

**CIS-270-50**  
**Oracle Database Administration/Database Management Systems**  
**Tuesday/Thursday, 3:10PM – 5:00PM**  
**Winter 2011 Syllabus**

Instructor: Brian N. Stewart  
Email: bnstewart@hfcc.edu  
Campus Hours: Posted in T-194 Open Lab  
Office Hours: By appointment.

Texts: Beginning Oracle Database 11G  
**ISBN 978-1-59059-968-6**  
**AND**  
Professional Oracle Programming  
**ISBN 978-0-7645-7482-5**

Course / Catalog Description:

An advanced course familiarizing the student with the Oracle Database Management System. Instruction covers database terminology, data structure design, data retrieval and manipulation. Hands-on laboratory activities cover database server installation, configuration, Oracle components and architecture, user administration and security, performance monitoring, client application access, and backup and recovery.

**Prerequisite:** CIS-111 or instructor permission.

**Upon successful completion of CIS-270 the student should be able to:**

- Describe the difference between small-business database management systems and large-scale enterprise databases
- Describe the role of a Database Administrator (DBA)
- Install and upgrade an Oracle instance
- Configure an Oracle instance
- Describe the various Oracle architecture and components
- **\*Perform user/group administration and security based on organizational business roles**
- **\*Monitor and tune database performance based on usage**
- Perform database administration tasks using Oracle and third-party software and tools
- Configure client access to the server, e.g. Windows, Web, Application
- **\*Implement the appropriate database backup and recovery strategies based on organizational needs**

Attendance:

Attendance must be taken according to Federal Requirements. A sign-in sheet will be provided for attendance at the beginning of class and must be signed if you attend class; it is your responsibility to ensure you've signed the sheet. Points will be deducted for repeated tardiness.

Regular class attendance is necessary to do well in the class. You are responsible for all lecture material, whether you are in class or not. Make-ups are not given on quizzes and lab exercises.

If you know you will be absent from a particular session, please notify the instructor via e-mail.  
**Absence in excess of 4 class sessions will result in failure.**

**Grade Breakdown:**

Quizzes (4)	20%
Course Project	25%
Hands-On Projects	40%
Attendance & Participation	15%

**Grading Scale:**

92% - 100%	A
84% - 91%	B
76% - 83%	C
68% - 75%	D
Below 68%	E

Recommended Supplies Home computer with 40GB+ free HDD Space and DVD Drive, USB Flash Drive with 4GB Capacity, or Portable External HDD. Dedicated Internet Connection

Provided Supplies You will be given a HDD for on campus use and 2 DVD's that contain all the required software installation packages. You are solely responsible for the drives, and may keep the DVD's upon completing the course.

Assignments and Homework:

Hands-On Projects supplement the daily lectures and textbook readings. Expect each assignment to take between 30-45 minutes with 5-6 assignments given per week. Each Project tackles a very specific aspect to what a Database Administrator would do on a regular basis, so please practice these activities often. Should you need any help or come across an odd error, please remember to get with your group members and if needed, please e-mail me ASAP. Please be sure to include multiple screenshots.

Submitting the homework assignments will be done through SendSpace ([www.sendspace.com](http://www.sendspace.com)). Each assignment should have at minimum 10 screenshots and if needed contain scripts (saved as .sql or .txt files), code, or other worked in a .zip/.rar format. Files directly e-mailed or uploaded to UCompass will not be accepted; all files must originate through SendSpace for credit.

Quizzes:

A total of four quizzes on text materials will be covered according to the tentative schedule. **Make-up quizzes are not given.** Quizzes will be open book, open notes, with full use of the Oracle engine and installed help features. Exams will be open for a period of 1 week (Thursday after classes thru Sunday evening the following week) and will consist of laboratory activities as well as short responses that cover terminology and business-specific instances.

Midterm and Final:

There is no formal midterm examination for the course, however an inspection of your databases and drives will be required in order to determine whether you have performed

sufficient work to complete the balance of the course.

