

Unit 3: Theory of Consumer Choice**LH 8**

- Concepts of utility, the law of diminishing marginal utility
- Cardinal analysis Vs. Ordinal analysis
- Ordinal analysis: Indifference curve: properties, marginal rate of substitution (MRS); concept of budget line or budget constraint; consumer's equilibrium: interaction of indifference curve and budget line, price effect and price consumption curve of normal goods, income effect and income consumption of normal goods, and substitution effect; derivation of demand curve using ordinal analysis
- Numerical exercise

Unit 4: Production Theory**LH 6**

- Concepts of production function
- Production functions with one variable input: total, average, and marginal product; law of variable proportions
- Production functions with two variable inputs and concept of Cobb-Douglas production function; Isoquants: marginal rate of technical substitution (MRTS); optimal combination of inputs: Isocost lines and expansion path; optimal input combination
- Economies and diseconomies of scale and laws of returns to scale
- Numerical exercise

Unit 5: Theory of Costs and Revenues**LH 8**

- Concepts and types of costs: fixed and variable costs, accounting, opportunity cost, explicit cost vs implicit cost, economic costs, and sunk costs
- Short-run total, average, and marginal costs: meaning, schedules and curves
- Long-run total, average, and marginal costs: meaning, schedules and curves
- Relationship between marginal cost and average cost
- Concepts of revenues: total, average, and marginal revenues in perfect and imperfect markets: meaning, schedules and curves
- Profit maximization
- Relationship between elasticity and revenue
- Numerical exercise

Unit 6: Market Structures and Product Pricing**LH 8**

- Concept of market
- Perfect competition: concept, features, short-run supply curve and shutdown point; price and output determination in the short-run; price and output determination in the long-run
- Monopoly: concept, features, price and output determination in the short-run; price and output determination in the long run; sources of monopoly; social costs of monopoly
- Monopolistic competition: concept, features; price and output determination in short-run, price and output determination in the long-run
- Oligopolistic competition: concept and features
- Numerical exercise

Unit 7: Theory of Factor Pricing**LH 4**

- Rent: meaning, modern theory of rent
- Wages: meaning, marginal productivity theory of rent
- Interest: meaning, the liquidity preference theory of interest
- Profit: meaning, calculation of business profit and economic profit, innovation theory of profit

Basic Textbooks:

Mankiw, N.G. (2011). *Principles of microeconomics* (6th ed.). South-Western Collegem publications.
Salvatore, D. (2011). *Managerial economics*. Oxford University Press.

Reference Books:

Gillespie, A. (2010). *Business economics*. Oxford University Press.
Lipsey, R., & Chrystal, A. (2011). *Economics* (12th ed.). Oxford University Press.
Pindyck, R.S., Rubinfeld, D. L., & Mehata, P. L. (2009). *Microeconomics*. Pearson.

**Far Western University
Faculty of Management
Syllabus**

Course Title:	<i>Fundamentals of Information Technology</i>	Course Code:	<i>ICT 115</i>
Year:	<i>First</i>	Level:	<i>Undergraduate</i>
Semester:	<i>I</i>	Program:	<i>BBA</i>
Credits hours:	<i>3</i>	Lecture hours:	<i>48</i>

Course Description

This course introduces the fundamental concepts of computer application and information technology. The course includes the concepts of information technology perspectives for businesses. This course highlights information systems, information technology infrastructure, computer hardware and software, data management and data warehouse, computer networks, data privacy, cyber security, social media, and e-commerce and enterprise systems.

Course Objectives

This course aims to introduce students to the fundamental principles of computer-based information systems and to understand and develop the skills of the techniques used in the information system. It will give students practical knowledge and enable them to use information systems such as internet-based technology, e-commerce, e-business, telecommunication, data resource management, and cyber security.

Learning Outcomes

After studying this course, students will be able to:

- Understand the concept and role of information technology in business.
- Know data management, warehousing, and governance of electronic documents.
- know about computer networks and computing technologies.
- Manage data privacy and cyber security.
- Understand the social media and its use in e-business.
- Deliver the concepts of enterprise systems and their use in organizations.
- Access to contemporary IT technologies.

