



Management Institute of Technology (MIT) Hyderabad

Affiliated with University of Sindh Jamshoro

Course Title:	Organizational Behavior
Course Code:	ITEC 614
Degree Program:	BS(Information Technology) P-III (1st semester)
Course rating:	3 credit hours (Theory)
Pre-requisites:	Principles of Management

Course Objectives:

This course will provide the student with an overview of the fundamental theories and principles of organizational behavior and illustrate how these theories are translated into practice within organizations. It will demonstrate the importance of understanding behavior at the individual, the group, and the organizational levels when managing organizations.

Syllabus Outline:

Introduction to Organizational Behavior: Organizational Behavior defined, The Future OB Context, People, Work and Organizations.

Personality: The Nature of Individual, Behaviors, Individual similarities and differences, Measurement of differences, Perception, Learning and behavior modification.

Motivation: Theories of Motivation, motivation as a function of fairness and equity.

Leadership: Defined, An Overview of the Leadership Process, A Trait Approach to Leadership, A Behavior Approach to Leadership, A Situational Approach to Leadership, Models of leadership, Substitutes for Leadership, Evolution of Leadership Theory .

Power in Organizations: Power Defined, The Dependency Theory of Power, Dependency, Power, and Bargaining Strategies and Outcomes, Bases and Sources of Power, Power and Compliance, Power in the video "Final Offer"

Organizational Politics

Groups: Reasons for Joining Groups, Groups and the Larger Organizational Culture, Advantages and Disadvantages of Groups, Group Development, Group Roles and Norms, Social Loafing, Free Riding, Group Cohesiveness, Groupthink, The Abilene Paradox, Team Effectiveness and Awareness of Conflict, Risky Shift

Conflict: Conflict Defined, Causes of Conflict, Types of Conflict, Team Effectiveness and Cognitive Conflict, Team Effectiveness and Affective Conflict, Intergroup Conflict, Intragroup Conflict, Conflict and Decision-making, Team Effectiveness and Conflict Management, Dealing with Conflict and Conflict Resolution, Thomas-Kilmann Conflict Mode Instrument.

Learning Material/References:

* Organizational Behaviour by Fred Luthans.

* Organizational Behaviour: Understanding and Managing Life at Work (6'h Edition), by Gary Johns and Alan Saks



Management Institute of Technology (MIT) Hyderabad

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Course Title:	Introduction to Software Development
Course Code:	ITEC 510-511
Degree Program:	BS(Information Technology) P-III (1st semester)
Course rating:	3 credit hours (Theory)
Pre-requisites:	Data Structures, Object Oriented Programming

Course Objectives:

To equip the graduates with the knowledge of using the components and rules of the chosen programming language (i.e. Visual Basic 6.0) to implement a working version of a software product that meets typical quality standards.

Syllabus Outline:

Introduction: Introduction of Visual Programming, Event Driven Programming, Object Based Language and Visual Basic.

Creating Simple Interfaces: Form Basics, Setting Form Properties, Defining the Startup Form, Adding Controls to a Form, Pacing Controls on a Form, Setting Control Properties, Events, Writing Code for an Event, Accessing the Code Editor, Running the Application.

Using Variables & Constants: Variables, Understanding the Common Type System, Declaring & Using Variables, Naming Requirements, Option Explicit, Assignment, Scope, Using Constants, Type Conversion, Structures, and Arrays.

Using Procedures: Procedure basics, Creating & calling Sub Procedures, Creating & calling Function Procedures, Using Arguments, Passing Standard Arguments, Passing ByRef, Passing Arrays, Optional Arguments, Overloading, Using Built-in Functions and Using the Sub Main.

Operators & Expressions: Operators, Building Expressions, Using Strings

Control of Flow Logic: Using the If...Then Structure, Using the Select Case Structure, Using the Do...Loop Structure, Using the For...Next Structure and Using the For Each...Next Structure

Working with Forms: Creating Form Instances, Working with Multiple Forms, Drag & Drop

Windows Controls: Overview of Windows Controls, Label, TextBox, Button, CheckBox, RadioButton & GroupBox, PictureBox, Panel, ListBox, CheckedListBox, ComboBox, TabControl, DateTimePicker, MonthCalendar, Timer, ImageList, Splitter, DomainUpDown, NumericUpDown, ToolTip, ContextMenu, ToolBar, StatusBar, ErrorProvider and NotifyIcon

Using Dialogs: MessageBox, InputBox, Common Dialogs, Creating Custom Dialog Forms

Multiple Document Interface: Why MDI, Creating MDI Windows, MDI & Menus, Cascade & Tile

File IO: Directory & DirectoryInfo Classes, File & FileInfo Classes, Stream Classes, StreamReader & StreamWriter Classes, StringReader & StringWriter Classes.