The Final Examination is in the form of the completed Group Project which includes developing a properly designed database with specified stored views, appropriate backup/recovery settings, performance tuning, user access through the WWW, and defined reports. There will be two/three students per group and are assigned the first lecture day.

Dropping the Class:

To receive a drop (DR) for the class, the student must officially drop the class. A grade for the class will be given according to the grading scale above if the course is not officially dropped.

College Policies:

**Copying of homework and/or quizzes and exams is CHEATING. Likewise, offering homework to another student constitutes as CHEATING of equal penalty.** If a student is found to have cheated, they will receive a failing grade for the entire course. Please see the Policy on Academic Dishonesty in the College Catalog. See Catalog, Schedule & Student Handbook regarding Cheating Dropping, Incompletes.

To progress beyond Week One's materials, you MUST complete and score 100% on the Academic Honesty Exam on UCompass. This course requirement satisfies acceptance of this policy.

HFCC Computer Literacy:

Effective September, 2000, Henry Ford Community College will require that all newly admitted students demonstrate basic computer literacy skills before graduation. Students will be tested when admitted to the college. If students are required to complete course work in basic computer concepts, credit in CIS 100 will be accepted as proof of computer literacy. The Computer Literacy competencies are defined as the ability to:

- Log into and out of a computer network.
- Setup, send and open e-mail, including attachments.
- Operate basic PC hardware, including common input, output, and storage devices.
- Perform file management tasks, including finding, organizing, saving, copying, and printing files.\*
- Use basic word processing functions to prepare a document that incorporates a variety of formatting options.
- Locate information on the Internet, identify appropriate search terms, download files, and use a search engine effectively.\*
- Prepare a spreadsheet that incorporates basic formulas and a variety of formatting options.
- Create and view a slideshow using basic presentation software functions.
- Identify issues and recommendations related to computer ethics and netiquette.\*
- Recognize common threats to computer security and privacy, such as viruses, phishing,

- and identity theft; and identify methods of prevention.
- Describe job types in the Information Technology field.
  - Explain how electronic commerce operates.
  - Develop an appreciation for how technology can help in educational and vocational endeavors.

### Extra Credit

Opportunities for extra credit will be given twice during each semester. These will be discussed during the first class session and will equal the point value of two homework assignments each.

### Grades

Grades will be posted to UCompass by Sunday each week. Final grades will be reported to HFCC Sunday, May 5. Please contact the instructor at any time should you have any questions on a particular score.

### Classroom Policies:

Cellular telephones are to be turned on silent or vibrate. If you have an emergency, quietly step outside and take the call. Text messaging during class is unacceptable. Likewise, appropriate dress regulations are to be followed. Please remove hats, sunglasses, headphones, and all other non-business apparel prior to the beginning of class. Should you happen to be late, please take a seat and see me at the end of class to obtain the handouts for the day. Failure to follow the course policies will result in a lower grade. **If you have any medical issues which may occur during class time, please inform the instructor in private so that we can make accommodations (seizures, diabetic, etc.).**

### Tutoring / Instructor Availability

Tutoring will be made available to the class should the need arise. Please send the instructor an e-mail so that arrangements can be made. Extra materials and assignments (of no point value) can be distributed to aid in comprehension of the material.

Please contact me at any time via e-mail with any questions or concerns. I will respond within 24 hours. I am available to talk in person during the hours above. To make an appointment, please send an e-mail to [bnstewart@hfcc.edu](mailto:bnstewart@hfcc.edu). Every effort will be made to ensure you succeed in this course.

For emergencies, or to notify me of absence or tardiness, you are encouraged to use my Google Voice account at: 1-734-325-HFCC. Please note that this number is not for direct tutoring, but as a way to quickly communicate if you're not near a computer.

