28-315 Database Systems in Business
Syllabus, Spring 2012

Section 1: Time: MWF 8:00 – 9 AM
Place: Mondays, & Alternate Wednesdays starting Feb 8th: Sage 2215
Fridays, & Alternate Wednesdays starting Feb 1st: Sage 2235 (IS lab)

Instructor: Dr. George C. Philip
Office: Sage 2448
Office Phone: 424-3152 or 424-1441 (Program Assistant)
Email: philip@uwosh.edu (must include Course# in Subject area);
Office hours: TRF: 1:00 - 3:00 PM; or by appointment.
Course Packet: Available in the book store.

Course Description:
Database systems are studied in the context of their use in business, including design, development, administration, and use of database systems to support information systems and decision-making.

Topics include database concepts, data modeling, database design and development, normalization, the relational model, database implementation, administration of database systems, and Business Intelligence systems including data warehouses. Special emphasis will be given to design of databases. Application development using DBMS software will be studied through the use of the popular database management system, Oracle (10g), including SQL plus, Forms, and Procedures.

Course Objectives:
1. The student will understand the importance of database design.
2. The student will acquire the knowledge and skills to apply data modeling techniques to database design problems.
3. The student will be able to normalize data structures and understand why non-normalized data structures are undesirable with respect to dependencies and maintenance.
4. The student will learn the SQL language and how to develop simple business applications using Oracle DBMS.
5. The student will develop knowledge and skills in business intelligence, data warehousing, and database administration.

College of Business Administration Assessment Goals (applicable to this course):
Business Knowledge: The COBA graduate will be competent in a functional area (major field).
Analytical Thinking & Problem Solving Skills: COBA graduates will analyze situations and make decisions, using problem solving techniques, as well as creative and advanced critical thinking skills.

The objectives of the MIS major that are addressed in this course are:
1. MIS graduates will have an understanding of information systems analysis and design
2. MIS graduates will be able to develop software using a visual development tool
3. MIS graduates will be able to model and develop database applications
4. MIS graduates will have the basic knowledge/skills to evaluate, select and use appropriate information technology to solve business problems in the various functional areas.
Policies:

1. Students are expected to attend all class and lab sessions. The class work includes in-lab/in-class exercises that will be collected and graded. **There will be no make-up for missed class exercises due to unexcused absence. Exams** must be taken at the specified times unless prior permission is obtained.

2. **You may work in groups of maximum two** on all assignments and exercises. Your individual grade for an assignment would depend on your contribution. Group members may be asked to provide peer evaluations.

3. **All assignments must be done exclusively by you, or by your group. Copying** any part of another group/person’s work, letting others see your work, or working together with a student who is not in your group is considered academic dishonesty and will result in appropriate disciplinary action including failing grade. You are responsible to protect your assignments from being copied by others. Do not leave them any place where others can access it.

4. All Assignments must be handed in **at the beginning of class (8:02 AM)** on the assigned due date. Late assignments/exercises will have a penalty of 1 point/day. **No late assignment will be accepted after the graded assignment is returned to students** (Typically, practice exercises are returned the next class, and assignments returned within a week). Special consideration will be given to unforeseen circumstances.

5. Assignments are not acceptable as email attachments.

6. Use of **cell phones** is strictly prohibited during a class session. Disciplinary action will be taken if anyone is seen violating this policy.

Grading Scheme:

Grades will be determined based on the following point distribution. There could be minor changes in the points awarded for each item.

<table>
<thead>
<tr>
<th>Evaluation Tool</th>
<th>Max Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>15</td>
</tr>
<tr>
<td>Exam I</td>
<td>60</td>
</tr>
<tr>
<td>Exam II</td>
<td>55</td>
</tr>
<tr>
<td>SQL/Oracle Assignments</td>
<td>70</td>
</tr>
<tr>
<td>Database Design Assignments</td>
<td>60</td>
</tr>
<tr>
<td>Class/Lab Exercises, Practice Exercises, Participation/Professionalism, Prof Development**</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
</tr>
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**Professional Development Component**

Six points (out of 40) is for your participation in a professional development activity. You may select one from the following two options.

**Option I.** Attend two professional MIS meetings/events. For example,
   1. MIS club meeting. (Make sure you write your name in the sign up sheet at the meeting.)
   2. Meetings of professional organizations in the IT field. (Assoc. of I.T. Professionals has monthly meetings in Appleton). Provide a brief report of the presentation.
   3. Tour or other professional development activity arranged by the MIS club

**Option II.** Make a 10-minute presentation to the class on a current topic in database development – database software, new technologies (ex. Object oriented DB), applications, management, etc. No written report is required.
**Class/Lab exercises** typically are done during the class/lab. You will be asked to hand in the results of these exercises in class. **There will be no make up for missed exercises** due to absences. **Practice exercises** are done outside the class time.

