NORTH LAKE COLLEGE
5001 N. MacArthur Blvd.
Irving, Texas 75038-3899
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

COURSE SYLLABUS
ITSE 2356 73426
Spring 2015

Business Computer Information & Technology
Location T135/ Phone (972) 273-3450
Hours: Monday - Thursday, 8:00 a.m. - 6:00 p.m.
Friday, 8:00 a.m. - 4:30 p.m.

This course syllabus is intended as a set of guidelines for (ITSE 2356). Both North Lake College and your instructor reserve the right to make modifications in content, schedule, and requirements as necessary to promote the best education possible within prevailing conditions affecting this course.

Instructor Information

Name: Wassim Saade
Email: wsaade@gmail.com
Cell phone: 214-554-6231 (feel free to text me)
Phone: 972.273.3450 (leave message)
Room: T135
Office Hrs: N/A
Course Information

Course title: Oracle 11g Database Administration Workshop I
Course number: ITSE 2356
Section number: 73426
Credit hours: 3
Open lab session: TBD
Drop Date: TBD

Course description: ITSE 2356 Oracle 11g Database Administration Workshop I (3)
In this course, students learn to administer Oracle Database 11g. This course is your first step towards success as an Oracle professional, designed to give you a firm foundation in basic database administration. Students learn about the architecture and how the database components work and interact with one another. Students also learn how to install and maintain an Oracle database. This course covers the key features and enhancements of both Oracle Database 11g Release 1 & Release 2. The lesson topics are reinforced with structured hands-on practices. This course is designed to prepare you for the corresponding Oracle Certified Associate exam.

Course prerequisites:
ITSE 1345 Introduction to Oracle 11g SQL (Highly recommended)

Required Textbooks and Materials

- Oracle course materials (provided by instructor)
- Oracle 11g RDBMS

Learn To:

- Install Oracle Grid Infrastructure
- Create and manage users
- Install and Configure Oracle Database
- Create and manage storage structures
- Administer the Oracle Database
- Backup and Recovery

Course Objectives

- Monitor performance
- Describe Oracle Database Architecture
- Install Oracle Grid Infrastructure
- Install and configure Oracle Database 11g
- Configure Oracle Net services
- Monitor and administer undo data
- Manage the database storage structures
• Create and administer user accounts
• Perform basic backup and recovery of a database
• Manage users and schemas
• Manage data concurrency

Specific Course Learning Outcomes
1. Exploring the Oracle Database Architecture
2. Preparing the Database Environment
3. Creating an Oracle Database
4. Managing the Oracle Database Instance
5. Configuring the Oracle Network Environment
6. Managing Database Storage Structures
7. Administering User Security
8. Managing Schema Objects
9. Managing Data and Concurrency
10. Managing Undo Data
11. Implementing Oracle Database Security
12. Database Maintenance
13. Performance Management
14. Backup and Recovery Concepts
15. Performing Database Backups
16. Performing Database Recovery
17. Moving Data
18. Enhancing Database Capabilities
COURSE SCHEDULE

Week 1
Lesson 1: Exploring The Oracle Database Architecture
Lesson 2: Preparing the Database Environment
Lesson 3: Create an Oracle Database

Week 2
Lesson 4: Managing the Oracle Instance
Lesson 5: Configuring the Oracle Network Environment
Lesson 6: Managing Database Storage Structures

Week 3
Lesson 7: Administering User Security
Lesson 8: Managing Schema Objects

Week 4
Lesson 9: Managing Data and Concurrency
Lesson 10: Managing Undo Data
Lesson 11: Implementing Oracle Database Security

Week 5
Lesson 12: Database Maintenance
Lesson 13: Performance Management
Lesson 14: Backup and Recovery Concepts

Week 6
Lesson 15: Performing Database Backups
Lesson 16: Performing Database Recovery
Lesson 17: Moving Data

Week 7
Lesson 18: Enhancing Database Capabilities
Self Study Exam Review

Week 8: Final Exam: The final exam (comprehensive) will be an examination of the concepts and labs covered in the course.

*The order of topics and date of exam (finals) may vary depending on the needs of the students
Course schedule may be modified at the discretion of the instructor.
Means of Assessment of Course Learning Outcomes

Assessment methods will include the following:
- Exam (final)
- Lab Assignments (hands on)
- Attendance / Participation

**Evaluation Procedures**

<table>
<thead>
<tr>
<th>Method</th>
<th>Number</th>
<th>Points</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exams</td>
<td>1</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Lab assignments</td>
<td>10</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>Participation Online participation includes communication with the instructor</td>
<td>Ongoing</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Course Total</td>
<td></td>
<td>155</td>
<td>325</td>
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</table>

**Grading Scale**

<table>
<thead>
<tr>
<th>Points</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>290 – 325</td>
<td>A</td>
</tr>
<tr>
<td>254 – 289</td>
<td>B</td>
</tr>
<tr>
<td>218 – 253</td>
<td>C</td>
</tr>
<tr>
<td>182 – 217</td>
<td>D</td>
</tr>
<tr>
<td>216 and Below</td>
<td>F</td>
</tr>
</tbody>
</table>

**TEACHING METHODS:**
This course can be delivered on campus or online. If delivered on campus, attendance is mandatory. If delivered online, participation via communication with your instructor is mandatory.