### Miscellaneous Information

You will be required to utilize UCompass (<http://henryford.ucompass.com>) and SendSpace

([www.sendspace.com](http://www.sendspace.com)) regularly. You will also be required to verify the ability to access your folder within my drive: K:\bnstewart\CIS270-xx\YourLogonID as several exercises will be turned in to that location.

Please remember that your lab fees as a student taking a CIS class allow free access to the T-194 Lab; provided that you adhere to the AUP and other rules of the lab. Bring a copy of your schedule at ALL times. Due to the nature of this course, you should **expect to spend 2-3 hours after each class session in the lab** if you do not have access to a computer outside of the home.

**Tentative Schedule - Revised 1/06/2011**

Week	Topics of Discussion	Chapters Covered
One	<p>Course Introduction, Review of Syllabus, UCompass, Drive Assignments, Data DVD's Handed Out, Groups Assigned</p> <p>Introduction to Database Management Systems, History of the Database, and the Role of the Database Administrator / Jobs in the DBA Market</p>	<ul style="list-style-type: none"> <li>▪ F – Chapter 1</li> <li>▪ F – Chapter 15</li> </ul>
Two	<p>Oracle Licensing, System Architecture Requirements, Support Contracts, Expansion Considerations</p> <p>Comparison costs and features vs. SQL Server, MySQL, MS Access</p> <p>Database Design/Creation and Data Itself: Constraints, Indexes, Tables, Cubes, Normalization vs. Warehousing, Business Intelligence Analysis (Data Mining) – PART I</p>	<ul style="list-style-type: none"> <li>▪ F – Chapter 4</li> <li>▪ Handouts</li> <li>▪ F – Chapter 6</li> <li>▪ W – Chapter 4</li> </ul>
Three	<p>Database Design/Creation and Data Itself: Constraints, Indexes, Tables, Cubes, Normalization vs. Warehousing, Business Intelligence Analysis (Data Mining) – PART II</p> <p>Database Design/Creation and Data Itself: Constraints, Indexes, Tables, Cubes, Normalization vs. Warehousing, Business Intelligence Analysis (Data Mining) – PART III</p>	<ul style="list-style-type: none"> <li>▪ F – Chapter 7</li> <li>▪ W – Chapter 10</li> <li>▪ W – Chapter 11</li> <li>▪ Handouts</li> </ul>
Four	<p>The Oracle Architecture – Data Dictionaries and Libraries. Data Types, Storage Access Methods</p> <p>The Oracle Architecture – Data Dictionaries and Libraries. Data</p>	<ul style="list-style-type: none"> <li>▪ W – Chapter 1</li> <li>▪ F – Chapter 3</li> </ul>

	<p>Types, Storage Access Methods (cont.)</p> <p><b>Quiz #1 – Database Design and Oracle Architecture</b></p>	
Five	<p>Installing the Oracle Engine inside the Windows Environment</p> <p>Installing the Oracle Engine inside the Unix Environment</p>	<ul style="list-style-type: none"> <li>▪ F – Chapter 5</li> <li>▪ W – Chapter 7</li> <li>▪ <b>Handouts</b></li> </ul>
Six	<p>Upgrading Oracle Releases</p> <p>User Accounts in Oracle: Authentication Comparison using Oracle Authentication, Active Directory, and LDAP</p>	<ul style="list-style-type: none"> <li>▪ <b>Handouts</b></li> <li>▪ F – Chapter 8 Part A</li> <li>▪ W – Chapter 3</li> </ul>
Seven	<p>User Accounts in Oracle: Authentication Comparison using Oracle Authentication, Active Directory, and LDAP (cont.)</p> <p>Oracle Data Dictionary &amp; Data Importing / Exporting</p> <p><b>Quiz #2 – Managing Users, Installation and Configuration of Engine</b></p>	<ul style="list-style-type: none"> <li>▪ F – Chapter 14, p. 319</li> <li>▪ W – Chapter 5</li> <li>▪ <b>Handouts</b></li> <li>▪ W – Chapter 24</li> <li>▪ W – Chapter 25</li> </ul>
Eight	<p>Oracle Data Dictionary &amp; Data Importing / Exporting</p> <p>Working with SQL &amp; PL/SQL, Triggers, Constraints, Stored Functions and Procedures</p>	<ul style="list-style-type: none"> <li>▪ F – Chapter 8, Part B</li> <li>▪ <b>Handouts w/ DVD</b></li> <li>▪ W – Chapter 8</li> <li>▪ F – Chapter 2</li> </ul>
Nine	<p><b>COLLEGE CLOSED – SPRING BREAK – STAY SAFE!!!!</b></p> <p><b>COLLEGE CLOSED – SPRING BREAK – STAY SAFE!!!!</b></p>	
Ten	<p>Working with SQL &amp; PL/SQL, Triggers, Constraints, Stored</p>	<ul style="list-style-type: none"> <li>▪ W – Chapter 9</li> <li>▪ F – Chapter 17</li> </ul>

