

Syllabus CIS 64B - Spring 2015

Description

Introduction to Oracle, SQL, DML, processing techniques, DDL techniques, selecting and sorting data, Joins, SQL functions, Oracle object, Oracle data processing concepts to maintain large database systems.

Instructor Information: Sukhjit Singh

I have over 15 years of experience in software engineering and executive consulting and have developed business-critical, scalable and reliable infrastructures for companies like @Road, Infospace and Oracle. Education: MS Software Engineering with focus on Program Management (Carnegie Mellon University), MS Education - focus on Online Learning Technologies (CSUH), BS Computer Science (CSUH).

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Office Location: F51e

Office Hours: Monday and Wednesday - 6 pm to 7:50 pm.

Requirements

Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273; Computer Information Systems 64A.

Objectives

- A. Review the basic features of databases.
- B. Demonstrate usage of basic SQL statements to restrict and sort data.
- C. Demonstrate usage of single-row functions for retrieving from database.
- D. Illustrate usage of joins to get data from multiple tables.
- E. Explain and apply data aggregation and sub-queries to fetch data from database.
- F. Demonstrate how formatting output works to produce readable reports.
- G. Create Database Objects using a database schema.

- H. Define database security policy and create different levels of user access and variables in database schema.
- I. Use Control Structures to implement decision making constructs in RDBMS.
- J. Describe how cursors are implemented in databases.
- K. Demonstrate usage of database utilities used for importing and exporting data from databases.

Textbook

Required Text

ISBN-10: 0596518846

ISBN-13: 978-0596518844

SQL in a Nutshell (In a Nutshell (O'Reilly)) by Kevin Kline, Brand Hunt and Daniel Kline

Recommendations for reference Texts

Oracle SQL Manuals for 12c from otn.oracle.com.

Oracle Server Concepts for Oracle 12c from otn.oracle.com

Media Availability

Recorded Lectures are available through www.cccconfer.org

Written Assignments

Assignment Due dates

Programming Assignment 1 4/18/2015

Programming Assignment 2 4/25/2015

Programming Assignment 3 5/1/2015

Programming Assignment 4 5/8/2015

Programming Assignment 5 5/15/2015

Midterm 5/20/2015 1:00 pm-2:30pm Online

Programming Assignment 6 6/1/2015

Programming Assignment 7 6/8/2015

Programming Assignment 8 6/22/2015

Final 6/24/2015 1:00 pm-2:30pm Online

Handouts

Available on class site

Final Grade

Through myportal.deanza.edu

Additional Information

Grading System for this course

For Letter Grade:

Grade: A+ assigned with 97% or higher

Grade: A assigned with 93% or higher

Grade: A- assigned with 90% or higher

Grade: B+ assigned with 87% or higher

Grade: B assigned with 83% or higher

Grade: B- assigned with 80% or higher

Grade: C+ assigned with 77% or higher

Grade: C assigned with 73% or higher

Grade: D+ assigned with 70% or higher

Grade: D assigned with 63% or higher

Grade: D- assigned with 60% or higher

Grade: F assigned with 0% or higher

For Pass/No Pass:

Grade: Credit assigned with 70% or higher

Grade: No Credit assigned with 0% or higher

Incomplete

Audit

Withdrawal

Grading

Final - 40% of the grade

Labs - 30% of the grade

Midterm - 30% of the grade

Class Topics

Week 1

Oracle Architecture and Basics

Week 2

Basic Select Statement

Week 3

Joins

Week 4

SQL Functions, Group By and Having Clause

Week 5

Transaction Nuts and Bolts and other Misc Stuff

Week 6

DB Theory and Normalization

Week 7

Creating Tables

Week 8

Database Objects and Indexes

Week 9

Database Utilities

Week 10

Database Security

General information

Course description

My Comments

This course is taking a deeper approach in helping you understand Oracle SQL. (However this might make you a better DBA). We get into Oracle Internals and you will have a better appreciation of the subject matter, if you have taken the background courses.

