

# Database Design and Application

## COSC 340-0015

<b>Instructor:</b>	Daniel Ray	<b>Semester:</b>	Spring 2008
<b>Office:</b>	231(A) Darden Hall	<b>Lecture:</b>	TBA
<b>Phone:</b>	376-4628	<b>Room:</b>	231(A) Darden Hall
<b>E-mail:</b>	dar5p@mcs.uvawise.edu	<b>Credit Hours:</b>	3.00
<b>Emergency Phone:</b>	328-0184		
<b>Prerequisites:</b>	COSC 281		
<b>Office Hours:</b>	MWF: 10-11:00, 1-3		

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## Course Description

This course focuses on the constituent parts of database management including database design, creation and manipulation. In addition, we will examine the foundations of database technology including the client-server, relational and object-oriented data models. This course will also cover relational algebra, relational calculus, SQL, Network and Hierarchical DMLs, as well as design, implementation, and manipulation of a relational database using current database technology.

## Objectives

Upon completion of this course students will:

- understand the fundamental principles of database systems,
- understand the relational data models,
- and be able to design, organize, query and manage database systems.

## Textbook and Supplies

Fundamentals of Database Systems, 5/E. Elmasri & Navathe. Addison Wesley. ISBN: 0-321-36957-2

## Grading

Course Grade	Approximate % of Grade
2 Tests	40
Final Exam	20
Database Projects	30
In-class Participation	10

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**Grading Scale**

90-100%  
80-89%  
70-79%  
60-69%  
less than 60%

**Letter Grade**

A  
B  
C  
D  
F

**Extra Credit and Tutoring**

Extra credit will not generally be made available.

As always, for tutoring assistance contact Student Support Services at 328-0177, or see your instructor for additional assistance.

**Course Policies****Student Conduct In-Class Policy**

In accordance with the Academic Code of Conduct described in the Student Handbook, behavior that exceeds the normal rights of students to question and discuss elements of the educational process relative to subject content with the instructor and/or amongst themselves will not be tolerated. Appropriate action will be taken by the instructor to address any such behavior.

**Children In-Class Policy**

Only in extreme cases are children allowed in classroom or laboratory facilities, and then only with the approval of the instructor prior to class.

**Electronic Devices In-Class Policy**

Cellular phones, pagers, music players (digital and otherwise), and similar devices are prohibited in the classroom and laboratory facilities. Calculators and computing devices are prohibited during examinations and quizzes, unless specified. Reasonable laptop-size computers or handheld computers may be used in lecture for the purpose of taking notes.

**Examination and Quiz Policy**

No make-up exams will be provided unless arrangements have been made with the instructor prior to the date of the exam. Make-up exams must be taken when scheduled.

**Preparing for Examinations:**

There is no substitute for the preparative nature of coming to and participating in class. In addition to this, students are encouraged to complete additional exercises at the end of each chapter in the class text, and to contact the instructor on an individual basis if further instruction on a specific topic is required (see office hours above).

## Absent or Late to Class

It is your responsibility to obtain course notes, handouts, and laboratory assignments should you be late to or absent from class.

## Appeals Policy

To appeal a grade, send an e-mail to your instructor's e-mail address within ONE WEEK of the grade having been received. Overdue appeals will NOT be considered. Appeals MUST be in written form and submitted to the instructor via e-mail and should explain to the best of your ability what error or errors you think have been made as well as provide supporting evidence.

## Academic Misconduct Policy

Students are expected to at all times uphold the school's standard of conduct relating to academic honesty. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work and none other's. Students shall be guilty of violating the honor code if they:

1. Represent the work of others as his/her own
2. Use or obtain unauthorized assistance in any academic work
3. Give unauthorized assistance to other students
4. Modify, without instructor approval, and examination, paper, record, or report for the purpose of obtaining additional credit
5. Misrepresent the content of submitted work

The penalty for violating the honor code is severe. **Any student caught violating the honor code is subject to receive a failing grade for the course and will be reported to the Office of Student Affairs.**

If a student is unclear about whether a particular situation might constitute an honor code violation, the student should meet with the instructor to discuss the situation.

For this class, it is permissible and encouraged that students have general discussions and interactions amongst themselves concerning computing techniques. However, each person must develop his or her own specific solutions to the assigned programming projects. Students may not "work together" on individual graded assignments (this excludes grouped work). Prohibited activities include but are not limited to:

- Sharing code
- Examining someone else's code
- Allowing someone else to examine your code
- Writing or dictating code for someone else

- Getting someone else to write your code or dictate code to you

Collaboration of the type described above constitutes cheating.

If you need help on an assignment contact your instructor, NOT other classmates.

## Attendance and Participation Policies

### Attendance Policy

Attendance is mandatory for this class.

### Participation Policies

Participation consists of three parts:

1. Completion of in-class assignments
2. Participation in in-class discussions
3. Completion of individual daily class short summaries

### Disability Policy

If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment to talk with me as soon as possible. My office location and hours are listed at the top of this syllabus.

## Lecture, Project, and Examination Schedule

- You are expected to read each assigned reading prior to the lecture.
- All programs and assignments are due at the beginning of class on the due date (as listed on the assignment sheet).
- **No assignments will be accepted late! Anything not handed in on time will be graded as a zero.**
- There will be programming assignments due almost every week.

## Weekly Schedule

The weekly schedule for this class is as follows \*:

<b>Subject:</b>	<b>Reading:</b>	<b>Topic:</b>
1	Chapter 1	Introduction to Databases
2	Chapter 2	Concepts and Architecture
3	Chapter 3	ER Model
4	Chapter 4	EER Model
5	Chapter 5	Relational Model
6	Chapter 7	Mapping
7	Chapter 6	Relational Algebra & Relational Calculus
8	Chapters 8 & 9	SQL Programming
<b>Spring Break</b>		
9	Chapter 10	Normalization
10	Chapter 11	Relational Design Algorithms
11	Chapter 12	Design Methodology and UML
12	Chapter 13	Database Data Structures
13	Chapter 14	Indexing
14	Chapter 15	Optimizations
15	Chapter 16	Design and Tuning
Final Exam	T.B.A.	

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\*The specific activities listed on the weekly schedule are subject to change. Changes will be noted in class.