

10B22CI621: Information Systems

Course Credit: 4

Semester: I

Introduction

The objective of this course is to prepare students to be part of teams that imagine, specify, design, justify, build, implement, manage and use information systems. This course focuses on knowledge and basic concepts of computers and their applications. Students will study concepts and techniques applicable to computer hardware and its functions, computer software, system development life cycles, computer programming, data management, telecommunications, organizational and user support systems, information processing management, and social and ethical issues.

Course Objectives (Post-conditions)

Knowledge objectives:

1. Understand various technologies and processes available for developing business software.
2. Study and understand underlying infrastructure of information systems.
3. Learn to identify and analyze requirements for information systems.
4. Develop proficiency in structuring, collecting, and analyzing data to support business Operations and strategic decision making.
5. Understanding and applying design principles in Information Systems.
6. Learning to develop information systems based on business requirement analyses.
7. Demonstrate proficiency in selecting, implementing and operating information technology solutions to meet organizational requirements.
8. Develop an understanding of the social issues and ethical implications of technology across organizations and society.
9. Develop a proficiency in the selection of tools, techniques, processes, and success factors related to effective management of IT projects.
10. Develop proficiency in business reporting and strategic analysis of data.

Application objectives:

1 Case studies on Requirement Analysis of Information systems:

- a. (i) Environmental health information system for public health service, (ii) Web spatial Decision support system, (iii) Decision support system model for forecasting Inventory management using probabilistic multidimensional data model, (iv) Conceptual model for decision support system based business intelligence OLAP tool for university in context of E-learning, (v) GIS as a powerful tool for effective disaster management, (vi) Nutrient management decision support system for livelihood security of farmers, (vii) Support for real time decision making in mobile financial application

Expected Student Background (Preconditions)

Topics Outline:

S NO	Topics	Hrs
1.	<p>Introduction to Information Systems</p> <ul style="list-style-type: none"> • Concept and characteristics of information • Essential aspects of information systems in a company <ul style="list-style-type: none"> • Information technology • Architectural components of information systems • MVC approach to building Information Systems 	6
2.	<p>Information System categories</p> <ul style="list-style-type: none"> • Transaction Processing Systems (TPS) 6 • Management Information System (MIS) 6 • Decision Support Systems (DSS) 6 <ul style="list-style-type: none"> ○ Problem resolution with DSS ○ Possibilities of DSS 6 ○ Use of spreadsheets as decision-making support systems <ul style="list-style-type: none"> ○ Using DSS in decision making process • Executive Information Systems (EIS) <ul style="list-style-type: none"> ○ Evolution ○ EIS concepts and categories <p>Including the following specific to every category:</p> <ul style="list-style-type: none"> ▪ design issues and principles ▪ User interface design; demonstrating good UI design principles; <ul style="list-style-type: none"> ▪ Contemporary Information Systems Architectures; ▪ Contemporary information system development tools, components and techniques; ▪ Specific documents and other analysis and design artifacts <ul style="list-style-type: none"> ▪ Prototype demonstration 	
5.	<p>Contemporary Issues In Information Systems</p> <ul style="list-style-type: none"> • Internet mediated communication • Three dimensional communities • Collaboration and digital natives <ul style="list-style-type: none"> • Crowd Sourcing • E-Governance • E-Commerce and location based services <ul style="list-style-type: none"> • Gender and cyber behavior • Ethics of building Information Systems 	8
6.	Introduction to Information Security	4
	Total	42

References

1. Rafael L. Alcamí, Carlos D. Caranana, "Introduction to Management Information Systems".
2. Ethan Cerami, "Web Services Essentials", O'Reilly
3. Marty Hall, Larry Brown, "Core Servlets and Java Server Pages", Prentice Hall
4. Kogent, "Java Server Programming tutorial, J2EE Black Book", Dreamtech Press
5. Herbert Schildt, "The Complete Reference: JAVA", Tata McGraw- Hill
6. Kathy Sierra & Bert Bates, "Head First EJB", O'Reilly
7. Phil Hanna, "The Complete Reference: JSP 2.0" Tata McGraw-Hill
8. World Wide Web Consortium – www.w3.org
9. Stefan B. Harsh, "Management Information Systems"
10. International Journal of Enterprise Information Systems, Published by Idea Group Inc.
ISSN (printed): 1548-1115. ISSN (electronic): 1548-1123
11. Information System frontiers (2008) by Springer Science
12. Information System and e-business management by Springer

Evaluation Scheme:

S.No	Examination	Marks
1	T-1	15
2	T-2	25
3	T-3	35
4	*Internal Marks	25

*Internal Marks Breakdown:

Assignments	9 marks (3x3)
Quizzes	12 marks (3x4)
Regularity	4 Marks