



**COLLEGE OF INFORMATION TECHNOLOGY
DEPARTMENT OF INFORMATION TECHNOLOGY**

COURSE SYLLABUS/SPECIFICATION

CODE & TITLE: ITCS 433 – Database Administration I (ODBA – 3)
WEIGHT: (2 - 2 - 3)
PREREQUISITE: ITCS 334

DESCRIPTION: This course gives students critical knowledge and expertise on administrating the industry's most advanced database management system (Oracle). This includes: installing Oracle Database 11g, controlling the databases, backup and recovery and administrating users' security.

OBJECTIVES:

1. To critically identify the tools for administrating an oracle database
2. To deeply understand the different types of users, their roles and responsibilities.
3. To identify the types of failure that can occur in an Oracle database
4. To deeply understand essential security-related aspect of Oracle DB and its users.

SEMESTER:
INSTRUCTOR:
OFFICE TEL:
EMAIL:

ACADEMIC YEAR:

INTENDED LEARNING OUTCOMES (ILOS)

Upon successful completion of the course, students should be able to:

A. Knowledge and Understanding	
A1	<u>Concepts and Theories</u> : Recognize critical concepts and principles related to administrating Oracle Database such as: installing and configuring Oracle environment, creating users and granting them privileges and roles, data backup and recovery and managing DBMS failure.
A2	<u>Contemporary Trends, Problems and Research</u> : NA
A3	<u>Professional Responsibility</u> : NA

B. Subject-Specific Skills	
B1	<u>Problem Solving</u> : Show ability to install, configure and maintain Oracle Database as well as manage its users.
B2	<u>Modeling and Design</u> : NA
B3	<u>Application of Methods and Tools</u> : Apply specialized tools while installing Oracle software as well as creating a database, managing and maintaining it; such as Database Configuration Assistant (DBCA) and Oracle Universal Installer (OUI)

C. Thinking Skills	
C1	<u>Analytic</u> : Critically evaluate how Oracle and its applications can best use the available computer resources as well as compare and contrast various configurations and choose the most appropriate one as per user requirements.
C2	<u>Synthetic</u> : NA
C3	<u>Creative</u> : NA

D. General and Transferable Skills (Other Skills Relevant to Employability and Personal Development)	
D1	<u>Communication</u> : The ability to express and communicate ideas in oral and written form.
D2	<u>Teamwork and Leadership</u> : NA
D3	<u>Organizational and Developmental Skills</u> : Demonstrate ability to organize ideas and effectively allocate time in a given assignment.
D4	<u>Ethical and Social Responsibility</u> : NA

Course Structures (Outline)						
Week	Hours		ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
	Lec.	Lab				
1	2	2	A1	Introduction and syllabus distribution.	Lecture	
2	2	2	A1, B3	<ul style="list-style-type: none"> Exploring the Oracle Database Architecture Preparing the Database Environment 	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
3	2	2	A1, B1, B3	<ul style="list-style-type: none"> Creating an Oracle Database Managing the Oracle Instance 	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises/ Quiz1
4	2	2	A1, B1, B3	Configuring the Oracle Network Environment	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
5	2	2	A1, B1, B3, C1	Managing Database Storage Structures	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
6	2	2	A1, B1, B3, C1, D1, D3	Administering User Security	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises/ Assignment 1
7	2	2	A1, B1, B3, C1	Managing Data and Concurrency	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
8	2	2	A1, B1, B3, C1	Managing Undo Data	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
9	2	2	A1, B1, B3, C1	Implementing Oracle Database Security	Lecture/ Class Discussion/	In-Lab Exercises

					In-Lab Supervised Work	
10	2	2	A1, B1, B3, C1	Database Maintenance	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
11	2	2	A1, B1, B3, C1	Performance Management	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises/ Lab Test
12	2	2	A1, B1, B3, C1	Intelligent Infrastructure Enhancements	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises/ Quiz 2
13	2	2	A1, B1, B3, C1, D1, D3	Backup and Recovery Concepts	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises/ Assignment 2
14	2	2	B1, B3, C1	<ul style="list-style-type: none"> • Performing Database Backups • Performing Database Recovery 	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
15	2	2	A1, B1, B3, C1	<ul style="list-style-type: none"> • Moving Data • Working With Support 	Lecture/ Class Discussion/ In-Lab Supervised Work	In-Lab Exercises
16	2	-	A1, B1, C1	All Topics		Final Exam

TEACHING MATERIALS:

TEXTBOOK(S): Oracle Database 11g: Administration Workshop I

HANDOUT(S): Oracle Learning Library available through:
<http://www.oracle.com/technetwork/tutorials/index.html>

REFERENCE(S):

1. Waston J., OCA Oracle Database 11g Administration I Exam Guide (Exam 1Z0-052)
2. Thomas B., OCA: Oracle Database 11g Administrator Certified Associate Study Guide: (Exams 1Z0-051 and 1Z0-052)

WEBSITE(S):

1. <http://www.oracle.com>
2. <http://www.oracle.com/partners/en/knowledge-zone/database/oracle-database-11g/1z0-052-exam-page-169362.html>

ASSESSMENTS:

Type of Assessment	Description	ILOs	Weighting
Assignments	The students will be given 2 research based assignments each worth 10 marks and their total will be considered at the end.	A1, B1, C1, D1, D3	20%
Quizzes	The purpose of the quiz is to assess the students' knowledge and understanding of the topics covered in the course like creating and managing Oracle database, configuring Oracle network environment, performing database backup and recovery, implementing database security. Students will be given two quizzes, each one is 30 minutes, and the best one will be considered.	A1, B1, C1	10%
Lab Test	The knowledge and practical skills of students will be evaluated throughout practical test that will be of 90 minutes. It will cover topics discussed in the first 10 weeks.	B1, B3, C1	30%
Final Exam	The final exam is comprehensive and will be of two hours duration. It will consist of multiple choice questions, fill in the blank, short-answer and few essay questions.	A1, B1, C1	40%
In-Lab Exercises	Each of the In-Lab exercises consists of a set of practical tasks to be carried by the students during lab time and that will help in evaluating hands-on capability of the students.	B1, B3, C1	Formative
Overall			100%

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