



**The Catholic University of America  
School of Library and Information Science**

**LSC 740 (654) - Database Management  
Spring 2010**

updated December 28, 2009

**Credit Hours:** 3 hours

**Prerequisites:** LSC 551 and LSC 555

**Classroom:** Marist 131

Mondays from 6:10pm to 8:40pm

**Instructor contact information:**

Jonathan M. Smith, MSLS

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Office Hours: Monday 4-5pm and by appointment

**Course Description:**

Solid introduction to the terminology, concepts and practice of information storage and retrieval systems design. Special emphasis on user needs assessments, data integrity, data models and record structure, and data manipulation. Other topics include: current awareness of relational database model, query languages, data normalization techniques, client-server systems, database warehousing and data mining. Practice in developing a small database application.

**Course Goals**

This course will provide the student with a:

- Solid understanding of the relational database model and query languages
- Familiarity with design techniques using the entity-relationship model
- Ability to create useful retrieval queries as well as data entry/update forms and reports
- Familiarity with the database design process
- Practice developing a small database application using Microsoft Access or MySQL Database Management Systems
- Familiarity with current database management practices in the library environment

## Instructional Methods

Class time will be devoted to lecture, class discussion, and exercises. We will also use CUA's Blackboard [<http://bb8.cua.edu/>] for course assignments, required readings, and additional class discussion. Students are expected to monitor the Blackboard course account regularly.

## Required Text

Connolly, T.M. (2004) Database Solutions. Addison Wesley, 2nd ed. (ISBN: 0321173503)

Additional required readings will be available via the course's Blackboard site.

## Recommended Text

*Microsoft Access 2007:*

MacDonald, M. (2006) Access 2007: The Missing Manual. Pogue Press.  
(ISBN: 0596527608) [Mullen Reserves: QA76.9.D3 M283 2007]

*For a more general approach:*

Hernandez, M.J. (2003) Database Design for Mere Mortals. Addison Wesley, 2nd ed.  
(ISBN: 0201752840) [Mullen Reserves: QA76.9.D26 H477 2003]

Hernandez, M.J. (2007) SQL Queries for Mere Mortals. Addison Wesley, 2nd.ed.  
(ISBN: 0321444434) [1st ed. - Mullen Library Stacks QA76.73.S67 H48 2000]

## Required Technology

Use of a database management system will be required for the major project in this course. Several computer labs on campus provide **Microsoft Access**, just be sure to bring a USB flash memory stick or other method to save your work. If you have access to a different DBMS and would like to use it for your project, please speak with the instructor first.

Internet access will be necessary to participate in the online portion of the class through **Blackboard**. Some required readings will be made available through Blackboard, and assignments may be submitted there as well. Use of the discussion board is welcome and may be mandatory if the class meets online.

## Assessment:

*Final grades will be based upon the following:*

|  |             |
|--|-------------|
| Homework Assignments (4 @ 75 points each)                        | 30%         |
| Participation (100 points) (in class and Blackboard discussions) | 10%         |
| Midterm Exam (150 points)  | 15%         |
| Project (300 points)   | 30%         |
| Final Exam (150 points)  | 15%         |
| <b>TOTAL (1000 points)</b>                                       | <b>100%</b> |

### Grading scale:

| Grade | Credit | Score Range |
|-------|--------|-------------|
| A     | 4.00   | 94 - 100    |
| A -   | 3.70   | 90 - 93     |
| B +   | 3.30   | 86 - 89     |
| B     | 3.00   | 82 - 85     |
| B -   | 2.70   | 79 - 81     |
| C     | 2.00   | 70 - 78     |
| F     | 0.00   | below 70    |

### Expectations and policies

**Academic honesty:** Academic honesty is expected of all CUA students. Faculty are required to initiate the imposition of sanctions when they find violations of academic honesty, such as plagiarism, improper use of a student's own work, cheating, and fabrication. The following sanctions are presented in the University procedures related to Student Academic Dishonesty (from <http://policies.cua.edu/academicundergrad/integrityprocedures.cfm>): "The presumed sanction for undergraduate students for academic dishonesty will be failure for the course. There may be circumstances, however, where, perhaps because of an undergraduate student's past record, a more serious sanction, such as suspension or expulsion, would be appropriate. In the context of graduate studies, the expectations for academic honesty are greater, and therefore the presumed sanction for dishonesty is likely to be more severe, e.g., expulsion. ...In the more unusual case, mitigating circumstances may exist that would warrant a lesser sanction than the presumed sanction."

