Rajarshi Janak University
Faculty of Management

Level: Bachelor **Credit: 3**
Program: BBA **Semester: First**
Course: Information Technology for Business **Lecture Hours: 48**
Course Code: IT 101
Nature of the Course: Theory + Lab (80 + 20)

Course Description
This course provides a comprehensive introduction to the essential concepts and technologies that underpin the field of information technology (IT). Designed for beginners, it covers the foundational principles of IT and IS, computing, data management, networking, Internet and Its Application, cyber security and equipping students with the skills necessary for further study

Course Objective
The main objective of this course is to provide students with a foundational understanding of information technology concepts and practices and their applications in Business.

Learning Outcomes
Students who successfully complete this paper will:

- Have developed a conceptual and practical understanding of the computing fundamentals essential to information technology systems, including how computer represent, process ,store and retrieve information, present the user interface, run useful applications and interact in a networked.
- Understand the function and role of operating systems in the management of computer processes and data.
- Have developed a knowledge base regarding computer hardware and software sufficient to make informed selection decision.
- Understand the importance data management in Business today.
- Be familiar with different types of Network/Internet terminologies and their importance in Business.
- Be familiar with different measures of Information and Network Security and ethical issues raise because of advanced technologies.
- Be familiar with the basic features of Microsoft Office Package.

Course Contents
Unit1: Introduction to Information Technology and Information System LH 4

- Introduction to Information Technology, Application area of Information Technology
- Introduction to Information System, Importance of Information system in Business

- Information System and Decision Making, Differences between Information Technology and Information System,
- Concept of Computer Literacy and Information Literacy

Interactive session: At least one case study about implementation and impact of Information System in business.

Unit 2: Introduction to Computer **LH 5**

- Introduction to Computer, Characteristics of Computer, application of computer, architecture of computer
- History of Computer,
- Generations of Computer
- Classification of Computer (based on purpose, size, brand, model)
- Mobile computing and its advantages & disadvantages.

Unit 3: Computer Hardware **LH 7**

- Introduction and role of hardware in computer system
- **Central Processing Unit:** components of CPU, function of CPU, Block diagram of CPU
- **Computer Bus:** Definition, function and types of bus
- **Computer Memory:** Introduction and types of Memory
- **Primary Memory**: Definition, functions and types of RAM and ROM, Cache memory and its impact on performance
- **Secondary Memory**: Magnetic disk, optical disk, external storage device
- **Input Devices:** Introduction to input devices, common input devices (Keyboard, Mouse, Scanner, Microphone, Digital camera),contemporary input devices (Touch Screen, Stylus Pen, Voice Recognition, Motion Sensors, Gesture Recognition, VR Controllers, Wearable Devices),
- **Output devices**: Introduction to output devices, common output devices (Monitor, speaker, printer), Contemporary output devices (Virtual Reality Headsets, Augmented Reality Devices, 3D Printers, Smart Speakers, Digital Signage, Wearable Displays)
- **Input/output Ports:** Overview of serial, parallel, USB, HDMI ports, and expansion slots.

Interactive Session: Case studies on business using high performance Computing devices for achieving operational excellence.

Unit 4: Computer Software **LH 7**

- Introduction and Types of Software, System Software, Application Software
- Operating System: Introduction, Objectives of Operating System, Types of Operating System, Functions of Operating System, Device Drivers
- Programming Languages: Introduction, Language processor/Translator (assembler, compiler, interpreter)

- Contemporary Software platform trends (open source software, software for the web, web services and service oriented architecture, Software Outsourcing and cloud services)

Interactive Session: Case studies on businesses adopting software for automation and digitization.

Unit 5: Database and Database management System LH 4

- Introduction to Database, Application of database, Advantage of database,
- Introduction to Database Management System, Centralized vs. Distributed Database System
- DBA, Responsibilities of DBA, Qualities of good DBA,
- Concept of Data warehouse and Data mining, Data mart, Big Data, Cloud Database.

Interactive Session: Case studies on enhancing decision making with effective data management.

Unit 6: Overview of Network LH 7

- Introduction to Network, objective of Network, Common Network Components (Server, Client, Resources, Network Adapter, Network Protocol, Bandwidth , Data Rate, Gateway, Repeater, Hub, Bridge, Switch, Routers)
- Types of Network (LAN, MAN,WAN),
- Network Architecture (Peer to Peer Architecture, Client Server Architecture)
- Communication media: Guided Media (Twisted Pair, Coaxial Cable, Optical Fiber), Unguided Media (Microwave System, Communication Satellites)
- Network topologies (Ring, Bus, Star, Mesh, Hybrid)

Unit 7: Internet and Its Applications LH 5

- Basic concept of Internet, Intranet and Extranet, Internet as Client-Server Model
- The Internet Architecture: IP Address and Domain Name System (DNS)
- Web Server and Web Browsers, Hyper Text Transfer Protocol (HTTP and HTTPS)
- Web Versions: Evolution from Web 1.0 to Web 3.0.
- Internet Services: Electronic Mail (Email), File Transfer Protocol (FTP), World Wide Web, TELNET for remote login
- E-Commerce and E-Governance: Basics and significance in modern applications.
- E-Learning Platforms and Technologies
- Digital marketing and Social Media: Definition, advantages, disadvantages, and their impact
- Concept of Business Intelligence and Online Banking
- Internet of Things (IoT): Applications in smart homes and businesses
- Concept of Artificial Intelligence and blockchain

Interactive Session: Analyze a real-world implementation of a network/Internet in a business setting, discussing its Challenges and opportunities.

Unit 8: Basic of Security and Ethics **LH 9**

- Security Basics: Introduction to Security and security types (Information Security, Network Security, Computer Security), Basic components of security (Confidentiality, Integrity and Availability)
- Security threats (Snooping, Modification, Masquerading, repudiation of origin, denial of receipt, Delay, Denial of service)
- Common cybercrimes (Identity theft, fraud, hacking, intellectual property theft).
- Overview of cyber laws, digital rights, and intellectual property rights
- Malicious Software, Types of Malicious Software (Virus, Worms, Trojans, Phishing, Key loggers) and Countermeasures for Malwares
- Ethics in Information Technology, Ethical challenges in cyber security, Ethical hacking and its role in improving cyber security.

Interactive Session: Analysis of a real-world cybercrime incident and an ethical challenge in cybersecurity, focusing on legal implications and security strategies for businesses.

Laboratory Works: The laboratory work includes realizing hardware components of computer, using basic features of Word Processors, Spreadsheets and Presentation tools.

Basic Reading:

1. Introduction to Computers, Peter Norton's, Tata McGraw-Hill
2. Understanding Computers: Today and Tomorrow, Comprehensive, Morley, D., & Parker Charles S., 15th Edition, Cengage Learning, 2015.
3. Information Technology for Management, On-Demand Strategies for Performance, Growth and Sustainability, 11th Edition, Efraim Turban, Carol Pollard and Gregory Wood, Willey.
4. Kenneth C.Laudon , Jane P. Laudon, "Management Information Systems Managing the Digital Firm", Twelfth edition
5. Kenneth C. Laudon, Carol G. Traver, "E-Commerce Business, Technology, Society", Pearson
6. Andrew B. Whinston and Ravi Kalakota, "Frontiers of Electronic Commerce", Pearson 1996, ISBN 81- 7808-357-5
7. ITL Education Solutions Limited, "Introduction to Information Technology", Pearson Education