**Open Labs Sessions**
For online sections, at times your instructor may hold open labs sessions. If so, it is imperative you attend, as this is valuable face-to-face time with your instructor.

The final (comprehensive) will be an examination of the concepts and lab assignments covered in the course.
CLASS PARTICIPATION:

Due to the accelerated pace of the class, participation is necessary. It is imperative to maintain a stream of communication with your instructor. In addition, it is advised to attend the open lab session setup by your instructor.

Students are encouraged to share their questions, ideas, and opinions with their colleagues during the regularly scheduled classes. While study groups outside of class may be an aid to learning, each student is expected to do his/her own work on class assignments and exams.

Discipline/ Course/ Department/Policies

These policies may consist of a variety of discipline/program specific policies not appropriate for every discipline including but not limited to the following examples:

- Respect for your fellow classmates and your instructor must be demonstrated.
- Attendance is required. Due to the accelerated pace of the class, attendance is expected at each scheduled lecture. Should you not be able to attend a class you should arrange to obtain class notes from a fellow student.

ARTS, BUSINESS, SPORTS SCIENCE, AND TECHNOLOGY DIVISION

BUSINESS and TECHNOLOGY LABORATORIES

Office Hours: 8:00 a.m. - 6:00 p.m. Mon-Thu,
8:00 a.m. - 4:30 p.m. Fri
Location: T135, Telephone: 972-273-3450

INSTITUTIONAL POLICIES

ACADEMIC DISHONESTY

The Student Code of Conduct prohibits academic dishonesty and prescribes penalties for violations. According to this code, which is printed in the college catalog, "academic dishonesty", includes (but is not limited to) cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion".

1) The Vice-President of Academic & Student Affairs may initiate disciplinary proceedings against a student accused of academic dishonesty.

2) Academic dishonesty includes, but is not limited to, cheating on a test, plagiarism and collusion.
3) Cheating on a test includes:
   a) Copying from another student’s test paper;
   b) Using, during a test, materials not authorized by the person giving the test;
   c) Collaborating with another student during a test without permission to do so;
   d) Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an un-administered test.
   e) Substituting for another student, or permitting another student to substitute for you to take a test; and
   f) Bribing another person to obtain an unadministered test or information about an unadministered test.

4) “Plagiarism” means the appropriation of another’s work (ideas and/or words) and the unacknowledged incorporation of that work in one’s written work offered for credit. Quotes not identified as quotes constitute a form of plagiarism even if the borrowed ideas are documented.

5) “Collusion” means an unauthorized collaboration with another person in preparing written work offered for credit.

Academic dishonesty may result in the following sanctions, including, but not limited to:
1. A grade of zero or a lowered grade on the assignment or course.
2. A reprimand.
3. Suspension from the college.

NOTIFICATION OF ABSENCE DUE TO RELIGIOUS HOLY DAY(S)
Students who will be absent from class for the observance of a religious holiday must notify the instructor in advance. Please refer to the Student Obligations section of the college catalog for more explanation. You are required to complete any assignments or take any examinations missed as a result of the absence within the time frame specified by your instructor.

REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (A430)
North Lake College provides academic accommodations to students with disabilities, as defined under ADA law. It is the student’s choice and responsibility to initiate any request for accommodations. If you are a student with a disability who requires such ADA accommodations, please contact North Lake College’s Disability Services Office in person (A430) or by phone at 972-273-3165.
http://www.northlakecollege.edu/resources/disability.html

ADMINISTRATIVE WITHDRAWAL
Students with valid extenuating circumstances may be eligible for an administrative withdrawal by the Dean of the Division in which the course or courses are taught. An administrative withdrawal will not be awarded to students who simply fail to withdraw prior to the last day to receive a “W.” The request for an administrative withdrawal must be made in writing to the Dean of the Division with any supporting documentation attached. This must occur before the last official day of the semester.

DROP POLICY
If you are unable to complete this course, you must officially withdraw by TBD. Withdrawing is a formal procedure which you must initiate; your instructor cannot do it for you. All Dallas County Community Colleges charge a higher tuition rate to students registering the third time for a course. This rule applies to the majority of credit and Continuing Education / Workforce Training courses. Developmental Studies and some other courses are not charged a higher tuition rate. Third attempts include courses taken at any DCCCD college since the fall 2002 semester. For further information, go online to: http://www.DCCCD.edu/thirdcourseattempt.