**COURSE OUTLINE**

Database concepts will be discussed every Monday and alternate Wednesdays starting Feb 8th (meets in Sage 2215). SQL/Oracle will be covered every Friday and alternate Wednesdays starting Feb 1st in the IS lab. In the outline shown below,

- **MM** refers to the required Oracle book by Morrison & Morrison;
- **HPT** refers to the recommended database concepts book by Hoffer, Prescott & Toppi

<table>
<thead>
<tr>
<th>Class/Lab</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 HPT Ch. 1 &amp; 2: The Database Environ. &amp; Develop. Process</td>
<td>Jan 30, Lab: MM Ch.1, 2: Intro to Oracle &amp; SQL*Plus, creating tables</td>
</tr>
<tr>
<td>Feb 1,3</td>
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</tbody>
</table>

- Week 2 HPT Ch. 3: Entity/Relationship (E/R) Modeling Lab: MM Ch.2; Ch. 3A, HPM Ch.7: SQL-Add, update, delete data |
  - Feb 6,8,10 |

- Week 3 HPT Ch. 3: E/R Model; Ch. 4: Enhanced E/R Modeling Lab: MM Ch.3A, 3B, HPM Ch7: SQL-Retrieving data from a single table |
  - Feb 13,15,17 |

- Week 4 HPT Ch. 5: Database Design Lab: MM Ch. 3B, HPM Ch7: SQL – Retrieving data from a single table |
  - Feb 20,22,24 |

- Week 5 HPT Ch. 5: Database Design Lab: MM Ch.3B |
  - Feb 27,29 |

  **Mar 2** |

- Week 6 HPT Ch. 5: Database Design Lab: MM Ch.3C, HPM Ch.8: Multitable queries |
  - Mar 5,7,9 |

- Week 7 HPT Ch. 5: Normalization |

  **SPRING BREAK** |

- Week 8 HPT Ch. 5: Normalization DB design Assign2,due 3/28 |
  - Mar 26,28,30 Lab: MM Ch. 3C |

- Week 9 **Exam 1: April 2** Oracle Assign. 2, due 4/6 |
  - Apr 2,4,6 Lab: MM Ch. 4A: PL/SQL |

- Week 10 HPT Ch6: Physical DB Design Lab: MM Ch. 4B: PL/SQL, Implicit/Explicit Cursors |
  - Apr 9,11,13 Ch.9A(P.703-725): Advanced PL/SQL |
Week 11  HPT Ch.11: Business Intelligence & Data Warehousing  Practice Ex 3&4, due 4/20

Apr 16, 18, 20 Articles:


Lab: MM Ch 5A, 5B, 5C: Oracle Forms  DB Design Assign3, due 4/16
Lab: MM Ch. 6A, 6B: Custom Forms (Selected Topics)

Week 12  HPT Ch 11: Business Intelligence & Data Warehousing  Lab: MM Ch 6: Custom Forms  Oracle Assign 3, due 4/27

Week 13  Lab: MM Ch. 8: Creating an Integrated Application  Ch 9A(P.725-734), 9B: Database Triggers;

May 2, 4  Oracle Assignment 4

Week 14  HPT Ch. 12: Database Administration  Oracle Assign 4, due 5/11, 4 PM
May 9, 11, 13  Exam 2, May 11.

Grading Scale

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>91.0% - 100%</td>
<td>A</td>
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</tr>
<tr>
<td>88.0% - 90.9%</td>
<td>A-</td>
<td></td>
</tr>
<tr>
<td>85.0% - 87.9%</td>
<td>B+</td>
<td></td>
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<tr>
<td>81.0% - 84.9%</td>
<td>B</td>
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<tr>
<td>78.0% - 80.9%</td>
<td>B-</td>
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<tr>
<td>75.0% - 77.9%</td>
<td>C+</td>
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<tr>
<td>70.0% - 74.9%</td>
<td>C</td>
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</tr>
<tr>
<td>67.0% - 69.9%</td>
<td>C-</td>
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<tr>
<td>64.0% - 66.9%</td>
<td>D+</td>
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<tr>
<td>60.0% - 63.9%</td>
<td>D</td>
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<tr>
<td>&lt;60</td>
<td>F</td>
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