	Functions and Procedures  Working with SQL & PL/SQL, Triggers, Constraints, Stored Functions and Procedures	<ul style="list-style-type: none"> <li>▪ W – Chapter 13</li> <li>▪ W – Chapter 15</li> </ul>
Eleven	Working with SQL & PL/SQL, Triggers, Constraints, Stored Functions and Procedures  Working with SQL & PL/SQL, Triggers, Constraints, Stored Functions and Procedures  <b>Quiz #3 – Views and Triggers</b>	<ul style="list-style-type: none"> <li>▪ W – Chapter 16</li> <li>▪ W – Chapter 17</li> <li>▪ W – Chapter 19</li> <li>▪ Guest Lecture</li> <li>▪ 3<sup>rd</sup> Party Tools DVD</li> </ul>
Twelve	Backup and Recovery in Oracle: Native and Third-Party Concerns (ArcServe, Backup Exec)  Backup and Recovery in Oracle: Native and Third-Party Concerns (ArcServe, Backup Exec)	<ul style="list-style-type: none"> <li>▪ F – Chapter 12</li> <li>▪ F – Chapter 13</li> </ul>
Thirteen	Database Maintenance  Database Tuning and Optimization (Note: Not SQL Tuning, but Engine Tuning)	<ul style="list-style-type: none"> <li>▪ F – Chapter 14</li> <li>▪ W – Chapter 28</li> <li>▪ F – Chapter 16</li> </ul>
Fourteen	Database Monitoring, Statistics, & 3 <sup>rd</sup> Party Support Tools  Database Monitoring, Statistics, & 3 <sup>rd</sup> Party Support Tools  <b>Quiz #4 – Backups, Maintenance and Tuning</b>	<ul style="list-style-type: none"> <li>▪ F – Chapter 10</li> <li>▪ Handouts</li> <li>▪ W – Chapter 27</li> <li>▪ Handouts</li> </ul>
Fifteen	Oracle Forms and Reporting Options, Part I  Oracle Forms and Reporting, Part II	<ul style="list-style-type: none"> <li>▪ Handouts</li> <li>▪ Handouts w/ DVD</li> </ul>
Sixteen	User Access to the Oracle Database:	<ul style="list-style-type: none"> <li>▪ W – Chapter 18</li> </ul>

	XML, Java, JPub, HTML, Part I  User Access to the Oracle Database: XML, Java, JPub, HTML, Part I	<ul style="list-style-type: none"> <li>▪ W – Chapter 21 (Jpub)</li> <li>▪ W – Chapter 22</li> <li>▪ W – Chapter 23</li> </ul>
Finals	Oracle Integration with MS Office Applications (Excel, Mail Merges, etc.), <i>SQL Tuning Theory</i>  Group Database Demonstrations – Capstone Projects	<ul style="list-style-type: none"> <li>▪ Handouts</li> <li>▪ F – Chapter 17</li> </ul>

**Notes:** Textbooks F = Fernandez Text, W = Wiley and Sons Text