James Madison University
College of Integrated Science & Technology
Department of Computer Science

CS 474 Database Design and Application
Course Syllabus – Spring 2006

Professor: Dr. Elizabeth S. Adams
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Office Hours:
Mondays: by appointment OR when Blackboard announcement says I'm in my office
Tuesdays: 1:00pm to 3:00pm
Wednesdays: 1:30pm to 3:30pm
Thursdays: 1:00pm to 3:00pm
Fridays: by appointment OR when Blackboard announcement says I'm in my office

Class Room for Both Sections: HHS 2208

Final exam information
day: Tuesday, May 2nd room: ISAT/CS 236 time: 7:00pm to 9:00pm

Class Meeting Times:

Tuesday		Thursday	
Section 001	3:30-4:45pm	Section 001	3:30-4:45pm
Section 002	5:00-6:15pm	Section 002	5:00-6:15pm

Course Description:
This course introduces the fundamental concepts, terminology and techniques for designing and implementing a normalized database using a relational database management system.

Topics to be covered include:
- History of Database Management Systems
- The role of databases and database applications in contemporary organizations
- The relational model
- The entity-relationship model
- The semantic object model
- Database Design & Database Integrity
- Functional dependencies & Normalization
- Relational Implementation & Relational Algebra
- Database Application Design

- Concurrency, Security & Database Recovery
- SQL
- Database Access Standards

Required Text:

Database Processing: Fundamentals, Design & Implementation, Tenth Edition, by David M. Kroenke, published by Prentice-Hall in 2006 (ISBN 0-13-167272-x).

Other References:

A SQL Guide (will be discussed in class)

Software:

Microsoft SQL Server
Microsoft Access
Table Designer – Semantic Object Model Software
We may also use Oracle 8 - Personal Edition - available in labs and on CD at JMU

Course Objectives:

- To understand the architecture and components of a Database Management System and to be able to use them appropriately;.
- To become familiar with the client-server model and to use a DBMS to create a small client-server application..
- To acquire an understanding of the various database modeling techniques and practice using them.
- To understand the importance of design in the construction of a database;
- To learn what database integrity is and how the relational model can enhance it.
- To gain experience in using SQL to build, query, update and manage relational databases
- To gain additional team experience

General Course Information:

Attendance is an important part of in-class participation. I expect you to attend class regularly. If you must miss a class, it is your responsibility to get any material you have missed. To help you assimilate the material in this course and to prepare you for the tests and the project, there will be quizzes, lab assignments, and homework assignments. There will be a midterm and a final exam. Late work can not be accepted. In-class activities and exams can not be made up. You must take the final to pass the course. Exams are comprehensive. Group assignments must be done in a group not individually. Individual assignments must be done individually not in a group. Please read and become familiar with the JMU Honor Code and don't violate it. You should keep a copy of any work submitted and all graded work returned to you. This is especially important if you believe I have made an error in grading your work or in recording your grade. Here is the link to the course web page https://users.cs.jmu.edu/adamses/web A particularly important file there is the ReadMeNow file. It should be checked daily since that is how I will communicate with you.

I will be happy to help you understand any material you are having difficulty with. Please stop by my office whenever my door is open or send me e-mail. My goal for this semester is to have everyone complete this course successfully but I can't do it alone. Your effort is at least as important as mine.

Tentative Course Element Percentages

Class Participation	Quizzes & Homework	Labs	Midterm	Final	Project
5%	15%	15%	20%	25%	20%

Grade Assignments

90-100%=A	80-89%=B	70-79%=C	60-70%=D	<60%=F