

Tentative Course Plan and Syllabus
CSI 3450: Database Design and Implementation

Instructor: Dr. Shital Joshi
Class Schedule: Tuesday, Thursday (10:00 AM to 11:47 AM)
Class Venue: Engineering Center 279
Email: ShitalJoshi@oakland.edu
Office: 130DH
Office Hours: Tuesday, Thursday (11:50 AM to 12:50 PM)

TA: Ashwini Magar (asmagar@oakland.edu)

Credit: 4.00

Prerequisites: Major Standing

Course Description:

Topics include designing a practical database for an application using normal forms, understanding relational database schemas, planning and implementing a database using MySQL server, advanced database topics in redundancy, replication, loading balancing, compatibility, ODBC and JDBC, and database systems administration.

Course Objective:

After successful completion of the course, the students will be able to:

- Apply theoretical knowledge to develop database applications using DBMS and SQL language. [(a), (b), (c)]
- Effectively use the Entity Relationship diagram for the representation of conceptual schemas. [(a), (b), (c)]
- Identify functional dependencies and apply normalization algorithms. [(j), (k)]
- Use Data Definition Language to define database schemas. [(k)]
- Construct data retrieval procedures using the Data Manipulation Language. [(c)]
- Develop data retrieval procedures using Relational Algebra. [(a), (b), (j)]
- Ability to design an efficient database in terms of redundancy and speed based on the application requirement. [(e), (g), (h)]

Text Book:

Carlos Coronel and Steven Morris, "Database Systems: Design, Implementation and Management", 11th Edition, Cengage Learning.

Course Project:

A project will be done in a **group of 3 (at most)**. It is student's responsibility to decide their group and the group members. Topic will be provided by the instructor and a period of a month would be given for its completion.

Project will be assigned on 1st February 2018. Due date will be 10th April, 2018 (11.59 PM EST). A report (**along with codes**) must be submitted through moodle. A group presentation (in the form of ppt) has to be given to the TA by 17th April 2018 (5:00 PM EST). Failure to present will deduct 50% marks from the total project grade. All the group member must be present during presentation.

Course Grade Criteria:

Home Assignments (includes Lab assignments as well)	30 % (300 points)
Course Project	20% (200 points)
Midterm Exam	20% (200 points)
Final Exam	30% (300 points)
Total	100% (1000 points)

Points Earned	Grade
975 – 1000	4.0
950 – 975	3.9
925-949	3.8
900-924	3.7
875-899	3.6
850-874	3.5
825-849	3.4
800-824	3.3
775-799	3.2
750-774	3.1
725-749	3.0
700-724	2.9
675-699	2.8
650-674	2.7
625-649	2.6
600-624	2.5
500-599	2.0-2.4
Less than 500	0.0

Course and Class regulations:

If you are having trouble understanding a concept, please contact me or TA inside the class or in my office during office hours. Please feel free to make suggestions, complaints, etc., at any time including making comments anonymously.

I encourage, and reward, individual efforts to build a community of active learners. Efforts to participate in class will be awarded **bonus points or extra credits** in the class.

- Deadlines are final and must be met. It is your responsibility to allocate time accordingly. All **assignments must be turned in before 23:59 (EST) on due dates listed**. No excuses will be accepted like computer crashes. Ensure that you have enough backups to allow for the worst-case scenarios, such as loss of your homework or project.
- Exams: No make-up exams will be given unless (1) I am notified 2 weeks prior to the official exam's administration that you will miss the exam, and (2) an acceptable University-approved excuse is provided promptly. Exams will be closed books and notes with no crib sheet. Calculators that can store texts and diagrams will not be allowed.
- Mid Semester Exam: Only one mid term will be there.
- Students with disabilities who may require reasonable accommodations should contact Oakland University's Disability Support Services office for assistance. DSS office is located at 121 NFH, and their contact information is as follows. Phone: (248) 370-3266; TTY: (248) 370-3268; Fax: (248) 370-4989; E-mail: dss@oakland.edu.

Academic Conduct Policy: Students are expected to comply with the Academic Conduct Policy of the Oakland University. Suspected breaches of academic honesty will be taken before the Academic Conduct Committee. Academic misconduct includes—but not limited to—cheating in quizzes and exams, unauthorized collaborations in assignments, and plagiarizing the work of others. Students found guilty of academic misconduct in this course will receive a grade 0.0 for the course in addition to any penalties imposed by the conduct committee. Please refer to the undergraduate catalog as well as on-line Academic Conduct Regulations from <http://www.oakland.edu/deanofstudents> for details. Violations of classroom policy will be reported to the Dean of Students.

A course website is located at <https://moodle.oakland.edu/moodle>. This website will include notes and schedules (including exam dates) for our course. Lecture notes, home assignments will be available for download from this site. Please check this site often for updates.

Attendance: Attendance is very important for this class. Late arrival and side talking are strongly discouraged. Students are responsible for knowing all the verbal (announcement) and written information provided by the instructor during class, including those are posted on the course web page.