STOP BEFORE YOU DROP
For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a "W". Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access: https://www1.dcccd.edu/coursedrops.

FINANCIAL AID STATEMENT
Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate are also subject to this policy.

To apply for financial aid in the DCCCD, students must complete FAFSA (Free Application for Federal Student Aid) on the web at: http://www.fafsa.ed.gov.

COUNSELING SERVICES (A430)
Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no charge. With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills. To make an appointment call 972-273-3333 or visit A 430.

THE ACADEMIC SKILLS CENTER (A332)
The Academic Skills Center (ASC) is designed to provide assistance to students in the following areas:

- Labs for students enrolled in foreign language, Developmental Reading, and ESOL courses. One-on-one tutoring is available.
- The Writing Center can help students clarify writing tasks, understand instructors’ requirements, develop and organize papers, explore revision options, detect grammar and punctuation errors, and properly use and document sources. Rather than merely editing or "fixing" papers, tutors focus on helping students develop and improve their writing skills.
- The Online Writing Lab (OWL) allows students to submit papers to our writing tutors
electronically and get feedback within 24-72 hours. The OWL can be accessed through eCampus. After logging on to eCampus, click on the Community Tab at the top. Type “Owl” in the search field and click “Go.” Next, click on the double drop-down arrows next to “NLC-OWL2,” and then click on “Enroll.” Once enrolled, students can receive services from the OWL.

For more information or to schedule a tutoring appointment, come by A-332 or call 972-273-3089.

**TESTING CENTER (A 425)**

Monday-Thursday: 8:30 a.m. – 8:00 p.m.
   - No tests will be issued after 7:00 p.m. Other cut-off times may be in effect for specific exams by the instructor’s direction. All exams collected at 8:00 p.m.
Friday-Saturday: 8:30 a.m.-3:30 p.m.
   - No tests will be issued after 2:30 p.m. Other cut-off times may be in effect for specific exams by the instructor’s direction. All exams collected at 3:30 p.m.
Sunday – CLOSED

If you instructor requires you to complete an exam in the Testing Center, be sure to have the following information when you request you test:
1. Instructor’s name
2. Subject, course number, and section number (exp: Speech 1311.7011)
3. Exam number (1st, 2nd, 3rd, etc.)
4. Exam deadline (Get this information from your instructor. The testing staff cannot look up this information on computers).

You should also bring the following supplies:
1. Pencil
2. Scantron answer sheet
3. A Test Request Form must be completed before entering the Testing Center.
5. Government or school issued photo identification is required & enforced.

You may not bring personal items into the Testing Center. This includes bags, cell phones, and pagers.

Please show courteous and cooperative behavior while using the services provided by the Testing Center.

DO NOT bring children to the Testing Center. You must make arrangements for the care of your children prior to your exam date. The police department will be notified of any unattended children.

DO NOT take any testing materials with you when you leave the Testing Center. This includes the test, answers, charts, scratch paper. These items will be attached to your test.

Questions? Please visit the Testing Center (A 425) or call 972-273-3160.
### Specific Learning Activities, Learning Outcomes, and Evaluation / Assessment