Course Contents

Unit 1: Introduction

LH 8

- Introduction to computer, digital and analog computer, generations of computer, characteristics of computer, applications of computer
- Computer hardware, computer system, components of computer system, central processing unit (CPU), CPU instruction cycle, computer bus, computer memory: primary and secondary, types of primary and secondary memory, input devices, output devices
- Computer software, system software, application software, programming languages, language translators, operating system, functions of operating system
- Information technology, use of information technology in business, information system

Unit 2: Data Management, Data Warehouses, and Data Governance

LH 8

- Data Management: database technologies, databases, centralized databases, distributed databases, database management system (DBMS), elements of a DBMS, benefits of a DBMS
- Data Warehouses: data warehouse, moving data from database to data warehouse, building and using a data warehouse, data marts, data lakes, data mining
- Data Governance: data governance, master data and master data management (MDM), information management, data life cycle and data principles,

- Electronic Document: electronic document management, electronic document management systems, electronic records management, electronic records management systems, enterprise content management, enterprise content management systems

Unit 3: Network Infrastructure

LH 6

- Network Fundamentals: types of networks, intranets, extranets, and virtual private networks, transmission media and speed, network components, communication protocols, circuit switching vs. packet switching
- Wireless Networks: 4G and 5G networks, wireless network standards, wireless connectivity, wireless network technologies
- Internet, intranet, IP address, domain name system, email, mobile computing and mobile technologies, internet of things, edge computing, net neutrality

Unit 4: Data Privacy and Cyber Security

LH 8

- Data privacy concerns and regulations, the privacy paradox
- Malicious Logic: virus, worm, trojan horse
- Computer security, security mechanisms: cryptography, access control, authentication, digital signature, firewall
- Cyber-attacks and cyber threats: unintentional cyber threats, intentional cyber threats, cyber-attack targets and consequences, cyber defense strategies, general defense controls, application defense controls, auditing information systems, government regulations, risk management and IT governance frameworks, industry security standards

Unit 5: Social Media and E-commerce

LH 6

- Social Media: concept, web 2.0, social web tools and applications, social networking services (SNS), e-commerce 2.0 and social commerce, private social networks, social metrics and monitoring tools, crowdsourcing and crowdfunding, search technology, enterprise search, recommendation engines, search marketing, web search for business, semantic web, web 3.0
- E-commerce: concept, omnichannel retailing, digital connections, in-store retail technology, e-commerce- online retailing, types of e-commerce markets, challenges to e-commerce, e-commerce business and strategic planning, mobile commerce

Unit 6: Enterprise Systems

LH 8

- Enterprise Systems: concept and types of enterprise systems, integrating legacy systems, enterprise resource planning (ERP), automating ERP, ERP and the its infrastructure
- Supply Chain Management (SCM): concept, electronic data interchange in the order fulfillment and logistics process
- Relationship Management (CRM): concept and CRM process, automating CRM, implementing a CRM system
- Knowledge Management: concept, knowledge management system, automating knowledge management, benefits of knowledge management system
- Enterprise Content Management (ECM): concept, purpose and benefits of ECM system, using an ECM system, enterprise social platforms

Unit 7: Contemporary IT Technologies

LH 4

- Cloud computing, quantum computing, wearable computing
- Virtual reality, blockchain technology
- Cryptocurrency, remote sensing and GIS

- Artificial intelligence, machine learning, deep learning, robotics, big data, data science, data analytics and data visualization, business intelligence, digital marketing, search engine optimization

Laboratory Work:

The laboratory work should include:

- Practical activities of different hardware components of the computer system
- Operating systems including DOS, Windows and Linux
- Word processors, spreadsheets, and presentation packages using MS Office System
- Database management systems using MS Access
- Internet and its services.

Basic Textbooks:

Norton, P. (2022). *Introduction to computers (7th ed.)*. McGraw Hill Education.

Turban, E., Pollard, C., Wood, G. (2021). *Information technology for management: Driving digital transformation to increase local and global performance, growth and sustainability* (12th ed.). Wiley.

Reference Books:

Arkhipov, I. (2023). *Information technology essentials: For business analysts and project managers*.

Lucas, H. C., Jr. *Information technology for management*. McGraw Hill.

Morley, D., & Parker, C. S. *Understanding computers: Today and tomorrow, comprehensive*. Cengage Learning.