As you will see below, my focus is on Oracle's approach for creating an RDBMS. You will always have the SQL manual for reference " but the focus of this class is for a developer to know the inside Oracle so well, that they can help a DBA to perform their job better. Get ready to see databases in a whole new way.

Course Structure

Lecture hours in schedule are about 2 hours. Two way discussion on subject material is highly encouraged. You should spend 6 - 10 hours per week to be able to finish your lab assignments. Team up with peers in your class but submit your own work (It will add to your learning.)

Required Accounts:

You will need an account on:

- a. De Anza's Oracle Database (Account created by Instructor)
- b. <http://otn.oracle.com> (Account created by you)
- c. unix acct to access database remotely (Account created by you - instructions at <http://voyager.deanza.edu/voyagerAccount.pdf>)
- d. windows acct to access database from the lab. (Account created by you. Pl. ask for instructions to create this account when you are physically in the lab).

Attendance

Your attendance is expected in all lectures. You do not have to call me with an absent excuse, if you are going to be absent from the class

Withdrawing

Once you are added to the class it is your responsibility to withdraw. I will not drop you from the class. The earned grade will be assigned at the end of the quarter.

Adding the class and Late Adds

At Instructor's discretion you may be assigned an addcode. you should add the class within normal dates provided in academic calendar on De Anza's website. If you do not add the class, during the scheduled time, no late adds will be processed by instructor.

Academic Dishonesty

You are encouraged to discuss the ideas presented in the class. Copying or Cheating of work will result in zero grade for that assignment and may result in a failing grade. Basically I cannot tolerate cheating. You must work your solutions independently and all assignments and tests should be your own original work.

Submtting Lab Assignments

On the lab assignment header, you should have the following information

Oracle SQL

Lab Assignment #

Your Name
Last four digits of your Student ID #
Due date
Date Handed in

Pl. upload your source code on Catalyst shell for grading. Whenever sending more than one file as attachment, pl. be sure to zip all the necessary files.

Lab Assignment Grading Due dates will be provided on the calendar. Assignments turned in late will earn a maximum of 50% credit. No work will be accepted after the last lecture day.

For my classes reading the text before class is highly recommended.

Cheating

Policy on Copying and Cheating: Students who submit the work of others as their own or cheat on exams or other assignments will receive a failing grade in the course and will be reported to college authorities.

Catalyst Information

This course utilizes Catalyst, De Anza's Online Learning Community. Please view the Catalyst website at <https://catalyst.deanza.edu/> to login. Please note that you will be unable to login until the first day of class. Be sure you are using your correct username and password - do not use your social security number or international "99" number. If you need help logging in or finding your student ID, please view the short instructional video at: <https://catalyst.deanza.edu/?pg=mod1>. Additional instructions and assistance can be found on the Catalyst website.

De Anza College Bookstore Contact Information

Phone: 408-864-8455

<http://books.deanza.edu/>

LIBRARY SERVICES

De Anza College Library Services are available for all students and faculty, both on and off campus. Please consult the library website for a complete description of the library services and hours:

De Anza College Library: <http://www.deanza.edu/library/>

Services of particular interest to off campus students include:
Access to the Library Catalog which includes books, DVDs, and course reserves. Here is a link to the library catalog:

Library Catalog: <http://library.deanza.edu/uhtbin/webcat>

Article Databases and Research Databases The library subscribes to several electronic databases which provide access to thousands of full-text journals, newspapers, and magazine articles. Research databases include: LEXIS NEXIS Academic, Encyclopedia Britannica Online and a Practice Test Database which contains Nursing Exams, TOEFL Preparation, College Entrance Exams, and many more.

To use the article or research databases from an off campus computer, log in with your 14 digit library number or eight digit student id number. These instructions are repeated on the first page of the library website along with descriptions of all the online resources provided.