Ahsanullah University of Science and Technology
Bangladesh

COURSE OUTLINE

Part A

1. Course No./Course Code: ***CSE 4126 (BNQF 061)***

2. Course Title: **Distributed Database Systems Lab**

3. Course Type (GEd/Core Course/Elective): ***Core Course***

4. Year/Level/Semester/Term: ***Level 4 Term 1***

5. Academic Session: ***Spring 2021***

6. Course Teacher/Instructor: G. M. Shahariar, Sanzana Karim Lora

7. Pre-requisite(s) (if any): Database Lab (CSE3104)

8. Credit Value: ***0.75***

9. Credit Hours: ***0.75***

10. Total Marks: ***100***

11. Rationale of the Course: SDG 4 (Ensure Technical Level Education) and SDG 8 (Reduce Unemployment Rate)

12. Faculty: Engineering

13. Department: Computer Science and Engineering (CSE)

14. Programme: Bachelor of Science in Computer Science and Engineering (B.Sc. in CSE)

15: Course Objectives:

Laboratory works based on CSE4125: Distributed databases and systems: Distribution transparency, Data Fragmentation, Distributed query processing and optimization, Transaction management, Concurrency control, Data recovery and Replication; Data warehousing: Multidimensional data models and data cubes, Granularity and partitioning of data, Integration of large bodies of data; Implementation of client-server

DBMS and distributed database applications; Security aspects for distributed database systems.

16. Mapping of Course Outcomes with Bloom's Taxonomy and Programme Outcomes

Sl. No.	COs	POs	Bloom's Taxonomy		
			C	A	P
1	After completion of the course, the students will be expected to execute the important topics of PL/SQL, such as – blocks, functions, procedures, triggers etc.	2			2
2	After completion of the course, the students will be expected to imitate distributed database set up on Oracle over a network via database connections.	1			1
3	After completion of the course, the students will be expected to perform the design of distributed databases using Oracle's PL/SQL.	3			3

17. Mapping of COs with Knowledge Profiles, Complex Engineering Problem Solving and Complex Engineering Activities

Course Outcome	Knowledge Profile	Complex Problem Solving	Complex Engineering Activities
CO1	K4		
CO2	K4		
CO3	K5		

Part B

18. Week-wise Course Plan

Week	Topic	Teaching-Learning Strategy	Assessment Strategy	Corresponding COs
1	Introduction to Oracle PL/SQL: Getting started with Oracle 10g, Review on SQL	***- Lecture - Brain Storming Session - Think – Pair - Share (TPS)***	***- Home Assignment (Offline)***	***1***
2	Anonymous block, variables, PL/SQL Control Statements and	***- Lecture - Brain Storming***	***- Class Performance***	***1***

	Cursor: If-Then-Else, When, Loop, While, Cursor.	***Session - Think – Pair - Share (TPS)***	***- Home Assignment (Offline)***	
3	PL/SQL Function, Procedure and Packages. Project Proposal Submission.	***- Lecture - Brain Storming Session - Think – Pair - Share (TPS)***	***- Class Assignment (Online) - Home Assignment (Offline)***	***1***
4	Introduction to Distributed Database: Database link	***- Lecture - Brain Storming Session - Think – Pair - Share (TPS)***	***- Class Assignment (Online)***	***2, 3***
	Mid Break			
5	Exception, Trigger and Sequence.	***- Lecture - Brain Storming Session - Think – Pair - Share (TPS)***	***- Class Performance***	**1**
6	Project Submission.	***- Brain Storming Session - Think – Pair - Share (TPS)***	***- Project Submission***	***1, 2, 3***
7	Final Term Examination	***-***	***- Final Examination***	***1, 2, 3***

Part C

19. Assessment and Evaluation

1) Assessment Strategy: ***Class Performance, Quizzes/Assignments/Onlines, Project and Final Examination***

2) Marks distribution:

a) Continuous Assessment: ***Class Performance (20), Quizzes/Assignments (35), Project (15)***

b) Summative: ***Final Examination (30)***

3) Make-up Procedures: ***n/a***

Part D

20. Learning Materials

20.1. Required (if any)

1. **Oracle Database 10g The Complete Reference, Kevin Loney, Publisher: McGraw Hill Professional, Sep 28, 2004.**
2. **Oracle Pl/SQL Programming, by Steven Feuerstein, Bill Pribyl. Publisher: Shroff Publishers & Distributors, 2005. (4th Edition)**
3. **M. Tamer Özsu. Principles of Distributed Database Systems, 3rd Edition.**

20.2. Recommended (if any)

1. ***Course website - https://classroom.google.com***
   Class code - s6qlc45

20.1. Others (if any)

Prepared by:	Checked by:	Approved by:
Signature: _____ **Name: G. M. Shahariar, Sanzana Karim Lora** **Department: CSE** **Date: 23-05-2022**	Signature: _____ **Name: H M Zabir Haque** **OBE Program Coordinator, CSE** **Date:**	Signature: _____ **Name: Dr. Mohammad Shafiul Alam** **HOD, CSE** **Date:**

Annex-1: PEO of CSE

PEO1 - Professionalism
Graduates will demonstrate sound professionalism in computer science and engineering or related fields.

PEO2 – Continuous Personal Development
Graduates will engage in life-long learning in multi-disciplinary fields for industrial and academic careers.

PEO3 – Sustainable Development
Graduates will promote sustainable development at local and international levels.

Annex-2: Mapping of PEO-PO

	PEO1	PEO2	PEO3
PO1 - Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.	√		
PO2 - Problem analysis: Identify, formulate, research and analyze complex engineering problems and reach substantiated conclusions using the principles of mathematics, the natural sciences and the engineering sciences.	√		
PO3 - Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety as well as cultural, societal and environmental concerns.	√		
PO4 – Investigation: Conduct investigations of complex problems, considering design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.	√		
PO5 - Modern tool usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	√		
PO6 - The engineer and society: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.	√		√
PO7 - Environment and sustainability: Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development.	√		√
PO8 – Ethics: Apply ethical principles and commit to professional ethics, responsibilities and the norms of engineering practice.	√		

PO9 - Individual work and teamwork: Function effectively as an individual and as a member or leader of diverse teams as well as in multidisciplinary settings.	√	√	
PO10 – Communication: Communicate effectively about complex engineering activities with the engineering community and with society at large. Be able to comprehend and write effective reports, design documentation, make effective presentations and give and receive clear instructions.	√		
PO11 - Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work as a member or a leader of a team to manage projects in multidisciplinary environments.	√		
PO12 - Life-long learning: Recognize the need for and have the preparation and ability to engage in independent, life-long learning in the broadest context of technological change.		√	

Annex-3: Blooms Taxonomy *

Level	Cognitive Domain – Revised Version	Affective Domain	Psychomotor Domain
1	Remember (1)	Receiving Phenomena (1)	Perception (1)
2	Comprehend (2)	Responding to Phenomena (2)	Set (2)
3	Apply (3)	Valuing (3)	Guided Response (3)
4	Analyse (4)	Organizing Values (4)	Mechanism (4)
5	Evaluate (5)	Internalising Values (5)	Complex Overt Response (5)
6	Create (6)		Adaption (6)
			Origination (7)

* Based on "REVISED BLOOM'S TAXONOMY INDICATOR v3.31" , available athttp://adept.mmu.edu.my/wp-content/uploads/2018/09/Blooms-Taxonomy-Indicator-v3.31.xls