

## Teaching/ Lesson Plan

Course Title: MIS & e-Business (3 Cr.)

Course Code: CACS301

Year/Semester: III/V

Class Load: 4 Hrs. / Week (Theory: 3Hrs. Tutorial: 1 Hr.)

### Unit 1: Introduction to E-Commerce

Lesson	Topic	Subtopics	Time
1	<b>Introduction to E-Commerce</b>	Definitions and key concepts; E-Commerce vs E-Business; Pure vs Partial E-Commerce	1 hour
2	<b>E-Commerce Framework and Classification</b>	E-Commerce framework overview; Types of EC: B2B, B2C, C2C, etc.; Key benefits of E-Commerce	1 hour
3	<b>Electronic Markets and Internet's Role</b>	Electronic market characteristics; Role of the Internet and Web technologies in enabling EC	1 hour
4	<b>Challenges in E-Commerce</b>	Limitations and barriers (technical, legal, cultural); Issues of security, privacy, and trust	1 hour
5	<b>Social Networks in E-Commerce</b>	Introduction to social networks and services; Influence on consumer behavior and marketing	1 hour
6	<b>Mobile Commerce (M-Commerce)</b>	Definition, scope, characteristics of M-Commerce; Advantages and trends	1 hour
7	<b>Location-Based Commerce (L-Commerce)</b>	Concept and importance of L-Commerce; Infrastructure, services, and practical applications	1 hour

### Unit 2: The Network Infrastructure for E-Commerce

Lesson	Topic	Subtopics	Time
1	<b>Introduction to Network Infrastructure for E-Commerce (Part 1)</b>	Overview of Information Superhighway (I-Way); Components of I-Way: communication networks, databases, payment systems	1.5 hours
2	<b>Introduction to Network Infrastructure for E-Commerce (Part 2)</b>	Internet as a network infrastructure: architecture, protocols (TCP/IP, HTTP, etc.), and services (DNS, email, web hosting)	1 hour
3	<b>Wireless Application Protocol (WAP) – Concepts and Architecture</b>	Definition and role of WAP in mobile commerce; Architecture: WAP Gateway, Client, WML	1.5 hours
4	<b>Wireless Application Protocol (WAP) – Operation</b>	Working process, data transmission, advantages, limitations, and use cases in mobile E-Commerce	1 hour
5	<b>Broadband Technologies for E-Commerce</b>	ADSL and WiMAX: architecture, advantages, use in E-Commerce applications	1 hour
6	<b>Wireless Networks (WLAN, WMAN, Wi-Fi)</b>	Features, infrastructure setup, E-Commerce integration and usage scenarios	1 hour
7	<b>Cellular Network Technologies (3G, 4G, 5G)</b>	Overview of UMTS (3G), LTE (4G), 5G NR; evolution, speed, and relevance to E-Commerce services	1 hour

### Unit 3: Introduction to Management Information System

Lesson	Topic	Subtopics	Time
1	<b>Fundamentals of Information Systems (Part 1)</b>	Definition of Data and Information; Introduction to Computer-Based Information Systems (CBIS)	1 hour
2	<b>Fundamentals of Information Systems (Part 2)</b>	Components of CBIS: People, Technology, Processes, Data; Role of IS in organizations	1 hour
3	<b>Types of MIS (Part 1)</b>	Management Information System (MIS): Role and importance; Transaction Processing System (TPS): Features and uses	1 hour
4	<b>Types of MIS (Part 2)</b>	Decision Support System (DSS): Functions and examples; Executive Information System (EIS): Strategic benefits	1 hour
5	<b>Enterprise Systems and SCM</b>	Supply Chain Management (SCM): Definition, components, operational importance in MIS	1 hour
6	<b>CRM and Enterprise System Integration</b>	Customer Relationship Management (CRM): Purpose and advantages; Overview of enterprise-wide systems and integration	1 hour
7	<b>Challenges in Enterprise System Implementation</b>	Implementation strategies, common challenges, best practices	1 hour
8	<b>International IS and Emerging Trends</b>	Global Information Systems; Outsourcing & offshoring; Current trends and innovations in global IS	1 hour

### Unit 4: E-Commerce Security, Fraud Issues, and Protection

Lesson	Topic	Subtopics	Time
1	<b>Introduction to E-Commerce Security</b>	EC security terminology; Types of threats, attacks, attackers; CIA Triad (Confidentiality, Integrity, Availability); Authentication, Authorization, Non-repudiation	2 hours
2	<b>Technical Malware Attacks</b>	Viruses, Worms, Trojans; Heartbleed, Cryptblocker, Ransomware; DDoS, Botnets, Malvertising, Page Hijacking, Sniffing	2 hours
3	<b>Non-Technical Security Threats</b>	Social engineering: Phishing, Pharming; Identity theft, spam, fake websites; Behavioral and psychological manipulation	2 hours
4	<b>E-Commerce Security Defense Strategies</b>	Access control: authentication, authorization, biometrics; Encryption techniques: symmetric/asymmetric, PKI, CA, digital signatures, SSL/TLS	2 hours
5	<b>Securing E-Commerce Networks</b>	Firewalls, Intrusion Prevention Systems (IPS); Virtual Private Networks (VPNs); Intrusion Detection Systems (IDS) for real-time monitoring	2 hours

## Unit 5: E-Payment Systems

Lesson	Topic	Subtopics	Time
1	<b>Introduction to E-Payment Systems</b>	Overview of electronic payment systems; Evolution and importance of online payments	1 hour
2	<b>Online Payment Cards</b>	Types: Credit Cards, Charge Cards, Debit Cards, Smart Cards; Processing payments in online transactions; Credit card payment procedure	1.5 hours
3	<b>Alternative Digital Payment Methods</b>	E-Micropayments: concept and use cases; E-Checking and online processing; Automated Clearing House (ACH) network	1 hour
4	<b>Mobile Payments and International Transactions</b>	Digital wallets and mobile payment systems; Key participants and issues in mobile payments; International payment systems and cross-border transactions	1 hour
5	<b>Emerging Trends in E-Payments</b>	Cryptocurrency and blockchain-based payments; Virtual currency challenges; Security and regulatory issues in emerging payment systems	1 hour
6	<b>Case Study: Online Payment Trends in Nepal</b>	Popular digital payment platforms in Nepal; Challenges and future prospects of online payments in Nepal	0.5 hour

## Unit 6: Launching a Successful E-Commerce Website

Lesson	Topic	Subtopics	Time
1	<b>Planning an Online Business</b>	Developing a business plan; Cost-benefit and risk analysis; Funding a new online business; E-Commerce model selection (B2B, B2C, C2C, etc.)	2 hours
2	<b>Website Development Process (Part 1)</b>	Steps to build an E-Commerce website; Basic hierarchical website structure	1 hour
3	<b>Website Development Process (Part 2)</b>	Website hosting, domain name registration; cPanel management; Uploading the EC site to the web server	1 hour
4	<b>Web Content Creation and Management</b>	Types of web content and categories; Content management and maintenance; Catalog content and its management	2 hours
5	<b>Website Design and User Experience (Part 1)</b>	Website design criteria (aesthetics & functionality); Site map, navigation, and web page layout grid	1 hour
6	<b>Website Design and User Experience (Part 2)</b>	Color schemes, graphics, and responsive design; Website usability and performance optimization	1 hour
7	<b>Website Promotion and Payment Integration</b>	Implementing payment systems on EC websites; Search Engine Optimization (SEO) strategies	1 hour
8	<b>Website Promotion Techniques</b>	Website promotion techniques: Social media, digital marketing, and online advertising	1 hour