National University of Sciences & Technology (NUST)
School of Electrical Engineering and Computer Science (SEECS)
Department of Computer Science

CS-100 Fundamentals of ICT

Course Code:	CS-100	**Semester:**	1st
Credit Hours:	2+1	**Prerequisite Codes:**	NA
Instructor:	Muhammad Muneeb Ullah	**Class:**	BESE-5 (A&B)
Office:	B-204 (IAEC)	**Telephone Ext:**	2163
Lecture Days:	Tuesday, Wednesday	**E-mail:**	muneeb.ullah@seecs.nust.edu.pk
Class Room:	CR # 1 & 2	**Consulting Hours:**	Thursday, 10am-12pm
Lab Engineer:	Ms. Iram Tariq Bhatti	**Lab Engineer Email:**	iram.tariq@seecs.edu.pk
Knowledge Group:	Computing Support	**Updates on LMS:**	After every lecture/lab

Course Description:

This is an introductory course on Information and Communication Technologies (ICT). The course will cover some basic concepts essential to lay the foundations for further studies in Computer Science.

Course Objectives:

The aim is to familiarize the students with fundamental terms and concepts associated with ICT. Moreover, the students will acquire hands-on experience in lab using some essential tools, such as MS Word/Excel/PowerPoint, Web Browser, E-mail Client, etc.

Course Learning Outcomes (CLOs):

At the end of the course, the students will be able to:	BT Level*
1. **Identify** and **describe** details about the basic components of a computer.	C-1
2. **Explain** the fundamental concepts related to data processing and storage.	C-2
3. **Explain** the fundamental concepts related to operating systems.	C-2
4. **Describe** and **explain** the fundamental concepts related to internet and computer networks.	C-1, C-2

5. **Describe** the fundamental concepts related to computer programming and databases.	C-1
6. **Usage** of modern day ICT tools like MS Word, MS Power Point and MS Excel.	C-3
* BT= Bloom's Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain *Remembering (C-1), Understanding (C-2), Applying (C-3), Analyzing (C-4), Evaluating (C-5), Creating (C-6)*	

Mapping of CLOs to Program Learning Outcomes

PLOs/CLOs	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO 1 (Engineering Knowledge)	X	X	X	X	X	
PLO 2 (Problem Analysis)						
PLO 3 (Design/Development of Solutions)						
PLO 4 (Investigation)						
PLO 5 (Modern tool usage)					X	
PLO 6 (The Engineer and Society)						
PLO 7 (Environment and Sustainability)						
PLO 8 (Ethics)						
PLO 9 (Individual and Team Work)						X
PLO 10 (Communication)						
PLO 11 (Project Management)						
PLO 12 (Lifelong Learning)		X	X	X	X	

Mapping of CLOs to Assessment Modules and Weightages (In accordance with the NUST statutes)

To be filled in at the end of the course.

Assessments/CLOs	Details	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Theory: 67 %	Quizzes: 10 %						
	Assignments: 10 %						
	OHT-1: 15 %						
	OHT-2: 15 %						
	End Semester Exam: 50 %						
Labs: 33 %	Lab Tasks and Viva: 60%						
	Topic Presentations: 10%						
	Project: 20%						
	Final: 10%						
	Total : 100 %						

Books:	
Text Book:	1. "Introduction to Computers", Peter Norton, 7th Edition, 2013, McGraw-Hill.
Reference Books:	1. "Computing Essentials", Timothy O'Leary and Linda O'Leary, 2010, McGraw-Hill. 2. "Using Information Technology: A Practical Introduction to Computers & Communications", Williams Sawyer, 6th Edition, 2005, McGraw-Hill.

Week	Lecture Topic (Tentative)	
01	Introducing Computer Systems	
02	Computer System Components	
03	Computer System Components	
04	Processing Data	
05	Storing Data	
06	Operating Systems	
07	**OHT-1**	

08	Operating Systems	
09	Computer Networks & Data Communication	
10	Computer Networks & Data Communication	
11	The Internet	
12	**OHT-2**	
13	Software Programming and Development	
14	Database Management	
15	Advanced Topics	
16	Advanced Topics	
17	Final Presentations	
18	**End Semester Exam**	

Lab Experiments (Tentative)	
01	Computer Parts & Operating System
02	The Internet & Search Engines
03	Microsoft Word - Part I
04	Microsoft Word - Part II
05	Microsoft PowerPoint - Part I
06	Microsoft PowerPoint - Part II
07	Microsoft Excel - Part I
08	Microsoft Excel - Part II
09	Flow Chart/Pseudo Code
10	Microsoft Access
11	Introduction to Networking
12	HTML
13	Google Docs and Surveys

Tools / Software Requirement:
Microsoft Office

Grading Policy:	
Quiz Policy:	The quizzes may be unannounced and normally last for ten minutes. The question framed is to test the concepts involved in last few lectures.
Assignment Policy:	The course website will be the primary source for announcements and submitting assignments.
Lab Conduct:	The labs will be conducted for three hours every week. The lab handouts will be shared on LMS. The students are required to submit their lab tasks at the end of lab for evaluation. One submission per group will be required. However, students may also be evaluated by oral viva during the lab.
Plagiarism:	Collaboration and group wok is encouraged but each student is required to submit his/her own contribution(s). Your writings must be your own thoughts. You must cite and acknowledge all sources of information in your assignments. Cheating and plagiarism will not be tolerated and will lead to strict penalties including zero marks in assignments as well as referral to the Dean for appropriate action(s).