Course Description

Advanced Programming Language (371221)

Credit Hours: 3
Course Number: 371221
Offered: Department Requirement
Class Contact Hours Per Week: 0
Prerequisite: 371220
Lab Contact Hours Per Week: 3
Co-requisite: none

Course Description:

The course covers all aspects of the JAVA programming language using lectures and practical work. It also emphasizes good JAVA programming style, which avoids many of the pitfalls commonly associated with C++. On completion of the course, students will be fully conversant with all aspects of the JAVA programming language and aware of a good programming style.

Course Contents:

- Problem Analysis:
  - Algorithms and flowcharts.

- Introduction to JAVA programming:
  - A First Program in Java
  - Application and applet Java Program
  - Arithmetic
  - Equality and Relational Operators

- JAVA Applets
  - Sample Applets from the Java 2 Software Development Kit
  - Sample Applets drawing strings and Lines
  - Sample Applets Adding Floating-Point Numbers
  - Viewing Applets in a Web Browser

- Control Structures
  - Algorithms
  - Pseudocode
  - if and if/else selection statements
  - while Repetition Structure
  - Assignment Operators (increment, decrement Operators)
  - Essentials of Counter-controlled Repetition
  - The for Repetition Structure
  - switch Multiple-Selection Structure
  - do... while Structure
  - break and continue statement
  - Logical Operators
  - go to statement
  - Conditional expression
Sample programs

- Methods
  - Program Modules in Java
  - Math Class Methods
  - Methods Definitions
  - Argument Promotion
  - Random - Number Generation
  - Scope Rules
  - Recursion
  - Fibonacci Series

- Arrays
  - Declaring and Allocating Arrays
  - Allocating an Arrays and Initializing its Elements
  - Applications of Arrays
  - Linear Search and (liner) Search
  - Passing Arrays to Methods
  - Soiling Arrays
  - Multi-dimensional arrays

- Object - Based Programming
  - Implementing a Time Abstract I)ata Type with a Class
  - Class Scope
  - Controlling Access to Members
  - Creating Packages
  - Using Overloaded Constructors
  - Using Set and Get Methods
  - Package Access
  - Creating and Using Interfaces
  - Inner Class Definitions

- Strings and Characters
  - String Constructors
  - String Methods length, charAt and getChars
  - Comparing Strings
  - String Method hashCode
  - Locating Characters and Substrings in Strings
  - Extracting Substring from Strings
  - Concatenating Strings
  - Miscellaneous String Methods
  - Using String Method valueof
  - StringBuffer Class
  - StringBuffer Constructors
  - StringBuffer Methods length, capacity, setLength and ensureCapacitv
  - StringBuffer Methods charArt, setCharAt, getChars and reverse
  - StringBuffer append, Insertion, Deletion Methods
  - Sequential and random access files

References:

**Advanced Java (371333)**

Credit Hours: 3  
Course Number: 371333  
Offered: Department elective course  
Class Contact Hours Per Week: 3  
Prerequisite: 371221  
Lab Contact Hours Per Week: 3  
Corequisite: none

**Course Description:**  
Student will learn to build distributed application with Java. Class topics include: Remote method invocation (RMI) servlets, Java Beans, Java Security, Java networking, JDBC, Java security, advanced graphics and multithreading.

**Learning Outcomes:**  
At the end of the course, students will learn the following:  
- distributed application with Java class topics.  
- Java Database Connectivity (JDBC), which is implemented in the Java.sql package.  
- JDBC is the mechanism Java Applications and applets use to perform database access.  
- The basic concepts of security and how they apply to Java.  
- The Java servlet: teach the student how to write his own servlets.  
- Demonstrate the use of Java Beans through a series of examples.

