	Hours Lec/Lab	Unit / Module or Topic	Title Course Intended Learning Outcomes (CILOs)	Teaching Method	Assessment Method
1	Lec 1	**General Orientation**			
	Lab 1	**Class Introduction** (Purpose, Scope, and Course Organization)			
2	Lec 2	**Hardware – part 1** - Personal computers & Safety procedures - Troubleshooting methodology - Cable Types - CPU Architecture & Sockets & Features - Expansion Card Types	C1 C2	Active and Engaged Learning Problem-based learning Collaborative learning	Assignment Midterm exam Final Exam
	Lab 2	**Computer Essentials** - Software and Licensing - Start Up, Shut Down - Desktop and Icons - Using Windows - Tools and Settings	C4	Discovery-based learning	Lab Report Lab Exam
3	Lec 3	**Hardware – part 2** - Cooling the System & Liquid Cooling - Power Supply Unit (PSU) - Input and Output Voltages - System Memory - Addressing Memory - Multi-Channel Memory - ECC Memory - Virtual Memory	C1 C2	Active and Engaged Learning Problem-based learning Collaborative learning	Assignment Midterm exam Final Exam

Week	Hours Lec/Lab	Unit / Module or Topic	Title Course Intended Learning Outcomes (CILOs)	Teaching Method	Assessment Method
	Lab 3	**Computer Essentials** - Working with Text - Printing - Introducing Files and Folders - Organizing Files and Folders	C4	Discovery-based learning	Lab Report Lab Exam
4	Lec 4	**Hardware – part 3** - The Operating System - Exploring Popular Operating system - Stand-Alone Operating Systems - System Utilities: Housekeeping Tools	C1 C2	Active and Engaged Learning Problem-based learning Collaborative learning	Assignment Midterm exam Final Exam
	Lab 4	**Word Processing** - Working with Documents - Enhancing Productivity - Enter Text - Select and Edit	C4	Discovery-based learning	Lab Report Lab Exam
5	Lec 5	**Networking – part 1** - What is the Internet and How Does it work? - Accessing the Internet - The internet and the Web - Content on the Web - Finding information on the Web - Using Information from the Web - Exploring Internet Services - E-Commerce	C3 C2	Active and Engaged Learning Problem-based learning Collaborative learning	Assignment Midterm exam Final Exam

Week	Hours Lec/Lab	Unit / Module or Topic	Title Course Intended Learning Outcomes (CILOs)	Teaching Method	Assessment Method
	Lab 5	**Word Processing** - Text - Paragraphs - Styles - Table Creation - Table Formatting - Graphical Objects	C4	Discovery-based learning	Lab Report Lab Exam
6	Lec 6	**Networking – part 2** - Networking Hardware - Network Types - Internet of Things - Characteristics of the Cloud - Cloud Storage Services	C3	Active and Engaged Learning Problem-based learning Collaborative learning	Assignment Midterm exam Final Exam
	Lab 6	**Spreadsheets** - Working with Spreadsheets - Enhancing Productivity - Insert, Select - Edit, Sort - Copy, Move, Delete	C4	Discovery-based learning	Lab Report Lab Exam
7	1.5	**Midterm Exam**	C1 C2 C3		**Midterm Exam**

Week	Hours Lec/Lab	Unit / Module or Topic	Title Course Intended Learning Outcomes (CILOs)	Teaching Method	Assessment Method
8	Lec 8	**Networking - part 3** - File and Print Servers - Web Servers - Email Servers - AAA Servers - Network Monitoring Servers	C3	Active and Engaged Learning Problem-based learning Collaborative learning	Final exam
	Lab 8	**Spreadsheets** - Rows and Columns Worksheets - Arithmetic Formulas - Functions	C4	Discovery-based learning	Lab Report Lab Exam
9	Lec 9	**Mobile Devices – part 1** - Mobile Devices Components - Mobile Display Types - Mobile Device Accessories - Mobile Device Synchronization - Working with Application software - Business Software - Graphics and Multimedia Software	C3	Active and Engaged Learning Problem-based learning Collaborative learning	Final exam
	Lab 9	**Spreadsheets** - Numbers/Dates - Contents - Alignment, Border Effects & Create &Edit	C4	Discovery-based learning	Lab Report Lab Exam

