COURSE TITLE BLACKBOARD SITE	Course Number/Name: INT-3803 Database Design and Implementation CRN: 1528
INSTRUCTOR	Name: Richard Lin Title: Instructor Telephone: (248) 647-6135 E-mail: rlin@ltu.edu Office hours by appointment
SCHEDULE	September 5 – December 15, 2012 Refer to http://www.ltu.edu/registrars_office/calendar_final_exam.index.asp for the last date to withdraw and other important registration related information.
LEVEL/HOURS PREREQUISITE	Undergraduate Degree / 3 credit hours INT 3023 IT Inaugural Recommended one course in Programming
REQUIRED TEXT (See Blackboard for additional resources)	*Required Text: Database Systems: Design, Implementation, and Management, 10th Edition *Carlos Coronel | Steven Morris | Peter Rob* 10th Edition, ISBN 978-1-111-96960-8 Available for online purchase through LTU Bookstore at: http://lawrence-tech1.bkstore.com/bkstore/TextbookSelection.do?st=489 *Other Computing Requirements: - Window Laptop or Window PC - Microsoft Visio (optional) - Oracle 11gR2 Express and Oracle SQLDeveloper on Window, both free-distributions, the download URL will be provided.
ADDITIONAL RESOURCES	LTU Online student resources: http://www.ltu.edu/ltuonline/
TECHNICAL SUPPORT	Technical support for using Blackboard is provided by the Helpdesk, 248.204.2330 or helpdesk@ltu.edu. Send the Help Desk a form detailing any issues by clicking here http://tinyurl.com/3yqrvne.

COURSE SCHEDULE FOR COLLEGE OF MANAGEMENT (GRAD) SEMESTER COURSES

This fully online course begins with a partial week online course orientation period to familiarize yourself with the online learning environment and to meet online on Wimba or on discussion board or via the phone with your instructor. Each subsequent week starts on a Sunday and ends on a Saturday.

Dates	Modules	Topics / Readings	Assignments Due
Prior to Semester Start and Sep 5 – Sep 9	Module 0	Online Wimba Learning Orientation Overview of Syllabus and Textbook. Chapter 1 – Database Systems	Review pre-recorded Wimba classroom video sessions; Course orientation. Instructor conversation. Individual pre-assessment.
Week of Sep 10 – Sep 16	Module 1	Chapter 2 – Data Models Chapter 3 – The Relational Database Models	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday September 13.
Week of Sep 17 – Sep 23	Module 2	Chapter 4 – Entity Relationship Model Chapter 5 – Advanced Data Modeling Case Project 1.	*Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday (Case Project 1 start)
Week of Sep 24 – Sep 30	Module 3	Chapter 6 – Normalization of Database Tables	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday (Case Project 1 end)
Week of Oct 1 – Oct 7	Module 4	Test 1 – Chapters 1-6, Data Modeling Chapter 7 – Introduction to Structure Query Language (SQL)	Test 1 – Data Modeling * Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Oct 8 – Oct 14	Module 5	Oracle Express / SQLDeveloper Installation (Need Window Laptop or PC)	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Oct 15 – Oct 21	Module 6	Case Project 2. (Need Window Laptop or PC)	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday (Case Project 2 start)

Dates	Modules	Topics / Readings	Assignments Due
Week of Oct 22 – Oct 28	Module 7	Chapter 7/8 – coding and executing Structure Query Language (DDL/DML) (Need Window Laptop or PC)	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Oct 29 – Nov 4	Module 8	Chapter 8 – Advance SQL Chapter 9 – Database Design	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday (Case Project 2 end)
Week of Nov 5 – Nov 11	Module 9	Test 2 – Chapters 7-9, SQL in Database. Chapter 10 – Transaction Management and Concurrency Control	(Test 2 – SQL) * Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Nov 12 – Nov 18	Module 10	Chapter 11 – Database Performance Tuning and Query Optimization	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Nov 19 – Nov 25	Module 11	Chapter 11 **Light Week – Thanksgiving Break**	* Review pre-recorded Wimba video sessions;
Week of Nov 26 – Dec 2	Module 12	Chapter 13 – Business Intelligence and Data Warehouse	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Dec 3 – Dec 9	Module 13	Chapter 14 – Database Connectivity Chapter 15 – Database Administration and security (Need Window Laptop or PC)	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday
Week of Dec 10 – Dec 15	Final Exams	Course Summary End of Course Final – Chapters 10,11,13,14, & 15.	* Review pre-recorded Wimba video sessions; *Attend Wimba Q&A Classroom 7 P.M. Thursday (Final – advanced database concepts)

For students who cannot attend the Wimba Q&A classroom at 7 p.m. Thursday, please contact instructor to schedule alternate sessions.

STUDENT EVALUATION

The course has 3 Test points, 2 case-study points. and Wimba participation points totaling 100 points. Letter grades are awarded based on the total number of points achieved. Points are deducted for late assignments.