**Teaching/ Learning Methodology**  
- Lectures.  
- Hands-on labs.  
- Lab assignments.

**Course Contents:**
1. Building and distributed Application with Java  
   - RMI.packages  
2. Database programming with Java SQL package  
   2.1 Connect to database with Java  
   2.2 Using JDBC.  
3. Multi threading  
   3.1 Thread fundamentals  
   3.2 Thread scheduling  
4. Java Beans  
   4.1 The Java beans Architecture icons  
   - Customizes and property editors  
   - Bean builder tools  
   4.2 The Java beans package  
   - Interfaces  
   - Java beans classes  
   - BeanInfo classes  
   - Exceptions  
5. Swing programming  
   5.1 Introducing swing  
6. Multi media programming  
   6.1 Working with 2D and 3D graphics  
   6.2 Using Audio and Video  
6.3 Creating animation  
7. Java Networking  
   7.1 Networking programs  
   7.2 Server programs  
   7.3 With Java net package  
7.4 Content and protected handlers
7.5 Client programs
8. Server side Java
   • Programming other servers
9. Java and security
   9.1 Introduction
   • Concepts of security
   • Roles in security
   • Security in the Java environment
Evaluation Strategies
   • Two Midterm Exams.
   • Lab assignments.
   • Final Exam.

Recommended Textbooks/References:

• JAVA 1.1 INTERACTIVE COURSE, A WEB BASED LEARNING CENTER, by: LAURA LEMAY’S, 1997

• COMPUTER CONCEPTS WITH JAVA2 ESSENTIALS SECOND EDITION, by: CAY HORSTMANN, 1999


• Java 1.2 UNLEASHED JAMIE JAWORSKI, 1998

Analysis & Design Information Management Systems (0371356)

Course Number: 0371356
Credit Hours: 3
Offered Department: Elective
Class Contact Per Week
Prerequisite: None Corequisite: None

Course Description

The objectives of this course are to impart the necessary knowledge to the students in order to become SYSTEM ANALYSTS. The course introduces the students to the world of systems analysis, information modeling, systems design, and database usage. By emphasizing the role of systems analyses, the course covers the concepts, skills.

Course Contents

• the system design environment
• typical information system
• Problem-solving steps
• Problem-solving steps
• Starting a project
• data flow diagrams
• Describing data
• Advanced modeling methods
• Process description
• Documentation and computer aids
• Designing the new system
• Detailed system design
• Database design
• Practical design methodologies
• Alternate life cycles
• Project management
• Strategic planning
• Project review and walkthroughs

Textbook References:-

• Introduction to system Analysis and Design I. T. Hawryszkiewycz
• System Analysis and Design, Silver. Addison-Wesley.
• Kendall & Kendall, system Analysis and Design, Prentice Hall 1999

Computer Architecture (IT 318)

Credit Hours: 3
Course Number: IT 318
Prerequisites: Microprocessor – 2
Class Contact Hours Per Week:3
Corequisites: None
Lab Contact Hours Per Week: 0

Course Description:

The course deals with computer architecture as well as computer organization and design. It concerns the structure and behavior of the various functional modules of the computer, and how they interact to provide the processing needs of the user. Further more, it concerns the way that the hardware components are connected together to form a computer system, and the development of the hardware for the computer taking into consideration a given set of specifications.

Course Outlines:

• Introduction To Computer Architecture
• Register Transfer Language and Micro-operations
• Bus and Memory Transfers
• Three-State Bus Buffers
• Arithmetic and Logic Micro-operations
• Hardware Implementation

• Basic Computer Organization and Design
• Instruction codes, Stored program Organization
• Addressing Modes
• Common Bus System
• Timing and Control
• Instruction Cycles; Fetch and Decodes
• Determine the type of instruction
• Design of Basic Computer

• Micro-program Control Organization
• Micro-program and Micro-instructions
• Control Memory
• Address Sequencing
• Mapping Of Instruction
• Symbolic and Binary Form of Micro-instructions
• Design of Control Unit

• Input/Output Organization
• Peripheral Devices
• Input/Output Interface
• Asynchronous data transfer
• Serial data transfer
• Priority Interrupt; Daisy-Chaining, Parallel Priority

• Pipelining and Vector processing
• Parallel Processing
• Vector Processors
• Array Processors
• CICS and RISC Characteristics
• Pipelining; Arithmetic, Instruction, and RISC Pipeline

• Memory Hierarchy and Organization
• Main Memory
• Auxiliary Memory
• Associative Memory
• Cash & Virtual Memory
• Memory Management and Hardware

Evaluation Strategies:
• First Exam 25%
• Second Exam 25%
• Quizzes and/or Home works 10%
• Final Exam 40%


References:
1. Computer Architecture and Organization,
   By: John P. Hayes, 2nd Edition
2. Computer Architecture design and Performance,
3. Computer Architecture Baron,
   By: Baron, Addison Wily, 1992

Computer Organization (371371)

Credit Hours : 3  
Course Number:371371
Offered: Department Requirement
Class Contact Hours Per Week:3  
Prerequisite:710101
Corequisite :

Course Description:
This course is intended to give the students a simple idea about computer components, how to assemble and install computer components. The student should be able to perform simple troubleshooting and use software to solve deferent problems.. Topics include computer architecture, motherboard and it's
component hard and floppy disks, optical devices, audio devices, display devices, keyboards mouse.

