Syllabus
LIS 4683 LIS/KM 5683

Database Design for Information Organizations

I. Description

Introduction to the theory and application of database design including, information storage and retrieval, data modeling, record structure, data normalization, data Security, relational database models, query language, client-server systems, data warehousing and data mining. The social, technological and organizational needs in database design will be examined. No student may earn credit for both 4683 and 5683.

II. Objectives:

Upon completion of this course, students should be able to:
1. Outline the evolution of database management systems from legacy systems to the Web.
2. Define and use appropriate terminology in designing and describing database system.
3. Utilize database theory and relational database theory.
4. Plan, design, create, and modify a relational database.
5. Evaluate and implement database security, backup, and recovery measures.
6. Design and execute database queries through SQL
7. Describe the uses and advantages of databases in specific organizational settings.

III. Required Resources:

- Potential Textbooks
  ISBN: 0201752
  ISBN 0136003915

- Additional materials made available through electronic reserve and Desire2Learn.

Potential Journal Articles:


Sosin, Joshua. 2010. "The Library is My Lab." Blog post at
IV. Teaching/Learning Methods:
This course will employ lecture, discussion, and teamwork with an emphasis on participation. Assignments will be designed for practical application as well as analysis of concepts and issues.
Students will have required readings from the textbook (both graduate and undergraduate students) and from pertinent journals (for graduate students).

V. Student Evaluation:
The evaluation of this course will be based on student participation in class and group-work as well as on individual assignments. All student work should demonstrate critical thinking and the ability to apply principles and theory to practical situations.

Class Participation: Graduate and Undergraduate Students
Students should be prepared to share their views, questions and experiences on the weekly reading assignments, as well as the current issues and theories addressed in the assignments. Students are expected to communicate in a professional manner, respectful of fellow students in both face-to-face and electronic communications.

Quizzes: Undergraduate Students only
Students will complete weekly quizzes over the required reading materials.

Projects: Graduate and Undergraduate Students
Students will complete multiple hands-on projects for the course, some projects may have incremental progress assignments associated with completion of the assignment.
- Organizational needs analysis
- Database modeling and design
- Database implementation
- Database optimization and evaluation project

Current Issues Paper: Graduate Students Only
Each graduate student will be responsible for a major paper exploring a significant issue or problem in information technology use and/or implementation.
Grades
Letter grades will be assigned according to the following percentage distribution:

- 90 or above = A
- 80% - 89% = B
- 70% - 79% = C
- 60% - 69% = D
- 59% or below = F

A: exceeded expectations, assignment work above what is required, superior effort, organization, presentation, and critical thinking/assimilation of information into overall course goals; 90-100%
B: met all expectations as specified for the assignment in a professional manner, some additional effort and critical thinking; 80-89%
C: met minimum assignment requirements, simply completing all of the steps w/out additional critical thinking and assimilation into overall course goals: 70-79%
D: did not meet minimum requirements but shows evidence of being able to complete the assignment; 60-69%
F: did not meet minimum requirements for the assignment; 0–59%

Final undergraduate student evaluation will be made on the basis of

- Organization needs project 20%
- Relational Database design project 20%
- Database creation project 20%
- Database optimization and evaluation project 10%
- Quizzes and exercises 20%
- Class/Group participation 10%

Final graduate student evaluation will be made on the basis of

- Organization needs project 20%
- Relational Database design project 20%
- Database creation project 20%
- Database optimization and evaluation project 10%
- Current issues paper 20%
- Class/Group participation 10%

Late Assignments:
- Late assignments will not be accepted unless you have contacted the instructor for permission prior to the class time that the assignment is due.
VI. Weekly Outline:

- **Week 1**: Course Introduction/overview – Introduction to databases – Databases in everyday life – History of databases
- **Week 2**: Database in organizations – specific examples in information centers, libraries and business
- **Week 3**: Databases design – introduction and terminology
- **Week 4**: Database design process
- **Week 5**: Database models – data types and management
- **Week 6**: Relational database models and schema
  - **Organizational Needs Project Due**
- **Week 7**: Entity-Relationship Models –
- **Week 8**: Normalization
  - **Database Design Project Due**
- **Week 9**: SQL – Introduction
- **Week 10**: SQL - Advanced
- **Week 11**: Client-server databases
  - **Graduate Paper Due**
- **Week 12**: Indexing, search and data view
- **Week 13**: Data mining and data warehousing
  - **Database Creation Project Due**
- **Week 14**: Database administration
- **Week 15**: Database security and optimization
- **Week 16**: Databases in organizations continued – impact on organizations (cultural, social, and technical)
  - **Database Optimization Project Due**
VII. RELATED POLICIES

• Style Manual
The required style manual is the Chicago Manual of Style, 15th Ed. Papers must be double-spaced with the first line of each paragraph indented. A standard 12-point font must be used. Margins must be one inch on all sides. Pages must be numbered consecutively. Resources used in preparing the paper must be appropriately, accurately, and completely attributed. Assignments that do not adequately conform to the principles of style stated in the course syllabus will be returned for correction and will be docked one letter grade.

