

Subject: Foundation of Information Technology
 Semester: BIM 1st Sem
 Class Time: 8:00 am - 8:45 am
 Lecturer:- Bal Krishna Bhusal
 E-mail: bkbhusalinfo@gmail.com

Aarambha College, Bharatpur
 Course Plan

2024 "Fall"
 Nature of the course: Theory + Practical

Course Start date: - 27 Kartik
 Course End date: -
 Lecture Hours: 48
 Total Period: 67 day
 Website: www.bkbhusal.com.np

Course Objectives :

The main objective of this course is to provide students both theoretical and practical knowledge of fundamental concepts of computers and information technology.

Course Description:

This course covers basic concepts of computers and information technology including introduction, hardware, software, memory, input/output, database, networks and data communication, Internet, multimedia, computer security, and contemporary technologies.

S.N	Unit and Topics	Lecture Hours	Total Period	Teaching Pedagogy / Teaching & Learning Act	Teaching Resources	Remarks / Evaluation
1.	Unit I: Introduction to Computers: Introduction; Digital and Analog Computers; Characteristics of Computer; History of Computer; Generations of Computer; Classification of Computer; Data and Program representation in Computer; Applications of Computers	3	4	Lecture With Smart board/ Presentation / Video presentation	PPT/ PDF Note, Presentation, Class Discussion	Assignment-I Presentation Unit Test
2.	Unit 2: Information Technology and Business Business in the information age; Information systems; Organization structure and IT support; Evolution and types of information systems; IT for business; IT for individuals; Computers in past and present	3	4	Lecture With Smart board / Class Interaction	PPT/ PDF Note, Class Discussion	Assignment-II Case Study
3.	Unit 3: Computer System Hardware Introduction; Central Processing Unit; Memory Unit; Interconnecting the Units of a Computer; Inside a Computer Cabinet; Computer Memory: Introduction; Memory Representation; Memory Hierarchy; CPU Registers; Cache Memory; Primary Memory; Secondary Memory; Access Types of Storage Devices; Magnetic Tape; Magnetic Disk; Optical Disk; Magneto-Optical Disk; How the Computer uses its memory; Input and Output Devices: Introduction; Input-Output Unit; Input Devices; Human Data Entry Devices; Output Devices; I/O Port; Working of I/O System	10	14	Lecture With Smart board / Presentation/ Class Discussion/Video/ Demonstration/ Exam Guideline for First Exam	PPT/ PDF Note, Presentation, Class Discussion	Assignment-III Presentation Unit Test Case Study

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4.	Unit 4: Computer Software Introduction; Types of Software; System Software; Application Software; Software Acquisition; Programming Languages; Operating System: Introduction, Objectives of Operating System, Types of OS, Functions of OS: Process Management, Memory Management, File Management, Device Management, Protection and Security, User Interface, Examples of Operating Systems; New Trends in Software	6	8	Lecture With Smart board / Presentation/ Group Discussion /Videos	PPT/ PDF Note, Class Discussion	Assignment-IV Project work (Include Unit 1,3 and 4) Case study
5	Unit 5: Data Communication and Computer Network Introduction; Importance of Networking; Data Communication Media; Data Transmission across Media; Data Transmission and Data Networking; Computer Network; Network Types; Network Topology; Communication Protocols; Networking Hardware; Wireless Networking	5	7	Lecture With Smart board / Q & A session/ Video presentation	PPT/ PDF Note, Presentation, Class Discussion	Assignment-V Ask Questions Case study Unit Test
6	Unit 6: Internet and Internet Services Introduction; History of Internet; The Internet Architecture; Managing the Internet; Connecting to Internet; Internet Connections; IP Address and Domain Name System (DNS); Client-Server Architecture; Hyper Text Transfer Protocol (HTTP); Electronic Mail (Email); File Transfer Protocol (FTP); World Wide Web; Remote Login (TELNET); Static and Dynamic Web Pages; Search Engines; E-Commerce; E-Governance; Smart City; Censorship and privacy issues	5	7	Lecture With Smart board / Q & A session/ Video Tutorial/ Workshop (E-mail and Internet)	PPT/ PDF Note, Tutorial, Class Discussion	Assignment-VI Ask Questions Lab Work
7	Unit 7: Multimedia and the Web Introduction; Elements of a multimedia system; Graphics; Sound; Image File Format; Web Based Multimedia; Future of Web Based Multimedia; Multimedia in Business; Applications of Multimedia	3	4	Lecture with Smart Board/ Competition / Graphics design Tutorials	PPT/ PDF Note, Tutorials	Assignment-VII Graphics Design Competition

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8	Unit 8: Database and Database Management System Introduction; Database; Data Concepts and Characteristics; Database vs file System; Database Models; Database Management System; Database System Architectures; Database Applications; Cloud Database	5	7	Lecture with Smart Board/ Q & A session / Group Discussion	PPT/ PDF Note, Presentation, Lab work	Assignment-VIII Case study
9	Unit 9: Computer Security and Privacy Computer security and control; Unauthorized Access and Unauthorized Use; Protecting Against Unauthorized Access and Unauthorized Use; Computer Sabotage and protection; Computer Crime; Software Piracy; Anti-Piracy; Computer Virus, Worm, Spyware; Ethical Issues in Computer; Cyber Law; Network Security; Hardware and Software Firewall; Data and message security; Encryption and Decryption	4	6	Lecture with Smart board/ Video/ Group Discussion	PPT/ PDF Note, Presentation, Class Discussion	Assignment- IX Q & A session Case study
10	Unit 10: Introduction to Contemporary Technologies Data Warehousing and Data Mining; Big Data; Data Science; Artificial Intelligence; Machine Learning; Artificial Neural Networks; Cloud Computing; Green Computing; Virtual Computing; Block chain Technology; Digital Marketing; Internet of Things; Remote Sensing and GIS; Business Intelligence; Social Media Strategies.	4	6	Lecture With Smart board/ Class Interaction / Video presentation / Exam Guideline for Final Exam	PPT/ PDF Note, Presentation, Class Discussion	Assignment-X Q & A session Case study
11	Lab Work: Every Thursday and Friday/ twice a week.			Practical Session	Tutorials	Lab report
13	Revision and Exam Preparation:			Old Question Discussion		

Laboratory Works:

After Completing this course students should have practical knowledge of different hardware components of computer, operating systems (DOS and Windows Operating System), word processors, spreadsheets, presentation packages, database management systems, and Internet and its services.

Text Book:

1. Understanding Computers: Today and Tomorrow, Comprehensive, Morley, D., & Parker Charles S., 15th Edition, Cengage Learning, 2015.

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Reference Books:

1. Introduction to Computers, Peter Norton's, Tata McGraw-Hill
2. Computer Fundamentals Concepts Systems and Applications, P K Sinha & Priti Sinha, BPB Publications
3. Fundamentals of Computers, V. Rajaraman, PHI Learning Pvt. Ltd.
4. Introduction to Information System, James A O'Brien and George M. Marakas, Fifteenth Edition, McGraw-Hill.

Practical Evaluation System

S.N.	Assignment, Evaluation Areas	Percentage with Marks Breakdown
1	Attendance and Active Participation: Punctuality, Contribution to the Class's learning (environment), Meeting with instructor in office, etc.	20% / 8
2	Homework / assignment (reading response)	10% / 4
3	Independent research paper on a Marketing topic	10% / 4
4	Unit test, Internal exams	20% / 8
5	Case Study	20% / 8
6	Presentation	10% / 4
7	End of semester Reflection on Learning/ Portfolio	10% / 4
	Total	100 % (40)