Learning Outcomes:

At the completion of the course students will be able to understand:
• Computer evolution
• Computer hardware design
• Computer components functions
• Assembling of computer
• Problem diagnostic and trouble shooting
• Using hardware and software tools to solve different problems

Teaching / Learning Methodology:

• Lectures
• Small Projects
• Homework’s
• Hands-in labs
• Lab assignment in labs

Course Contents:

1. Introduction
• Computer Development
• Microprocessor Development

2. Number Systems
• Introduction
• Numbers as Physical Representation
• Counting in Different Bases
• Performing Arithmetic in Different Number Bases
• Numeric Conversion between Number Bases
• A Special Conversion Case Number Bases That
• Mixed Number Conversions

3. Internal Components
• Motherboard
• Microprocessor types and specifications
• Expansion bus
• IRQs and DMA
• BIOS
• Power supply
• Memory

4. Installing and configuring different components
• Display Adapters
• Network Cards
• Sound Cards
• CD-ROM
• Hard Drive
• Floppy Drive
• Printer
• Scanner
• RAM (SIMMs, DIMMs)
• Mouse
• Keyboard

5. Software trouble shooting and operating systems Viruses
- System files Setup
- Choosing hardware for OS
- Operating system installation
- Controlling the startup
- Resolving I/O conflicts

6. Assembling and disassembling of computer and internal connections

Evaluation Strategies:

- Two Midterm Exams
- Projects and Homework's
- Final Exam

Recommended Textbooks / References:


**Data Structures (371372)**

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<tr>
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Course Description:

This course deals with the design and manipulation of common data structures such as stacks, queues, linked lists, tress and hash tables. Searching and sorting techniques are also included. Sequential, index-sequential and random access files will be described. The design and analysis of efficient algorithms will be included such as recursion, Divide and Conquer, greedy methods and dynamic programming.

Learning Outcomes:

At the completion of the course, students will be able to
- Understand the concept of Data Structures and related concepts
- Identify the different Data Structures and its different usage
- Compare between different structures in different criteria
- Design his (her) own data structures
- Study some of the currently used structures in terms of logical, physical and as Abstract Data Type ADT.

Teaching / Learning Methodology:

- Lectures
- Lab Assignments
- Small projects
Course Contents:

1- Introduction to Data Structures.
   1-1 Definition
   1-2 Memory Requirements
   1-3 Physical / Logical implementation
   1-4 Abstract Data Type ADT.

2- Arrays
   2-1 Arrays as an ADT
   2-2 Using One Dimensional Array
   2-3 Implementing One Dimensional Array

3- The Stack
   3-1 Stack Definition
   3-2 Stack as an ADT
   3-3 Implementing a Stack by Using Array
   3-4 Using Stack in Arithmetic Expressions

4- Recursion.
   4-1 Recursive Definition and Recursive Processes
   4-2 Factorial Function as an example
   4-3 Binary Searching

5- Queues
   5-1 The Queue and its Sequential Representation
   5-2 The Queue as an ADT
   5-3 Array Implementation of a Queue.

6- Linked Lists
   6-1 Linked Lists Definition and Related Concepts
   6-2 Linked Lists as an ADT
   6-3 Linked Implementation of Stacks and Queues
   6-4 Examples

7- Binary Tree
   7-1 Tree Definition and Related Concepts
   7-2 Representation of Binary Tree
   7-3 Binary Tree as an ADT

8- Searching
   8-1 Sequential search
   8-2 Binary search

9- Sorting
   9-1 Bubble Sort
   9-2 Insertion Sort

10 Hashing
   10-1 Hash Functions
   10-2 Hash Clashes
   10-3 Resolving Clashes

Evaluation Strategy
• Two Midterm Exams
• One Midterm Lab Exam
• Reports
• Projects
• Final Exam

Recommended Textbooks/References:


**Database Management Systems (371240)**

Credit Hour:4
Course Number: 371240
Offered: Department Requirement Class Contact Hours per week: 3
Prerequisites: 320101
Lab. Contact Hours per week: 3
Corequisites: None

Course Description:

This course focuses on database concepts and terminology, database modeling of user requirements, and the design and implementation of a relational database.

