Department of Computer Science and Engineering
Lesson Plan

Course Title: Computer Fundamental and Ethics
Course Code: CSE 1111
Year/Semester: 1/1
Contact Hours: 42
Credit: 1.5
Course Type: Core
Prerequisite: None
Status: Sessional (Seminar)
Session: Spring 25

Instructor: Asma Joshita Trisha
Class schedule: As per the routine

Course Rationale:
To introduce the most-up-to-date technology in an ever-changing discipline..

Course Learning Outcomes (CLOs):
Upon successful completion of this course, students will be able to

CLO1 **Identify (C1)** the roles and functions of major components, including the central processing unit, memory, storage devices, input/output devices, and their interconnections.

CLO2 **Interpret (C2)** various types of software, including operating systems, application software, and business software, and their roles in computer systems and business operations

CLO3 **Define (C1)** trending technologies like Communication and Networking, Internet and WWW, Internet services, social networking, Artificial Intelligence, Machine learning, IOT, Robotics, Cloud computing, and their applications

CLO4 **Demonstrate (C2)** different numeric and character representations used in data display, Exchange and storage.

CLO5 **Articulate and Present (C2, A2)** information using office applications for word processing, spreadsheet analysis and creating presentations

CLO6 **Classify (C2)** issues such as computer crime, information privacy, ethical considerations in software development, intellectual property rights, responsible use of technology in society

Textbooks, Reference Books and Other Resources:

1. Gary B. Shelly and Misty E. Vermaat, Discovering Computers Fundamentals: Your Interactive Guide to the Digital World, Course Technology Ptr, 2012.
2. Peter Norton, Introduction to Computers, Mc Graw Hill India, 2010.
3. Mark Minasi, Quentin Docter, and Faithe Wempen, The Complete PC Upgrade and Maintenance Guide – Mark Minasi, Sybex, 2005.

Teaching Strategy: Typical methodologies are Class lectures, web-access, self-study, problem formulation, and presentation.
Marks Distribution: Class attendance (10%), Group Work (30%), Viva(10%), Presentation (20%) and Lab Test/ Quiz (30%).
Mapping of Course Outcomes to Program Outcomes:

	PLO(a)	PLO(b)	PLO(c)	PLO(d)	PLO(e)	PLO(f)	PLO(g)	PLO(h)	PLO(i)	PLO(j)	PLO(k)	PLO(l)
CLO1	√											
CLO2	√											
CLO3	√											
CLO4	√											
CLO5	√								√	√		
CLO6						√		√				

Class schedule:

Week	Topic	Teaching strategy	Resources/ Facilities	Course Learning Outcome	Assessment Strategy
1	Introduction to Computations, History of Computing Devices, Today's technologies: Computer, devices and web. Laptops, tablets, desktops, and servers, purpose and uses of smartphones, digital cameras, portable and digital media players, e-book readers, wearable devices, and game devices, relationship between data and information, various input options, Web, webpages, websites, and web servers, purpose of a browser, a search engine, and an online social network digital security risks associated with viruses and other malware, privacy, health, and the environment.	Power Point Slides	Textbook, PPT Multimedia Projector, Laptop/ Desktop PC, Whiteboard, Markers	CLO1	Group Work
2	**Office applications:** MS Word, MS Excel, MS PowerPoint, making a Good PowerPoint Presentation, Grouping for Presentation, Selection of Topics for Presentation.	Power Point Slides	Textbook, PPT	CLO5	Group Work
3	Identification of Hardware Parts of PC (Monitor HDD, FDD, CDROM, Data Cord, Motherboard, Microprocessor, Cooling Fan, BIOS Battery, RAM, BIOS Chip, Ports, Keyboard, Mouse etc.)	Lecture notes, Power Point Slides	Textbook, Online Content and PPT	CLO1	Group Work

