Northern Technical University
Institute of Management - Nineveh
Department of Computer Systems Technologies

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Programming in Java**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**CST104**				
ECTS Credits					
SWL (hr/sem)	**44**				
Module Level	1		**Semester of Delivery**	٢	
Administering Department			**College**	Computer Systems Department	
Module Leader	Ammar abdul majed Gharbi		**e-mail**	ammarmajed@ntu.edu.iq	
Module Leader's Acad. Title	assistant teacher		**Module Leader's Qualification**	Master's degree in Computer Science	
Module Tutor			**e-mail**		
Peer Reviewer Name	1. Java programming language (Prepared by Eng. Ibrahim Al-Kouli, Commercial Technical Institute - Dhamar) 2. Basics of programming in the Java language (Prepared by: Eng. Ahmed Jabr Abd Rabbo Juhaish) 3. Programming using the Java language (Dr. Dean Saleh Ghazi) 4. Basics of programming in the Java language (Mohamed Mahmoud Ibrahim Musa)		**e-mail**	E-mail	
Scientific Committee ApprovalDate	09/04/2024		**Version Number**	1.0	

Relation with other Modules العالقة مع المواد الدراسية ألخرى			
Prerequisite module	Programming in java	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. The JAVA language is one of the most important programming languages in the world, and is commonly used in many fields, including: computer software development: The JAVA language is one of the most important programming languages that is used in developing various computer programs, such as file management programs and game programs. , accounting programs, and others.
Module Learning Outcomes	Understand the principles of the object-oriented model. Implementing and writing in JAVA and overcoming typical implementation challenges through language libraries.
Indicative Contents	JAVA language: How to obtain outputs from the program and inputs from the user, how to write conditional statements, nested conditional statements, and loops of all kinds. You will also learn data types in JAVA and how to perform simple mathematical operations. We will also learn about some advanced skills such as how to create new functions.

Learning and Teaching Strategies	
Strategies	Intermediate level: making it ideal for performing systems programming. Simple: Simple in content, can be divided into parts, and provides many types of data. Independent: It can run on different operating systems regardless of its parts.

Student Workload (SWL)			
Structured SWL (h/sem)	16	**Structured SWL (h/w)**	4
Unstructured SWL (h/sem)	-	**Unstructured SWL (h/w)**	
Total SWL (h/sem)	44		

Module Evaluation

تَوْيِيم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	4	20% (20)		LO #1, 2, 5 and 6
	Assignments	2	20% (20)		LO # 2, 4, 5and 6
Summative assessment	**Midterm Exam**	2hr	10% (10)		LO # 1-8
	Final Exam	3hr	50% (50)		All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج ألسبوعي النظري

	Material Covered
Week ١-٢	Introduction to Java programming - The Java Virtual Machine - Variables and data types - Conditional and looping constructs - Arrays
Week ٣-٤	Object-oriented programming with Java Classes and Objects - Fields and Methods - Constructors - Overloading methods - Nested classes
Week ٤-٦	Inheritance - Overriding methods - Polymorphism - Making methods and classes final - Abstract classes and methods Interfaces

Week ٧	Exception handling with try-throw-catch-finally constructs The Exception class
Week ٨	The Object class - Cloning objects - The JDK LinkedList class - Strings String conversions
Week ٩	Working with types: Wrapper classes Enumeration interface
Week ١٠	Packages - Package access Documentation comments
Week ١١	Applets - Configuring applets Applet capabilities and restrictions
Week ١٢-١٤	Basics of AWT and Swing - Layout Managers - Event Handling - The Action Listener interface - Panels - Classes for various controls, such as label, choice, list, Checkbox, etc. - Dialogs and frames - Using menus - Using the adapter classes Graphics
Week ١٥	Database connectivity with JDBC Java security

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered	
		• Install JAVA compiler. • Define main screen • Menus • Special Keys in editing
		• Written simple JAVA programs such print your name • How Execute this program • Using menus
		• Written simple JAVA program that used constant and variable.
		• Written simple JAVA program that used data type by taken example including most data types
		• Written simple JAVA program include most Expressions types , written different expressions forms
		• Written program used Relational expression/ relational operations and its priorities/ formulate Relational expression • Written program used Logical expression/ logical operation and its priorities/ formulate Logical expression • Written program used Compound expression/ priorities table of public operations/ deferent examples
		• Written a program include Assignment statement. Also contain Arithmetic expression (equation) • Written a program include counters. • In Execute time take different input data
		• Written program used Formatted Input and output functions • Written program output text • Written program Output numeric values also Output Arithmetic expression • Written program used un Formatted Input and output functions
		• Written program used Control, conditional, and loop statements • Written program used switch conditional statement And nested conditional statement
		Written program used repetition statements • for loop • Nested for

		• Written program used while Statement, do…while statement
		Written program include control at repetition: continue statement ,exit statement and go to statement
		Written program include: arrays, One Dimensional array
		Written program include: two Dimensional array, square array(as special state of two Dimensional array)
		Written program include Define function, call function and Global and local variable Define function
		• Written program that retrieving values from function • Study factors effecting at using functions
		Written program include User defined functions such add two matrix
		Written program include Library of standards functions : String functions, Arithmetic functions, Date and time functions
		• Written program draw different shapes. • Write function to draw shapes : rectangle, Circle, lines, square. • Study screen type
		Build workable integral system, include arrays and above mentioned functions

Learning and Teaching Resources

مصادر التعلم والتدريس

		Available in the Library?
Required Texts	1. Java programming language (Prepared by Eng. Ibrahim Al-Kouli, Commercial Technical Institute - Dhamar) 2. Basics of programming in the Java language (Prepared by: Eng. Ahmed Jabr Abd Rabbo Juhaish) 3. Programming using the Java language (Dr. Dean Saleh Ghazi) 4. Basics of programming in the Java language (Mohamed Mahmoud Ibrahim Musa)	NO
Recommended Texts		
Websites		

Group	Grade		Marks (%)	Definition
Success Group (50 - 100)	**A** - Excellent		90 - 100	Outstanding Performance
	B - Very Good		80 - 89	Above average with some errors
	C - Good		70 - 79	Sound work with notable errors
	D - Satisfactory		60 - 69	Fair but with major shortcomings
	E - Sufficient		50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail		(45-49)	More work required but credit awarded
	F – Fail		(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.