Learning Outcomes:

the objective of this course is to introduce the student to the basic concepts of computer-based database management. The course will explore database management from five different perspectives:

1. Data modeling.
2. Database design using relational model.
3. The use of database management systems for managing data.
4. Oracle SQL engine for data processing and accessing.
5. Advanced topics.

Course Contents:

1- Introduction to database systems
   1.1- File processing systems.
   1.2- Database models: (Hierarchical, Network, and Relational).

2- Database design Part I
   2.1- Semantic modeling
   2.2- Relational model
   2.3- E-R diagrams (modeling)
   2.4- Conversion from E-R model to relational model.

3- Relational query languages
   3.1- Relational algebra
   3.2- ORACLE SQL
       3.2.1- Introduction to ORACLE 8.
       3.2.2- Creating tables.
       3.2.3- Oracle Data Dictionary.
       3.2.4- Manipulating data.
       3.2.5- Group functions.
       3.2.6- Subqueries.
       3.2.7- Creating views.
       3.2.8- Creating indexes.
3.2.9- Creating procedures.

4- Database design Part II
4.1- Functional dependencies.
4.2- Schema refinement: Normal forms and Normalization.

5- DBMS design issues
5.1- Transaction processing
5.2- Concurrency control
5.3- Data organization and storage.

6- Advanced DBMS topics
6.1- Object-oriented database management systems.

References:

2. Oracle University, Introduction to Oracle:SQL and PL/SQL, Oracle, 1999

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**Distributed Information Systems (371370)**

Credit Hours: 3  
Course Number : 371370  
Offered : Department Elective  
Class Contact per Week : 3  
Prerequisite : 371240  
Lab Contact Hours Per Week : 0  
Co-requisite : None

Course Description

This course aimed to teach students various technologies and components which are Used for design and development of Distributed Information Systems (DIS).  
The main objectives are:  
1. What is DIS  
2. How is a DIS Structured  
3. What are the design rules relating to the development of DIS  
4. How can a Distributed IT Infrastructure be implemented and managed to ensure That mission-critical/ or high-integrity DISs can be implemented successfully.

Learning Outcomes

Teaching / Learning Methodologies  
• Lectures  
• Homework  
• Reports

Course Contents

• Introduction to Information Technology (IT)  
• IT Infrastructure  
• The benefits of studying IT
• Introduction of Information Systems
• Information and Information Exchange
• Multimedia Requirements
• Multimedia Information Exchange
• Distributed IT Infrastructures
• Distributed Transparency
• Components of DIS
• Classes of Distributed Support services

Recommended Textbooks / References

1) Distributed Information Systems, First Edition By

**Expert Information Systems (371242)**

Credit Hours: 3  
Course Number : 371242  
Offered : Department Compulsory  
Class Contact per Week : 2  
Prerequisite : None  
Lab Contact Hours Per Week : 2  
Coerequisite : 371245

Course Description

In this course the students learning the principle of programming in logic and giving  
An introduction in Artificial Intelligence and their tools and its application areas.  
One of the important area is the Expert System which will be giving in more details and how the expert  
Information System can be design and implemented.

Learning Outcomes

• Learning basic principle of Logic Programming, Artificial Intelligence and Expert Systems  
• How to use different types of Knowledge Representation  
• Dealing with Expert Systems and their tasks  
• Learning different types of Expert Systems Building methodologies.

Teaching / Learning Methodologies

• Lectures  
• Homework  
• Reports

Course Contents

• Introduction to logic Programming  
• PROLOG language and its application  
• Introduction to Artificial Intelligence  
• The tools of Artificial Intelligence  
• The application areas of Artificial Intelligence  
• General structure of human cognitive system  
• General structure of an Expert System  
• Knowledge representation methodologies  
• Application of Expert System  
• Expert Information System

Evaluation Strategies
Management Information System (0330450)

Credit Hours : 3
Course Number : 0330450
Offered : Department Elective
Class Contact Hours Per Week:3
Prerequisite : None

Course Description :

Concepts, management information needs and requirements, the economics of information, planning with (MIS), Controlling with (MIS), Decision-making problem solving with (MIS), systems modeling and architectures, systems cost-benefit analysis, MIS subsystems(statistical, financial, marketing, inventory, decision-support, project management system...etc), forms and report design, implementation, and maintenance considerations and techniques.