Week	Hours Lec/Lab	Unit / Module or Topic	Title Course Intended Learning Outcomes (CILOs)	Teaching Method	Assessment Method
10	Lec 10	**Mobile Devices – part 2** - Software for Home, Personal, and Education - Application Software for communication - Learning and support tools for application Software - Computer Security Risks - Internet and Network Attacks - Unauthorized Access and Use - Hardware Theft and Vandalism - Software Theft	C1	Active and Engaged Learning	Final exam
			C2	Problem-based learning Collaborative learning	
	Lab 10	**Word Processing Project Revision**	C4	Discovery-based learning	Lab Report Lab Exam
11	Lec 11	**Hardware & Network Troubleshooting** - Troubleshooting Methodology - Troubleshooting Hardware Issues - Troubleshooting Networks	C4	Discovery-based learning	Lab Report Lab Exam
	Lab 11	**Spreadsheets Project Revision**	C4	Discovery-based learning	Lab Report Lab Exam
12	Lec 12	**Communications and Networks** - **Uses of Computer Communications Networks** - **Communications Software & Devices** - **Home Networks**	C4	Discovery-based learning	Lab Report Lab Exam

Week	Hours Lec/Lab	Unit / Module or Topic	Title Course Intended Learning Outcomes (CILOs)	Teaching Method	Assessment Method
12	2	**Laboratory Examination (Final)**	**C4 Laboratory Examination (Final)**		• **Laboratory Examination (Final)**
13	2	**Final Revision (Lecture Exams)**	**Final Revision (Lecture Exams)**		• **Final Revision (Lecture Exams)**
14	2	**C1 C2 C3**	**Written Examination (Final)**		• **Written Examination (Final)**

15. Mapping of CILOs to NQF Level Descriptors:

COURSE INTENDED LEARNING OUTCOMES (CILOs)	NQF Level: Knowledge		NQF Level: Skills		NQF Level: Competence
	Theoretical Understanding	Practical Application	Generic Problem Solving & Analytical Skills	Communication, ICT & Numeracy	Autonomy, Responsibility & Context
C1. Identify potential hardware and infrastructure requirements of a computer systems.	✓				
C2. Analyze and discuss common challenges associated with computer hardware and related components.			✓		✓
C3. Explain the fundamental concepts, technologies, and best practices associated with mobile devices,	✓			✓	

15. Mapping of CILOs to NQF Level Descriptors:

COURSE INTENDED LEARNING OUTCOMES (CILOs)	NQF Level: Knowledge		NQF Level: Skills		NQF Level: Competence
	Theoretical Understanding	Practical Application	Generic Problem Solving & Analytical Skills	Communication, ICT & Numeracy	Autonomy, Responsibility & Context
networking, hardware, virtualization, and cloud computing.					
C4. Apply troubleshooting skills and identify issues, apply appropriate diagnostic tools and techniques, and implement solutions to resolve issues efficiently		✓			✓

16. Mapping of CILOs to Course Objectives and Student Outcomes /Programme Intended Learning Outcomes:

COURSE INTENDED LEARNING OUTCOMES (CILOs)	PROGRAMME INTENDED LEARNING OUTCOMES	
Upon successful completion of the course, the student will be able to:	PILO 1	PILO 2
C1. Identify potential hardware and infrastructure requirements of a computer systems.	✓	
C2. Analyze and discuss common challenges associated with computer hardware and related components.	✓	
C3. Explain the fundamental concepts, technologies, and best practices associated with mobile devices, networking, hardware, virtualization, and cloud computing.	✓	
C4. Apply troubleshooting skills and identify issues, apply appropriate diagnostic tools and techniques, and implement solutions to resolve issues efficiently	✓	✓

Prepared by:	Reviewed and endorsed by:	Approved by:
Course Coordinator Date:	Programme Head Date:	Dean Date :