EXAMPLES:

Assignments	Points
Test 1	20%
Test 2	25%
Assignments(Case Studies)	20%
Online Participation	15%
Final Exam	20%
Total Points	100%

Class Points	Letter Grade
96 and above	A
90 – 95	A-
87 – 89	B+
83 – 86	B
80 – 82	B-
77 – 79	C+
73 – 76	C
70 – 72	C-
61 – 70	D (Undergrad Only)
60 and below	E

Note: Grades lower than a "B" fall below the LTU graduate standard

EDUCATIONAL GOALS
Introduce the theory behind databases and provide methodology for designing and building database. Provide hands-on experience in databases developments and data modeling that matches industry trends. Database administration tasks such as backup, recovery, security and monitoring will also be covered.

STUDENT LEARNING OBJECTIVES / OUTCOMES
1. Students will learn how to model data and design database.
2. Students will learn how to load RDBMS software such as Oracle Express.
3. Students will learn how to build database structures inside RDBMS software.
4. Students will learn how to use Structure Query Language (SQL).
5. Students will learn how to define database with Data Definition SQL.
6. Students will learn how to insert, update, delete and query data with SQL.
7. Students will learn how to connect to database remotely.
8. Students will learn how to normalize data to reduce anomalies, and how to denormalize data for performance.

9. Students will learn how to design different type of databases (Transactional, Analytical, .., etc) based on user's requirements.
10. Students will learn some database administration concepts.
11. Students will learn the basic concepts of Data Warehouse, OLAP, Data Mining, Replication, Object Oriental Database, and Distributed Databases.
12. Students will learn the basic hardware building block concepts on Server, CPU, Memory, Storage Area Network, and Ethernet Networking related to DBMS.

PREREQUISITE SKILLS
INT 3023 IT Inaugural
Recommended one course in Programming

INSTRUCTIONAL METHODS AND COURSE ORGANIZATION
Wimba online classroom will be the main learning channel for this class.
- New Wimba Archived sessions will be pre-recorded a few days prior to that week's Module start date. **Student should review (and replay) these Wimba archives thoroughly as almost all test questions will be based on these presentations.**
- There will be a weekly live Wimba Q&A classroom. This online conference will start at 7 P.M. Thursday (Eastern) for students to reflect on what you have learned from the archives for the week, and to ask any questions you may have. For students who could not attend, questions and/or reflective comments can be submitted through the Discussion Board. Asking questions or posting reflective comments on Wimba or Discussion board play a big part in earning participation points. There is absolutely no stupid question in this class. Your questions are my gage into student progress for current and future presentations!

Blackboard Learning Environment – Blackboard at my.ltu.edu contains the syllabus, Wimba video classroom presentations, assignments, reading materials, streaming videos, narrated PowerPoint mini-lectures, podcasts, written lecture notes, tests, links to Web resources, and discussion forums. You will submit all assignments via Blackboard, and are expected to participate regularly in discussion topics. Please take time to familiarize yourself with the organization of the Blackboard site. You will want to check the site frequently for announcements reminding you of new resources and upcoming assignments.
Student/Instructor Conversations – Students keep in touch with the instructor via Wimba Q&A, Blackboard, e-mail messages, telephone conference calls, and IM conversations.
Self-Assessments – Pre- and post- self-assessment tools will help students measure their entering skills and progress during the course.
Required Reading – Specified sections in the textbook should be read. These sections will be posted and discussed online in Wimba.
Publisher Web Site – The Course Document section includes instructional materials, PowerPoint slides, case studies, demos, and practice exercises. You should make use of as many of these resources as you need to be successful.
Assignments – Details for all assignments are shown below. Please note that all assignments should be submitted using the Blackboard "Assignments" or "SafeAssign" function.

CLASS POLICIES AND EXPECTATIONS

I plan to offer you a valuable learning experience, and expect us to work together to achieve this goal. Here are some general expectations regarding this course:

Each student has a LTU email account. If you wish to use a different email address for this course, please **change your email address in Blackboard under "Blackboard Tools", then "Personal Information"** and send an email to me to store your email address in my directory.

Wimba archive reviews, Wimba Q&A classroom participations, written assignments, and reading assignments must be completed according to the class schedule. It is important to contact the instructor as needed to discuss personal needs regarding course requirements and assignments.

It is essential that all students actively contribute to the course objectives through their experiences and working knowledge.

All assignments must be submitted on schedule, via Blackboard, and using Microsoft Office compatible software. If you need to submit an assignment via email, contact the instructor in advance.

Assignments must be completed to an adequate standard to obtain a passing grade. Requirements for each assignment are detailed in this syllabus.

Be prepared to log into Blackboard at least once each day. Please focus your online correspondence within the appropriate Blackboard discussion forums so that your colleagues can learn from you.

At midterm and at the end of the course, you will be invited to participate in a University evaluation of this course. Your feedback is important to the University, to LTU Online, and to me as an instructor, and I encourage you to participate in the evaluation process.