Learning Outcomes :
• learning basic principles of GST
• How to use MIS Tools
• Dealing with Information System Types
• How to design, analyses, implement, and evaluate MIS

Teaching / Learning Methodology:
• Lectures
• Small Projects
• Homework’s

Course Contents :

1- Introduction to Management Information System
2- Basic Principles of General System Theory (GST)
3- Information System Types and Application Areas
   • Decision Support Systems
   • Event Manipulation Systems
   • Electronic Office Systems
   • Expert Systems
4- Basics of Management Information Systems
   • Effective Factors in MIS development
   • MIS Concept Analysis
   • MIS Roles in DSS
   • MIS Application
5- Management Information System Tools
   • Using Spreadsheet Applications
   • Using Data Base Applications
   • Using Business Applications & Internet
6- Future Entrances to Develop and Implement MIS
7- Implement the Prototyping Style
8- Monitoring of MIS

Evaluation Strategies :
• Two Midterm Exams
• Projects and Homework’s
• Final Exam

Recommended Textbooks/ References :


Modeling & Simulation of Management Systems (IT 331)

Credit Hour:3
Course Number: IT 331
Offered: Department Requirement Class Contact Hours per week: 3
Prerequisites: IT 330
Lab. Contact Hours per week: 3
Corequisites: None

Course description:
this course is about understanding operations management and the use of quantitative models in managerial decision making.

Learning Outcomes:

the objective of this course is to present students with a real-world look at how a typical managerial problems can be formulated as mathematical models and then describes how such problems can be solved with available mathematical approaches and computer programs to provide a manager with reasonable answers. The course will explore modeling and simulation of management systems from four different perspectives:

1. Mathematical programming models.
2. Probabilistic models.
3. Newer management science models.

Course Contents:

1- A model formulation approach to management science.
2- Linear programming (quick review)
2.1- Graph method.
2.2- Simplex method.
2.3- Integer linear programming.
2.4- Goal programming.
3- Probabilistic models
3.1- Probability theory.
3.2- Decision analysis.
3.3- Markov analysis.
3.4- Simulation models.
3.5- Queuing models.
4- Newer management science models
   4.1- Dynamic programming.
   4.2- Heuristic programming.
5- Neural networks
   5.1- Introduction to neural networks.
   5.2- Theory of operation.
   5.3- Application in Management.

References


**Computer Organization (0371371)**

Credit Hour: 3 Course Number: 0371371
Offered: Department Requirement
Class Contact Hours per week: 0
Prerequisites: 0710101
Lab. Contact Hours per week: 3
Corequisites: None

Course Description:

This course is intended to give the students a simple idea about computer components, how to assemble and install computer components. The student should be able to perform simple troubleshooting and use software to solve different problems. Topics include computer architecture, motherboard and its components, hard and floppy disks, optical devices, audio devices, display devices, keyboards, mouse.

Learning Outcomes:

At the completion of the course students will be able to understand:
- Computer evolution
- Computer hardware design
- Computer components functions
- Assembling of computer
- Problem diagnostic and troubleshooting
- Using hardware and software tools to solve different problems

Teaching/Learning Methodology
- Hands-on labs
- Lab assignments in labs

Course Contents:

1- Introduction
   - Computer Development
   - Microprocessor Development
2- Internal Components
   - Motherboard
   - Microprocessor types and specifications
   - Expansion bus
   - IRQs and DMA
   - BIOS
3- Installing and configuring different components:
- Display Adapters
- Network Cards
- Sound Cards
- CD-ROM
- Hard Drive
- Floppy Drive
- Printer
- Scanner
- RAM (SIMMs, DIMMs)
- Mouse
- Keyboard

4- Software trouble shooting and operating systems
- Viruses
- System files
- Setup
- Choosing hardware for OS
- Operating system installation
- Controlling the startup
- Resolving I/O conflicts

5- Assembling and disassembling of computer and internal connections

References:

**Programming Language C++ (371220)**

Credit Hours: 3
Course Number: 371220
Prerequisites: 320101
Class Contact Hours Peer Week:2
Corequisites: None
Lab Contact Hours Per Week :3

Course Description:

The course covers all aspects of the C++ programming language using lectures and practical work. It also emphasizes good C++ programming style, which avoids many of the pitfalls commonly associated with C++. On completion of the course, students will be fully conversant with all aspects of the C++ programming language and aware of a good programming style.

