



College/Institute/Centre: Management and Technology
Department of: Business Information Systems

SESSION PLAN

Laboratory

COURSE PARTICULARS

S315	Title: Applications in Computer Programming
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SESSION PARTICULARS

#: 1	Title: Java Overview/ Revision	Hrs: 2
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LEARNING OUTCOMES / ABILITIES GAINED*

#	Outcome Description
.....	Literals
.....	Data Types
.....	Variables
.....	Type Conversion & Casting
.....	Operators
.....	Operators Precedence
.....	Selection Statements
.....	Loops
.....	Jump Statements
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Prepared by

Designation

Name: Ms.Lamiaa Mostafa

Signature:

Date: 16/8/2010

Approved by

Designation

Name: Dr. Walid Abdelmoez

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COURSE PARTICULARS	
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S315	Title: Applications in Computer Programming
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SESSION PARTICULARS		
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#: 2	Title: Arrays and 2D Arrays	Hrs: 2
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LEARNING OUTCOMES / ABILITIES GAINED*	
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#	Outcome Description
.....	One Dimensional Arrays
.....	Primitive vs. Reference Types
.....	Linear Search
.....	Binary Search
.....	Sorting
.....	Multidimensional Arrays
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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 3	Title: Methods	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Magic Square Case Study
.....	Static methods, static fields
.....	Scope of Declaration
.....	Declaring methods with multiple parameters
.....	Method Overloading
.....	Call by Reference and Call by Value
.....	Using built – in static methods (Math Class, Random Class, JOptionPane Class)
.....	Command Line Arguments
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COURSE PARTICULARS

S315	Title: Applications in Computer Programming
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SESSION PARTICULARS

#: 4	Title: Classes & Objects	Hrs:2
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LEARNING OUTCOMES / ABILITIES GAINED*

#	Outcome Description
.....	Encapsulation and Object Oriented Concepts
.....	Instance Variables
.....	Setter & Getter methods
.....	toString Method
.....	Controlling Class Members Access (Information Hiding)
.....	Default and No-Argument Constructors
.....	Parameterized Constructors
.....	The this keyword
.....	Constructor Overloading
.....	Note on Reference Types
.....	Instantiating Class Objects with Constructors
.....	Garbage Collection and the finalize Method
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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 5	Title: Classes & Objects: A Deeper Look	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Object Oriented Case Study (Stack Array)
.....	Static Class Members
.....	Static Import
.....	Final Instance Variables
.....	Composition
.....	Using Objects as Parameters
.....	String Class
.....	Enumerations
.....	Creating Packages
.....	Package Access (Access Modifiers)
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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 6	Title: Inheritance	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Inheritance Basics
.....	Super- and Sub-classes
.....	Protected Members
.....	Creating a Multilevel Hierarchy (Case Study)
.....	Constructors in Subclasses
.....	Method Overriding
.....	Using final with Inheritance
.....	The Object Class
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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 7	Title: Mid Term Exam	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Mid term Exam
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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 8	Title: Polymorphism & Interfaces	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Introducing Polymorphism
.....	Abstract Classes & Methods
.....	Case Study
.....	Demonstrating Polymorphic Processing, Operator instance of and Down casting
.....	Final Classes and Methods
.....	Creating and using Interfaces
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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 9	Title: Data Structures	Hrs:2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Type- Wrapper Classes for Primitive Data Types
.....	Autoboxing and Auto-Unboxing
.....	Self-Referential Classes
.....	Dynamic Memory Allocation
.....	Stacks
.....	Linked List
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COURSE PARTICULARS

S315

Title: Applications in Computer Programming

SESSION PARTICULARS

#: 10

Title: Dynamic Data Structure & Recursion

Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*

#	Outcome Description
.....	Trees
.....	Recursion Concepts
.....	Factorials
.....	Fibonacci Series
.....	Recursion and the Method Call Stack
.....	Recursion vs. Iteration
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COURSE PARTICULARS

S315

Title: Applications in Computer Programming

SESSION PARTICULARS

#: 11

Title: Exceptions Handling

Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*

#	Outcome Description
	Exception-Handling Fundamentals
	Java Exception Hierarchy
	Uncaught Exceptions
	Using try and catch
	Displaying a Description of an Exception
	Multiple catch Clauses
	Finally block
	Chained Exceptions
	Declaring New Exception Types



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COURSE PARTICULARS	
S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 12	Title: Graphical User Interface	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Overview of Swing Components
.....	Displaying Text and Images in a Window
.....	Text Fields and an Introduction to Event Handling
.....	Common GUI Event Types and Listener Interfaces
.....	How Event Handling Works
.....	JButton
.....	JCheckBox, JRadioButton
.....	JComboBox and Using an Anonymous Inner Class for Event Handling
.....	Mouse Event Handling
.....	Adapter Classes
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S315	Title: Applications in Computer Programming
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SESSION PARTICULARS

#: 13	Title: Accessing Databases with JDBC	Hrs: 2
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LEARNING OUTCOMES / ABILITIES GAINED*

#	Outcome Description
.....	JDBC Concept
.....	Setting Up a Database
.....	Establishing a Connection
.....	Setting Up Tables
.....	Retrieving Values from Result Sets
.....	Updating Tables
.....	Using Joins
.....	SQL Statements for data manipulation
.....	Creating Complete JDBC Applications
.....	Running the Sample Applications
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S315	Title: Applications in Computer Programming

SESSION PARTICULARS		
#: 14	Title: Java Input and output (Files and Streams)	Hrs: 2

LEARNING OUTCOMES / ABILITIES GAINED*	
#	Outcome Description
.....	Introduction
.....	Files and Streams
.....	Class File
.....	Sequential Access Text Files
.....	Random Access Files
.....	Opening Files with JFileChooser
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COURSE PARTICULARS

S315	Title: Applications in Computer Programming
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SESSION PARTICULARS

#: 15	Title: Project Presentation	Hrs: 2
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LEARNING OUTCOMES / ABILITIES GAINED*

#	Outcome Description
.....	Final Project Presentation
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Source Material :

Java How to Program, Sixth Edition, Deitel & Deitel

Supplementary Material: *White Board, Data Show and PC*

Educational Resources: *Handouts, assignments.*

Tutorial / ~~laboratory~~ / Workshop (Delete as required)