Database Connection: Types of database connectivities in Visual Basic

Learning Material/References:

* **Visual Basic 6.0. HOW TO PROGRAM by Deitel & Deitel, T. R. Nieto**

* **Mastering Visual Basic 6.0 by Evangelos Petroustos**



Management Institute of Technology (MIT) Hyderabad

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Course Title:	Database Systems
Course Code:	ITEC 514-515
Degree Program:	BS(Information Technology) P-III (1st semester)
Course rating:	3 credit hours (Theory)
Pre-requisites:	Data Structures

Course Objectives:

The course introduces the theoretical and practical concepts used to develop and implement relational database applications for business. Special emphasis is placed on data modeling, database design and normalization, and relational database querying through SQL.

Syllabus Outline:

Databases and Database Users: Introduction, Characteristics of Database Approach, Advantages and Disadvantages of Using DBMS.

Database System Concepts and Architecture: Data Models, Schemas and Instances, DBMS Architecture and Data Independence, Database Language and Interfaces, Classification of Database Management Systems.

Data Modeling Using The Entity Relationship Model: Entity Types, Entity Sets, Attributes And Keys, Relationships, Relationship Types, Roles, And Structural Constrains, Weak Entity Types, ER Diagrams, Naming Conventions And Design Issues.

The Relational Data Model, Relational Constrains & Relational Algebra: Relational Model, Relational Constraints And Relational Database Schema, Update Operations And Dealing With Constraint Violations, Basic Relational Algebra Operations.

Writing Basic SQL Select Statements: SQL SELECT Statement, Basic SELECT Statement, Selecting Columns, Arithmetic Expressions, Defining Null Value, Column Alias, Concatenation Operator, Literal Character Strings, Overview of iSQL*Plus.

Restricting and Sorting Data: Using where clause, Comparison Conditions, Between, IN, LIKE, NULL, Logical Conditions, Order By Clause.

Displaying Data From Multiple Tables: Cartesian Products, Equi Join, Non-equi Join, Outer Join, Self Join, Natural Join

Group Functions: AVG, SUM, MIN, MAX, COUNT, Group By & Having Clause Subqueries: Using a subquery, Single row subquery, Multiple Row Subquery.

Manipulating Data: Introduction to DML, INSERT, UPDATE, DELETE, Creating and Managing Tables: Database Objects, Create Table Statement, Data types, Alter Table Statement, Dropping a table, adding comments to a table.

Including Constraints: Defining Constraints, NOT NULL Constraint, UNIQUE Constraint, PRIMARY KEY Constraint, FOREIGN KEY Constraint, CHECK Constraint.

Views: Creating View, Querying a View, Rules for Performing DML operations on the view, Removing Views.

Functional Dependencies and Normalization for Relational Databases: Informal Design Guidelines for Relation Schemas, Functional Dependencies, Normal Forms Based on Primary Keys, General Definitions of Second and Third Normal Forms.

Learning Material/References:



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* Database Systems: A Practical Approach to Design, implementation, and Management' 3ed, Connely and Begg (Addison Wesley, 1999)

* 'An Introduction to Database System' 7ed, CJ Date (Addison Wesley, 2000)

Course Title:	Computer Communication and Networks
Course Code:	ITEC 516-517
Degree Program:	BS(Information Technology) P-III (1st semester)
Course rating:	2 credit hours (Theory)
Pre-requisites:	Telecommunication Systems

Course Objectives:

The aim of this course is to help students to gain an understanding of terminology and standards in modern day computer networks. To make the students gain an understanding of communication basics, networking and network technologies, emphasizing data and computer communication within the framework of the OSI and TCP/IP protocol architectures, internet and internetworking and how to apply these in design and analysis of networks.

Syllabus Outline:

Computer Network Architectures and Models: A Communication model, Data Communication and Networking, Protocol Architecture, A Simple Protocol Architecture, OSI Model, Standardization with in the OSI Framework, Services Primitives and Parameters, The OSI Layers, TCP/IP Protocol Architecture, The TCP/IP Layers, TCP and UDP, Operation of TCP/IP.