Course Contents:

I- Problem Analysis:
• Algorithms and flowcharts.

II- C++ Language Basics
• A simple C++ program
• Statement format
• Comments
• Identifiers
• Basic data types
• Declaring variables
• Constants
• Expressions and operators
• Relational operators
• Logical operators
• Assignment operators
• Operator precedence chart
• Basics of the stream input/output: cout and cin

III- The preprocessor
• Introduction
• The #include directive
• The #define directive: Symbolic constants
• The #define directive: Macros

IV- Control flow statements
• if and if/else selection statements
• switch statement
• while statement
• do...while statement
• for statement
• break within loops
• continue statement
• goto statement
• Conditional expression
• Sample programs

V- C++ stream Input/Output
• Using the endl stream manipulator
• Outputting expression values
• Using get, getline, put, and eof.
• Unformatted I/O with the read, gcount, and write.
• Using the hex, oct, dec and setbase stream manipulators.
• Demonstrating the width member function.
• Using the ios::showbase and ios::uppercase flags
• Using the fill member function and the setfill manipulator

VI- Arrays
• Declaring and initializing
• Accessing array elements
• Multi-dimensional arrays

VII- Functions and scope
• Declaring functions
• Function prototype
• Invoking functions
• Defining functions
• Passing arguments
• Variable scope and lifetime
• Unary scope resolution operator
• Global variables
• Local variables

VIII- Complex data types
• Structures
• Defining structures
• Initializing structures
• Working with structures
• Structures with functions
• Unions
• Enumerations
• typedef - define your own data types
IX- Working with files
• Sequential and random access files
• Text and binary files
• Creating a file
• File open modes
• Opening a file
• Closing a file
• Record processing (reading and writing data)
• File pointer position
• Sample programs

References:

Software Engineering (371241)

Credit Hours: 3
Course number: 371241
Offered: Department Requirement Class Contact Hours Per Week :3
Prerequisite: 371240
Lab Contact Hours Per Week :0
Corequisite: None

Course Description:
A survey course covering software engineering concepts and methodologies. Topics covered include software engineering; software process and its difficulties, software life-cycle models, project planning including cost estimation, design and software testing.

Learning Outcomes:
At the completion of the course, students will be able to
• Understand the concept of Software Engineering and related concepts
• Understand the problems associated with this process
• Compare between different Life-cycle models
• Choose the suitable model(s) for any specific problem
• Understand the Software Testing principle
• Identify the usage of computer packages (CASE tools) in different software engineering phases.

Teaching / Learning Methodology:
• Lectures
• Reports
• Assignments

Course Contents:
1- Introduction to Software Engineering:
1-1 Definition and Scope of Software Engineering.
1-2 The Software Process and its Problems.
1-3 Software Life-Cycle Models

2- Modules
2-1 Module Concept
2-2 Cohesion
2-3 Coupling
Information & The Internet

Credit Hours: 3
Course No.: 371222
Classification: Department Requirement
Class Contacts: 3 lectures/labs
Prerequisite: 710101
Instructor: Khalil Ahmed Abuosba

Course Description:
This course is intended to prepare the students to be able to develop web sites using pure HTML as well as combination of HTML and JavaScript programming languages.

Learning Outcomes:
To understand the basics of information cycle and attributes of information quality.
To understand the basic concepts of the Internet (Design & Hosting).
To master the usage of the Internet Explorer and Netscape Navigator.
To be able to use Microsoft Outlook professionally.
To master the HTML programming Language.
To be able to create a personal website using pure HTML tags with a line editor.
To be able to implement Dynamic HTML (Cascading Style Sheets).
To understand the basics of JavaScript programming language.
To be able to write simple JavaScript programs.
To understand the basic problem-solving techniques.
To be able to use pre-packaged functions.
To be able to create user defined functions.
To understand the Array Data Structure and their deployment in the programming Industry.
To be able to implement JavaScript scripts in HTML sites
To be aware of available Web Servers within the industry