4	Computer and mobile devices in work and home: Mobile computer and desktops, servers, terminals, supercomputers, cloud computing, mobile devices, game devices, embedded computers, health concern using technologies.	Lecture otes, Power Point Slides	Textbook, Online Content and PPT	CLO1	Group Work
5	**Group Work Submission**				
6	**Software:** Programs and apps: Productivity applications, graphics and media applications, personal interest applications, communication applications, Utility programs: Security tools; file, disk, and system management tools. Operating systems: operating systems functions, types of operating systems, desktop, server and mobile operating system	Lecture notes, Power Point Slides	Textbook, PPT Multimedia Projector, Whiteboard, Markers	CLO2	Quiz
7	**Trending technologies:** Communication and Networking, Internet and WWW (world wide web), Types of websites, Digital media on the web, other internet services. Internet services, social networking, Uses of computer communications: Networks, communication software, network communication standard and protocols, communication lines, wired and wireless transmission media.	Lecture notes, Power Point Slides	Textbook, PPT Multimedia Projector, Whiteboard, Markers	CLO3	Quiz
8	Artificial Intelligence, Machine learning, IOT, Robotics, Cloud computing, Computer application in society	Lecture notes, Power Point Slides	Textbook, PPT Multimedia Projector, Whiteboard, Markers	CLO3	Quiz
9	**Number system:** Decimal, Binary, Octal, Hexa-decimal, BCD, packed decimal number, and their conversion, Signed and unsigned number, Precision and floating-point number. Character Representation: ASCII code, EUC Code, JIS code, shift JIS, Unicode	Lecture notes, Power Point Slides	Reference Book, PPT Multimedia Projector, Whiteboard, Markers	CLO4	Quiz
10	**Quiz Exam**				

11	**Computer Security:** Computer Crime; digital security risks, types of cybercriminals, various types of Internet and network attacks and ways to safeguard against these attacks, techniques to prevent unauthorized computer access and use, safeguards against hardware theft, vandalism, and failure; options available for backing up risks and safeguards associated with wireless communications	Lecture notes, Power Point Slides	Reference book, PPT Multimedia Projector, Whiteboard, Markers	CLO6	Presentation + Viva
12	**Ethics and privacy:** Ethical issues of software, ways that software manufacturers protect against software piracy, how encryption, digital signatures, and digital certificates work issues related to information accuracy, intellectual property rights, codes of conduct, and green computing, issues surrounding information privacy Social media and IT Enabled Services (ITeS) usages; Intellectual property right, Copyright, Patent, Plagiarism,	Lecture notes, Power Point Slides	Textbook, PPT Multimedia Projector, Whiteboard, Markers	CLO6	Presentation + Viva
13	**Presentation**				
14	**Viva**				

Mapping of Levels of Bloom's Taxonomy with skills:

CLOs	Description	Levels of Bloom's Taxonomy	Skill
CLO1	**Identify (C1)** the roles and functions of major components, including the central processing unit, memory, storage devices, input/output devices, and their interconnections.	**C1**	Low-order

CLO2	**Interpret (C2)** various types of software, including operating systems, application software, and business software, and their roles in computer systems and business operations	**C3**	Low-order
CLO3	**Define (C1)** trending technologies like Communication and Networking, Internet and WWW, Internet services, social networking, Artificial Intelligence, Machine learning, IOT, Robotics, Cloud computing, and their applications.	**C1**	Low-order
CLO4	**Demonstrate (C2)** different numeric and character representations used in data display, Exchange and storage.	**C2**	Low-order
CLO5	**Articulate and Present (C2, A2)** information using office applications for word processing, spreadsheet analysis and creating presentations.	**C2**	Low-order
		A2	
CLO6	**Classify (C2)** issues such as computer crime, information privacy, ethical considerations in software development, intellectual property rights, responsible use of technology in society	**C2**	Low-order

Domains and Levels of Bloom's Taxonomy:

* "Cognitive" Domain (C): C1 - Recall data, C2 - Understand, C3 - Apply, C4 - Analysis, C5 - Synthesize, and C6 - Evaluate.

* "Affective" Domain (A): A1 - Receive, A2 - Respond, A3 - Value, A4 - Organize personal value system, and A5 - Internalize value system.

* "Psychomotor" Domain (P): P1 - Imitation, P2 - Manipulation, P3 - Develop precision, P4 -Articulation, and P5 - Naturalization.