Please review the complete texts of the University policy and procedures regarding Student Academic Dishonesty, including requirements for appeals, at <http://policies.cua.edu/academicundergrad/integrity.cfm> . You are held responsible for adhering to these policies.

**Attendance is required**, in keeping with university policy. Any non-emergency absences must be approved by the instructor before the first class of the semester. Your class participation grade depends on being in class and actively participating in class and online. Arrive on time. Late arrival will affect your class participation grades.

If class is canceled due to weather, illness or other emergency, check the online announcements the next day. We will generally hold class online when this happens.

**Submission of assignments.** Students may submit their assignments electronically via Blackboard or turn in a hard copy at the beginning of the class period. It is highly recommended that assignments be completed using word processing software and

formatted in a professional manner. Be sure to include your name on the first page of each submission.

**Late work.** The instructor will not accept late work except by prior arrangement. If accepted, it may not be graded until the end of the term.

**No phone calls during class.** Turn off or silence cell phones and pagers. Students leaving the room for calls may not be allowed to return to that class session.

**No grade discussions in class.** Instructor will not discuss grades in class. First consider why the instructor deducted points. If you still disagree, explain your disagreement in an e-mail to the instructor.

**Accommodations for students with disabilities:** Any student who feels s/he may need an accommodation based on the impact of a disability should contact the instructor privately to discuss specific needs. Please contact Disability Support Services (at 202 319-5211, room 207 Pryzbyla Center) to coordinate reasonable accommodations for students with documented disabilities. To read about the services and policies, please visit the website: <http://disabilitysupport.cua.edu>

**Syllabus changes.** The instructor reserves the right to make changes to this syllabus and schedule as needed. Nothing in this syllabus may be construed as a contract. All changes will be provided to students via BlackBoard.

**Acknowledgments.** This syllabus was adapted from material by Joan Lussky and Bill Kules.

## Course Schedule

| Week | Class Dates         | Topic  | Readings           | Assignment Due          |
|------|---------------------|--|--------------------|-------------------------|
| 1    | Jan 11              | Introduction, The Relational Model                     | Chapter 1-2        |                         |
| 2    | Jan 18              | Holiday<br>No Class                                    |                    |                         |
| 3    | Jan 25              | Structured Query Language (SQL)                        | Chapter 3          | Assignment #1           |
| 4    | Feb 1               | Beginning a Project                                    | Chapter 4, 6       | Assignment #2           |
| 5    | Feb 8               | Entity-Relationship Modeling                           | Chapter 7          | Project idea due        |
| 6    | Feb 15              | Normalization  | Chapter 8          | Assignment #3           |
| 7    | Feb 23<br>(Tuesday) | Logical Design, Step 1<br>(Create and Check E-R Model) | Chapter 9          | Assignment #4           |
| 8    | Mar 1               | Logical Design, Step 2<br>(Map E-R Model to Tables)    | Chapter<br>10-11   | Midterm Exam            |
| 9    | Mar 8               | Spring Break<br>No Class                               |                    |                         |
| 10   | Mar 15<br>(Online)  | Database Projects                                      | Chapter<br>12-13   | Project proposal<br>due |
| 11   | Mar 22              | Physical Design  | Chapter<br>14-16   |                         |
| 12   | Mar 29              | User Interface   | <i>as assigned</i> | Project part due        |
| 13   | Apr 5               | Easter Monday<br>No Class                              |                    |                         |
| 14   | Apr 12              | Database Use in Libraries                              | <i>as assigned</i> | Project part due        |
| 15   | Apr 19              | Current and Emerging Trends                            | Chapter 19         |                         |
| 16   | Apr 26              | Project Presentations<br>& Review                      |                    | Final Project Due       |
| 17   | May 7<br>(Friday)   | Final Exam<br>(6:00pm - 8:00pm)                        |                    | Final Exam              |