MANIPAL SCHOOL OF INFORMATION SCIENCES
MANIPAL
(A constituent unit of MAHE, Manipal)

Master of Engineering - ME (Embedded Systems)

Course File

Course Name	:	Database Programming in Java Lab
Course Code	:	ESD 5183
Academic Year	:	2024 – 25
Semester	:	I
Name of the Course Coordinator	:	Dr. SATHYENDRANATH MALLI
Name of the Program Coordinator	:	Dr. DINESH RAO

	
Signature of Program Coordinator with Date	**Signature of Course Coordinator with Date**

Table of Contents

Program Education Objectives (PEOs)

The overall objectives of the Learning Outcomes-based Curriculum Framework (LOCF) for **ME (Embedded Systems)**, program are as follows.

PEO No.	Education Objective
PEO 1	Enable to draw upon fundamental and advanced knowledge to apply analytical and computational approaches to solve technological problems in embedded systems..
PEO 2	Introduce state of art technologies in the area of embedded systems and inculcate ethical practices to make industry-ready professionals.
PEO 3	Promote scientific and societal advancement through research and entrepreneurship.

Program Outcomes (POs)

By the end of the postgraduate program in **ME (Embedded Systems)**, graduates will be able to:

PO1	An ability to independently carry out research /investigation and development work to solve practical problems.
PO2	An ability to write and present a substantial technical report/document.
PO3	Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.
PO4	Ability to develop and implement embedded systems requirements based on theoretical principles and practical knowledge.
PO5	Ability to demonstrate knowledge of the underlying principles and evaluation methods for analyzing and decision-making.

1. Course Plan

1.1 Primary Information

Course Name	**:**	Database Programming in Java Lab[ESD 5183]
L-T-P-C	**:**	0-0-3-1
Contact Hours	**:**	36 Hours
Pre-requisite	**:**	Basic Programming Knowledge
Core/ PE/OE	**:**	Elective – 1

1.2 Course Outcomes (COs)

CO	At the end of this course, the student should be able to:	No. of Contact Hours	Program Outcomes (PO's)	BL
CO1	**Apply** object-oriented programming concepts for a java application	12	PO3	3
CO2	**Use** core java concepts to build a java application	12	PO3, PO5	3
CO3	**Implement** a java application using JDBC concepts.	6	PO4	3
CO4	**Analyze** the different set of SQL statements which are used for defining, constructing, and manipulating a database	6	PO4, PO5	4

1.3 Assessment Plan

Components	Lab Test	Flexible Assessments (2 – 3 in number)	End semester/ Makeup examination
Duration	120 minutes	To be decided by the faculty.	180 minutes
Weightage	0.3	0.2	0.5
Typology of questions	Applying; Analyzing.	Applying; Analyzing. Evaluating.	Applying; Analyzing; Evaluating.
Pattern	Answer all the questions. Maximum marks 30.	**Assignment:** Apply, analyze and evaluate all the applications covering all the topics of OOP's, core java, JDBC and Database: Maximum 20 marks. [To be decided by the faculty members. May be Assignments, Problem solving, etc.]	Answer all the questions. Maximum marks 50.

Schedule	As per academic calendar.	**Assignment submission:** November 2023	As per academic calendar.
Topics covered	OOP's concepts, Core java, UI application, JDBC, and SQL		Comprehensive examination covering the full syllabus.

1.4 Lesson Plan

L. No.	TOPICS	Course Outcome Addressed
L0	Course delivery plan, Course assessment plan, Course outcomes, Program outcomes, CO-PO mapping, reference books	---
L1	Setting the java runtime environment, understanding a simple java application	CO1
L2	Exercises to build the java applications using core java concepts	CO2
L3	Exercises to build the java applications using core java concepts	CO2
L4	Exercises to build the java applications using core java concepts	CO2
L5	Inheritance - Build & test java applications	CO1

L6	Interface - Build & test java applications	CO1
IT1		CO1 & CO2
L7	UI application - Build & test	CO2
L8	UI application - Build & test	CO2
L9	JDBC application	CO3
L10	JDBC application	CO3
L11	Test various SQL statements	CO4
L12	Test various SQL statements	CO4
IT2		CO3 & CO4

1.5 References

1. "JAVA 2 – The Complete Reference" Patrick Naughton and Herbert Schildt –VII Edition, Tata McGraw Hill.
2. "Database Programming with JDBC and Java" George Reese, O'Reilly, 2nd Edition
3. "Fundamentals of Database systems, Third Edition". Author: Elmasri and Navath
4. "Database system Concepts, Third Edition",Author: Abraham Silberschatz (Bell Laboratories), Henry F. Korth(Bell Laboratories) and S. Sudarshan (Indian Institute of Technology, Bombay, Publishers: The McGraw-Hill Companies, Inc.

1.6 Other Resources (Online, Text, Multimedia, etc.)

1. Web Resources: Blog, Online tools and cloud resources.
2. Journal Articles.

1.7 Course Timetable

1st Semester Big Data Analytics				Lab:				
	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5
MON								
TUE						DBPJ Lab		
WED								
THU								
FRI								
SAT								

1.8 Assessment Plan

Cos		**Marks & weightage**			
CO No.	CO Name	Mid Semester (Max. 50)	Assignment (Max. 20)	End Semester (Max. 50)	CO wise Weightage
CO1	**Apply** object-oriented programming concepts for a java application	20	5	10	**0.3**
CO2	**Use** core java concepts to build a java application	20	5	20	**0.3**
CO3	**Implement** a java application using JDBC concepts.	10	5	10	**0.2**
CO4	**Analyze** the different set of SQL statements which are used for defining, constructing, and manipulating a database		5	10	**0.2**
	Marks (weightage)	**0.3**	**0.2**	**0.5**	**1.0**

Note:

- In-semester Assessment is considered as the Internal Assessment (IA) in this course for 50 marks, which includes the performances in lab participation, assignment work, lab work, lab tests, quizzes etc.
- End-semester examination (ESE) for this course is conducted for a maximum of 50.
- End-semester marks for a maximum of 50 and IA marks for a maximum of 50 are added for a maximum of 100 marks to decide upon the grade in this course.

Weightage for CO1 = (Lab Test marks for CO1 + Assignment marks for CO1 + ESE marks for CO1) /100

1.9 Assessment Details

The assessment tools to be used for the Current Academic Year (CAY) are as follows:

SI. No.	Tools	Weightage	Frequency	Details of Measurement (Weightage/Rubrics/Duration, etc.)
1	Lab Test	0.3	1	• Performance is measured using internal test attainment level. • Reference: question paper and answer scheme.

				• Each internal test is assessed for a maximum of 50 marks and scaled down to 40 marks.
2	Assignments	0.2	2	• Performance is measured using assignments/quiz attainment level. • Assignments/quiz are evaluated for a maximum of 10 marks.
3	ESE	0.5	1	• Performance is measured using ESE attainment level. • Reference: question paper and answer scheme. • ESE is assessed for a maximum of 100 marks and scaled down to 50 marks.

1.10 Course Articulation Matrix

CO	PO1	PO2	PO3	PO4	PO5
CO1			**Y**		
CO2			**Y**		**Y**
CO3				**Y**	
CO4				**Y**	**Y**
Average Articulation Level			*	*	*