Teaching / Learning Methodology:
Lectures Notes, Slideshow, & interactive active presentations
Handouts
Practice programs

Grading System:
Exam #1 - 15%
Exam #2 - 20%
Project /Personal Web-page: 10%
Class Participation 5 %
Final Exam- 50%

Course Contents:

Module 1: Principles of Computer Systems
- General Definitions (Program, Programming, Computer, Operating System, Programming Languages, Structured Programming & S/W)
- Internet Definitions (Internet, Browser, Protocol, ISP, e-commerce, JavaScript, VBScript, Web Server, URL, Search Engine, & W3C)

Module 2: Introduction to The Internet and The World Wide Web
- History of the Internet
- Protocols
- Standards Organizations
- Sites Addressing Schemes

Module 3: Using WWW Browsers and E-mail Servers
- Using Microsoft Internet Explorer (Menus & Options Configuration)
- Using Netscape Navigator (Menus & Options Configuration)
- Microsoft Outlook & Outlook Express

Module 4/a : Practical Sessions
1. Browsing within the following sites
   - HTTP://www.yahoo.com
   - HTTP://www.msn.com
   - HTTP://www.w3c.org
   - HTTP://www.philadelphia.edu.jo
   - HTTP://www.intel.com
   - HTTP://www.microsoft.com
   - HTTP://www.javascript.com
   - HTTP://www.cisco.com
   - HTTP://www.rja.com

Module 4/B : Practical Sessions
2. Browsing within the following search engines
   - HTTP://www.yahoo.com
   - HTTP://www.msn.com
   - HTTP://www.hotbot.com
   - HTTP://www.infoseek.com
2. Configuring the Internet Explorer (File Menu + Tools/Internet Options)

Module 5: Introduction to HTML
- History of Markup Languages
- HTML elements (Tags & Contents)
- HTML Editors (Notepad & HTML-Kit (www.chami.com))
- Common HTML Tags
- W3C Standards (HTTP://www.w3c.org)
- Headers
- Text Styles

Module 6: Linking & Lists
- External Links (page to page/site, page to e-mail)
- Internal Links
- Images
- Lines
- Unordered Lists
- Ordered Lists

Module 7: Tables & Forms
- Basic Tables
- Intermediate Tables
- CGI Forms (using selections/options, text-area, input-box (radio or checkbox)

Module 8: enhancing sites hit rates
- Meta Tags
- Keywords

Module 9: Frames & Image Maps
- Frames Implementations (FRAMESET)
- Image Basics using Windows Paint (co-ordinations Specifications)
- Image Maps Implementations (Rectangular, Circular, & Poly Co-ordinations)

Module 10: Cascade Style Sheet (CSS)
- Formatting Styles

Module 11: JavaScript
- Introduction to Jscript and JavaScript
- Definition of Objects, & Methods
- Your first program in JavaScript
- document.writeln, window.alert, & window.prompt

Module 12: Memory Concepts
- Adding Strings, Example
- Adding Integers, Example
- parseInt function
- parseFloat function
- NaN function

Module 13: Mathematical Operations
- Arithmetic Operators
- Relational Operators
- Comparison Example

Module 14: Programming Concepts
- Algorithm
- Pseudo code
- Control Structure

Module 15: Control Structure 1
- If Selection Structure
- If/Else Selection Structure
- While Repetition Structure
- Counter Controlled Repetition
- Sentinel Controlled Repetition
- Nested Control Structures

Module 16: Increment and Decrement Operators
- Pre-increment
- Post-increment
- Pre-decrement
- Post-decrement

Module 17: Control Structure 2
- For Repetition Structure
- The Switch/Multiple Selection Structure
- Do/While Repetition Structure
- The Break and Continue Statements

Module 18: Logical Operators

Module 19: JavaScript
- Pre-packaged Functions
- Math Constants
- Math.PI & Math.SQRT2
- Get/set Time/Date
- Programmer Defined Functions

Module 20: Arrays
- Arrays Concepts
- Arrays Sorting
- Arrays Searching

Module 21: Web Server
- Live presentations of 2 different web-servers

Module 22: Web site integration
- Guidelines and deployment

Text/Ref books: - Internet & the World Wide Web, How to program, Deitel, Deitel, & Nieto, Prentice Hall
- The Internet, 2nd Edition, James T. Perry & Gary P. Schneider, Course Technology (Thomson-Learning)