**Appendix A – Specific Learning Activities, Learning Outcomes, and Evaluation / Assessment**

<table>
<thead>
<tr>
<th>Learning Activity</th>
<th>Learning Outcomes</th>
<th>Evaluation / Assessment</th>
<th>Evaluation / Assessment and SCANS Competencies</th>
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</thead>
<tbody>
<tr>
<td><strong>Introduction (Database Architecture)</strong></td>
<td>• Describe course objectives&lt;br&gt;• Explore the Oracle 11g database architecture</td>
<td>Ability to perform the listed learning outcomes – theory / hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
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<tr>
<td>Students will be introduced to the course objectives and explore the Oracle 11g architecture</td>
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<tr>
<td><strong>Preparing the Database Environment</strong></td>
<td>• Explain core DBA tasks and tools&lt;br&gt;• Plan an Oracle installation&lt;br&gt;• Use optimal flexible architecture&lt;br&gt;• Install software with the Oracle Universal Installer (OUI)</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
</tr>
<tr>
<td>Students will learn to install Oracle database software</td>
<td></td>
<td></td>
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<tr>
<td><strong>Creating an Oracle Database</strong></td>
<td>• Create a database with the Database Configuration Assistant (DBCA)&lt;br&gt;• Create a database design template with the DBCA&lt;br&gt;• Generate database creation scripts with the DBCA</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
</tr>
<tr>
<td>Students will learn to create an Oracle database</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Section</td>
<td>Learning Outcomes</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>Relevant Competencies</td>
</tr>
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<td>----------------------------------------------</td>
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<tr>
<td>Managing the Oracle Instance</td>
<td>- Start and stop the Oracle database and components&lt;br&gt;- Use Enterprise Manager (EM)&lt;br&gt;- Access a database with SQL*Plus&lt;br&gt;- Modify database initialization parameters&lt;br&gt;- Understand the stages of database startup&lt;br&gt;- View the Alert log&lt;br&gt;- Use the Data Dictionary</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
</tr>
<tr>
<td>Configuring the Oracle Network Environment</td>
<td>- Oracle Net Services&lt;br&gt;- Oracle Net Listener&lt;br&gt;- User Sessions&lt;br&gt;- Creating a Listener&lt;br&gt;- Naming Methods</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
</tr>
<tr>
<td>Managing Database Storage Structures</td>
<td>- Describe table data storage (in blocks)&lt;br&gt;- Define the purpose of tablespaces and data files&lt;br&gt;- Understand and utilize Oracle Managed Files (OMF)&lt;br&gt;- Create and manage tablespaces&lt;br&gt;- Obtain tablespace information&lt;br&gt;- Describe the main concepts and functionality of Automatic Storage Management (ASM)</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
</tr>
<tr>
<td>Administering User Security</td>
<td>- Create and manage database user accounts&lt;br&gt;- Authenticate users&lt;br&gt;- Grant and revoke privileges&lt;br&gt;- Create and manage roles&lt;br&gt;- Create and manage profiles&lt;br&gt;- Implement standard password security features&lt;br&gt;- Control resource usage by users</td>
<td>Ability to perform the listed learning outcomes – hands-on</td>
<td>C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12</td>
</tr>
</tbody>
</table>
| Managing Schema Objects | Students will learn how to manage schema objects | • Define schema objects and data types  
• Create and modify tables  
• Define constraints  
• View the columns and contents of a table  
• Create indexes, views and sequences  
• Explain the use of temporary tables  
• Use the Data Dictionary | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| Managing Data and Concurrency | Students will learn how to manage data | • Manage data through SQL  
• Identify and administer PL/SQL Objects  
• Describe triggers and triggering events  
• Monitor and resolve locking conflicts | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| Managing Undo Data | Students will learn how to manage undo data | • Explain DML and undo data generation  
• Monitor and administer undo  
• Describe the difference between undo and redo data  
• Configure undo retention  
• Guarantee undo retention  
• Use the undo advisor | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| Implementing Oracle Database Security | Students will learn to implement database security | • Describe DBA responsibilities for security  
• Apply the principal of least privilege  
• Enable standard database auditing  
• Specify audit options  
• Review audit information  
• Maintain the audit trail | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| **Database Maintenance** | Students will learn how to administer maintenance prior to issues | • Use statistics  
• Manage the Automatic Workload Repository (AWR)  
• Use the Automatic Database Diagnostic Monitor (ADDM)  
• Describe advisory framework  
• Set alert thresholds  
• Use server-generated alerts  
• Use automated tasks | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| **Performance Management** | Students will learn performance management | • Use Enterprise Manager pages to monitor performance  
• Use the SQL Tuning Advisor  
• Use the SQL Access Advisor  
• Use Automatic Shared Memory Management  
• Use the Memory Advisor to size memory buffers  
• Use performance related dynamic views  
• Troubleshoot invalid or unusable objects | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| **Backup and Recovery Concepts** | Students will learn backup and recovery methods and procedures | • Identify the types of failure that may occur in an Oracle Database  
• Describe ways to tune instance recovery  
• Identify the importance of checkpoints, redo log files, and archived log files  
• Configure ARCHIVELOG mode | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| **Performing Database Backups** | Students will learn how to perform database backups | - Create consistent database backups  
- Back your database up without shutting it down  
- Create incremental backups  
- Automate database backups  
- Monitor the flash recovery area | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
|-------------------------------|---------------------------------------------------|------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| **Performing Database Recovery** | Students will learn how to recover the database from a backup | - Recover from loss of a control file  
- Recover from loss of a redo log file  
- Perform complete recovery following the loss of a data file | Ability to perform the listed learning outcomes – hands | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |
| **Moving Data** | Students will learn about moving data | - Describe available ways for moving data  
- Create and use directory objects  
- Use SQL*Loader to load data from a non-Oracle database (or user files)  
- Explain the general architecture of Data Pump  
- Use Data Pump Export and Import to move data between Oracle databases  
- Use external tables to move data via platform-independent files | Ability to perform the listed learning outcomes – hands-on | C1, C5, C6, C7, C8, C14, C16, C17, C18, C19, C20, F1, F2, F5, F7, F8, F9, F10, F12 |