Communication Concept and Terminology: Transmission Terminology, Frequency, Spectrum and Bandwidth, Analogue and Digital Data, Analogue and Digital Signals, Analogue and Digital Transmission, Transmission Impairment, Attenuation, Delay Distortion, Noise, Channel Capacity, Nyquist Bandwidth, Shannon Capacity.

Guided and Wireless Transmission Guided Transmission Media, Twisted pair, Coaxial Cable, Optical Fibre, Wireless Transmission, Antennas, Terrestrial Microwave, Satellite Microwave, Broadcast Radio, Infrared, Wireless Propagation, Line-of-Sight Transmission.

Signal Encoding Techniques: Digital Data Nonretrun to Zero, Multilevel Binary, Biphase, and Modulation Rate.

Digital Data Communication: Asynchronous and Synchronous Transmission, Types of Error, Error Detection, Line Configuration, Interfacing.

Data Link Control, Flow Control: Stop and Wait, Sliding Window, Error Control, Stop and Wait ARQ, Go Back N ARQ, HDLC, Basic Characteristics, Frame Structure and Operation.

Multiplexing: FDM, TDM, ADSL, xDSL.

Circuit and Packet Switching: Switched Communication Networks, Circuit Switching Concepts, Control Signalling, Soft switch Architecture, Packet Switching Principles X.25, Frame Relay.

ATM, ATM Logical Connection, ATM Cell, Transmission of ATM Cell, ATM Layers.

Routing in Switched Network, Routing in Circuit Switching Networks, Routing in Packet Switching Networks, Least Cost Algorithm, Dijkstra's Algorithm.

Congestion Control Effects of Congestion, Congestion Control, Traffic Management.

LAN Systems Background Topologies and Transmission Media, LAN Protocol Architecture, Bridges, Layer 2 and Layer 3 Switches.

High-Speed LANs, Emergence of High Speed LANs, Ethernet, Token Ring, Fibre Channel.

Wireless Networks, Overview, Wireless LAN Technologies, IEEE 802.11 Architecture and Services.

Internetworking and Routing, Basic Protocol Function's, Principle of Internetworking, Connectionless Internetworking, Internet Protocol, IPv6, Internetworking Operations, Multicasting, Routing Protocols, Autonomous System, RIP, BGP, OSPF.

TCP and UDP Protocols, Connection-Oriented Transport Protocol Mechanism, TCP Services, TCP Header Format, TCP Mechanism, TCP Conjunction Control, UDP.

Network Security, Security Requirements and Attacks, Confidentiality, Public and Privet Key Algorithm.

Network Applications, SMTP, MIME, HTTP, SNMP.



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Learning Material/References:

- * [Data Communications & Networking by Behroz Forouzan](#)
- * [Data and Computer Communications by William Stallings](#)
- * [Computer Networks, 4th Edition by Andrew S Tanenbaum](#)

Course Title: Web Systems & Technologies
Course Code: ITEC-518-520
Degree Program: BS(Information Technology) P-III (1st semester)
Course rating: 3 credit hours (Theory)
Pre-requisites:

Course Objectives:

This course aims to provide the skills of Designing and implementation of web based applications. It includes Basic and advanced Internet programming and their implementation in html, Java scripts and VB scripts & active server pages, design & implementation of commercial web pages, design & management of electronic commerce related objectives, PHP technology basics and intermediate level, frameworks using PHP or any other technology.

Course Outline:

Introduction to Internet Programming: Client Server model, Web Browsers, HTTP

Basic HTML: headers, body, basic html tags, tables, Unordered and Ordered Lists

HTML Form Processing: Building a form, Text fields and value, size, maxlength, html buttons, radio, checkboxes, prechecked, Selection lists Action and Method - GET and POST.

Client Side Scripting Languages: Basics of JavaScript and VBScript

Web Servers: Introduction to some popular Web Servers (Apache, IIS, etc)

CGI: Introduction to CGI scripting, html form interface with CGI scripts, automating processing such as info forms and email, Programming CGI interfacing via forms.

Server Side Scripting Engines: Introduction to Active Server Pages and Java Server Pages

Servlets: Introduction to Java Servlets API

PHP intro, forms, database connectivity etc and framework like joomla, drompal etc

File and Database Connectivity

Learning Material/References:

1. [Internet & World Wide Web How to Program 3rd Edition\) by Harvey M. Deitel, Paul J. Deitel and Andrew B. Goldberg.](#)
2. [Web enabled Commercial Application Development Using...HTML, DHTML,](#)



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