It is important for you as students to know what to expect from me as your instructor:
- I will be available to you via e-mail and phone, and will promptly reply to your messages.
- I will be available to you for face-to-face appointments as requested.
- I will maintain the Blackboard web site with current materials, and will resolve any content-related problems promptly as they are reported to me.
- I will send out a weekly e-mail update to all class members to guide upcoming work and remind you of assignment due dates.
- I will return all assignments to you promptly, and will include individualized comments and suggestions with each assignment.
- I will hold our personal written or verbal communications in confidence. I will not post any of your assignments for viewing by the class without requesting your approval in advance.
- I will treat all members of the class fairly, and will do my best to accommodate individual learning styles and special needs.
- If any of these points need clarification, or should special circumstances arise that require my assistance, please contact me so that we may discuss and resolve the matter.

PRACTICAL GUIDELINES FOR CLASS LOAD EXPECTATIONS

A three-credit course generally requires at least nine hours per week of time commitment. Here are some practical guidelines to help schedule your time commitments for this online course:

- A 14-week semester would require at least 140 hours of time commitment to successfully complete all readings, activities, assignments, and texts as described in this syllabus.
- You should reserve at least 7 hours per week to participate or review the Wimba active/archived presentation sessions; follow by reading the required textbook sections and resources; participate in online discussion, and work through online Tests and exercises.
- You should organize your remaining time to roughly correspond with the point value of each major assignment. This means that you should plan to spend at least:

- 8-9 hours preparing your case study review;
- 40-80 hours working on the various components of your reflective consolidation (Test1, Test2, and final exam).

These guidelines may not reflect the actual amount of outside time that you – as a unique individual with your own learning style – will need to complete the course requirements. The number of hours each week will vary based on assignment due dates, so please plan ahead to insure that you schedule your academic, work, and personal time effectively. The following graphic may be used to guide you in planning your weekly course work to remain on schedule:

Sun	Mon	Tue	Wed	Thu	Fri	Sat

Review/Replay Wimba Archive videos, supplementing by reading the posted Textbook sections.

Participate live Wimba Q&A conference at 7 P.M.

Review Wimba Q&A / Archives and Textbook.

Prepare Tests and Case Projects

Communicate with Instructor – As needed

ASSIGNMENT DETAILS

Course assignments and evaluation criteria are detailed below. Please review these requirements carefully. See the section Academic Resources / Assessment Guidelines for information about assessment of written and oral presentations.

Details for all assignments are shown below. Please note that you should not submit any assignments to the Blackboard "Digital Drop Box." All assignments are submitted using the Blackboard "Assignments" or "SafeAssign" function. Some assignments are also posted to the Blackboard Discussion Forum for student comments.

Assignment (10 Points for each Case Project)

- Case Project 1 (CASE1): Database Design and implementation

  Use a business scenario of your choice to define a set of business rules to create a relational database design with no more than 10 to 20 entity sets. Students should document their design with data modeling charts and normalization results.

This project does not involve database software installation; nor the detail syntax checking on SQL. Use tool such as Microsoft Word or Visio to document your works.

- Case Project 2 (CASE2) – Database Implementation in Oracle Express
  Download the Oracle 11gR2 Express free distribution software onto your laptop. Install the Oracle XE database. Create a new database (user) schema by using your LTU user-name, but without the "@ltu.edu" suffix. Create database objects with no more than 10 tables inside your schema to demonstrate a relational database design in normalized form. Placing row data inside the tables is not necessary. Provide screen shots (in MS Word) within your Oracle schema to demonstrate your implementation. State the business rules in areas where such physical implementation need clarification.

Deliverables and Evaluation – Student should *turn in the above case projects electronically through blackboard by end of day on the due dates specified in Syllabus. Up to 10 points will be awarded to each case project. If both projects are in good quality, bonus points may be awarded.*

Online Participation

Each student is expected to review the pre-recorded Wimba archives for that week by Thursday. Then attend the Wimba online classroom for that week (7 P.M. Thursday), This Q&A classroom will be started by Instructor asking questions for student to reflect on what they have learned for this week's module. The classroom will then be opened up for general questions. This interactive session will also be archive-recorded for all students to review.

SYLLABUS ADDENDA

Please see the LTU Online "Current Students" web site http://www.ltu.edu/ltuonline/ for comprehensive information about Lawrence Tech's academic services, library services, student services, and academic integrity standards. The content of this web site is explicitly included in these syllabus requirements.

The LTU Online "Current Students" web site also includes grading rubrics used by your instructor to evaluate written assignments, discussion forum participation, and group assignments. Please note that the SafeAssign anti-plagiarism product will be used for written assignments submitted for this course. Please see the instructions included on the eHelp web site regarding the use of the SafeAssign product.

Undergraduates: Leadership Transcripts

The leadership transcript enables students to track co-curricular activities that are undertaken above and beyond the requirements of the LTU curriculum. The leadership transcript serves students by enhancing the leadership portfolio; providing the opportunity for a transcript of distinction; enhancing their resumes; and assisting in articulating leadership experience. It can be accessed by logging on to Banner Web and clicking the Student and Financial Aid tab. Leadership Activities is located at the bottom of the list. More information is available at http://www.ltu.edu/leadership.