Home assignments/Report Submissions rules and best practices:

- 1) All home assignments will be submitted **ONLY** through Moodle.
- 2) When naming your home assignments, you **MUST** use the naming convention below:
 - a. All files should be collected under one folder and zipped, before submitting on Moodle.
 - b. The folder should be named as: Assignment/report**_Student_Name_XX. (**where ** means HW number and XX means last two digits of your Grizzly id.**)Example: **Assignment01_S.Mike_52**

Failure to submit in this order will automatically results in 10 points deductions.

- 3) You are encouraged to review the assignments when assigned (even if you don't have time to work on them right then). This way you can plan your week and get your questions answered early.

Note: All home assignments should be submitted within 7 days from the date assigned, unless otherwise stated. **Failure to submit in this order will automatically results in 10 points deductions for 1st day after due date and 20 points deductions for 2nd day. After that, no submission will be accepted**

Any grading dispute should be brought into TA as well as my notice within 7 days from the date the grade is assigned. After wards, no change in grading will be done.

Class session behavior contract:

- I. Please adhere to professional behavior in class. Refrain from side conversations, surfing the internet on personal devices, answering phones/ texting, etc.
- II. All digital devices such as: Personal laptops, Cell phones, tablets, mp3 players... etc need to be put out of sight and must be set to silent, no head phones are allowed.
- III. Student can ask questions during any time of the lecture. I prefer students to ask questions, immediately as it arises and not wait till the end of the class. If you feel not satisfied with the answer, you can come and discuss with me after class or at any other time.

When and Where

Please visit <http://www.oakland.edu/important-dates> for many important dates of the semester.

Advice for performing well in this class

- Attend the class, bringing the required textbook to work on the exercises.
- Keep up with the weekly assignments, since many of the concepts build upon each other.
- Review the assignments when assigned (even if you don't have time to work on them right then). This way you can plan out your week and get your questions answered early. Don't wait until the last minute to work on an assignment at home.
- Read ahead in the book. Many of the questions you encounter in the homework and exams can be found in the reading.
- If you are working on your homework at the university and forget your flash drive, you can save your files to the following OU website: <http://files.oakland.edu>. You just need to use the same login that you do for Moodle.
- Check Moodle website of this session at <https://moodle.oakland.edu/moodle> often for updates. This website will contain notes, assignments, supplementary materials, assignment due dates, exam dates, etc.
- Class announcements and reminders through Moodle will go to your OU email. If you don't check OU email very often, forward it to your primary email account.
- If you have trouble understanding a concept, please contact me right away. Best way to catch me is by email.
- **Chat forums and group discussion page** will be created in the moodle. Please make a best use of it and use it to gain more from this course.
- In every class, an **attendance sheet** will be given. It is the student's duty to ensure they are sign the attendance sheet. Failure to sign the attendance sheet, even if you are present, will automatically makes you absent for that day.
- Any email that you send to the TA, **please cc to me** as well in order to keep me in loop.

- Regarding project presentation, it is the duty of students to **make an appointment with TA** well ahead of time. Remember, she might get busy with her own exams and may not be able to take presentation of all 50 students at once.

Tentative Course Schedule:

Class	Date	Topics	Chapter
1	Jan 4	Database Systems	Chapter 1
2	Jan 9	Database Systems	Chapter 1
3	Jan 11	Data Models	Chapter 2
4	Jan 16	Data Models	Chapter 2
5	Jan 18	Introduction to Structured Query Language (SQL)	Chapter 7 (Lab) (HW 01)
6	Jan 23	Advanced SQL	Chapter 8 (Lab)
7	Jan 25	Advanced SQL	Chapter 8 (Lab) (HW 02)
8	Jan 30	The relational Database Model	Chapter 3
9	Feb 1	The relational Database Model	Chapter 3 (HW 03) (Project Assign)
10	Feb 6	Entity Relationship (ER) Modeling	Chapter 4
11	Feb 8	Entity Relationship (ER) Modeling	Chapter 4 (HW 04)
12	Feb 13	Database Design	Chapter 9
13	Feb 15	Database Design	Chapter 9 (HW 05)
	Feb 17	Winter Recess	
	Feb 26	Classes Resume	
14	Feb 27	Database Design	Chapter 9
15	Mar 1	Database Design	Chapter 9
16	Mar 6	Revision	
17	Mar 8	1 st Mid Term	
18	Mar 13	Database Connectivity and Web Technology	Chapter 14 (Lab)
19	Mar 15	Database Connectivity and Web Technology	Chapter 14 (Lab)
20	Mar 20	Normalization of Database Tables	Chapter 5
21	Mar 22	Normalization of Database Tables	Chapter 5 (HW 06)
22	Mar 27	Normalization of Database Tables	Chapter 5
23	Mar 29	Advanced Data Modeling	Chapter 6
24	Apr 3	Advanced Data Modeling	Chapter 6
25	Apr 5	Transaction Management and Concurrency Control	Chapter 10 (HW 07)
26	Apr 10	Transaction Management and Concurrency Control	Chapter 10
27	Apr 12	Revision	
	Apr 19	8:00 – 11:00 AM (Engineering Center 279)	

Note:

- This is just a tentative course schedule. It may evolve throughout the semester.
- The course outline will closely follow the material presented in the textbook. Chapters 1 – 10 and chapter 14 will be covered in detail.