• Attendance - University Policy 4.19.1 Class Attendance - Students

"Students are responsible for the content of courses in which they are enrolled. Specific policy concerning attendance requirements and announced and unannounced examinations is the responsibility of the individual instructor. Students have a responsibility to inform faculty prior to absences whenever possible. Faculty should make every effort to find a reasonable accommodation for students who miss class as a result of participation in Provost-approved University-sponsored activities or legally required activities such as emergency military service. Students missing class on account of jury duty must receive such an accommodation."

When absences seriously affect a student's class work, the instructor will report this fact to the Admissions and Records Office, where the information will be directed to the dean concerned."

Students are expected to complete all scheduled activities, including participating in group work. All late work must be pre-approved by the instructor.

• Grades of Incomplete (I)

The University has strict conditions under which a student is given an incomplete in a regularly scheduled, letter-graded course. A grade of Incomplete (I) will be given only for a justifiable reason (due to unavoidable circumstances, not lack of planning on the student's part) and only if the student is passing the course. Incompletes are designed for students who cannot complete the LAST 10% to 30% of the required assignments, generally only the final exam or a last written assignment.

It is the responsibility of the student to request a grade of Incomplete (I) and to meet with the instructor as early as possible to determine and document the requirements for completing the course. Prior to requesting an Incomplete (I), students are urged to consult with their academic advisors.

Any incomplete granted must be removed by the deadline specified by the instructor. The time limit set for removal of an incomplete will take into account the circumstances of the situation but cannot exceed one (1) calendar year. Check the current OU Academic Calendar for Spring 06, available at http://www.ou.edu/admrec/spring2006calendar.htm, for deadlines for dropping/withdrawing from classes.
• Academic Calendar.
The University academic calendar is available at
http://admissions.ou.edu/calendar.html

• Academic Integrity: (the following statement is extracted from
http://www.ou.edu/provost/integrity -- all students are encouraged to review the OU policy
and to discuss any issues or questions with me)
  o Academic integrity means honesty and responsibility in scholarship. Professors have to
    obey rules of honest scholarship, and so do students. Here are the basic assumptions about
    academic work at the University of Oklahoma:
      o Students attend OU in order to learn and grow.
      o Academic assignments exist for the sake of this goal.
      o Grades exist to show how fully the goal is attained.
      o Thus, all work and all grades should result from the student's own effort to learn and
        grow. Academic work completed any other way is pointless, and grades obtained any
        other way are fraudulent.
  o Academic integrity means understanding and respecting these basic truths, without which
    no university can exist. Academic misconduct -- "cheating," is not just "against the rules."
    It violates the assumptions at the heart of all learning. It destroys the mutual trust and
    respect that should exist between student and professor. Finally, it is unfair to students who
    earn their grades honestly.

• Students with Disabilities

Excerpt from University Policy 5.4 Reasonable Accommodation Policy

The University of Oklahoma is committed to providing reasonable accommodation for all
students with disabilities. Students with disabilities who require accommodations in this
course are requested to speak with the professor as early in the semester as possible.
Students with disabilities must be registered with the Office of Disability Services prior to
receiving accommodations in this course. The Office of Disability Services is located in
the Goddard health Center, Suite 166, phone (405) 325-3852, or TDD only (405) 325-4173.
1. Proposed change (check all that apply)
   a. ☑️ New course for master's curriculum *(Answer all questions, 2-10)*
   b. ☐ New 5990 offering *(Answer all questions, 2-10)*
   c. ☑️ New undergraduate course *(Answer all questions, 2-10)*
   d. ☐ Course title change *(Answer questions 3, 7, 10)*
   e. ☐ Delete course *(Answer questions 7, 9, 10)*
   f. ☐ Change course content *(Answer questions 7-10)*
   g. ☐ Change course description *(Answer questions 2, 7,10)*
   h. ☑️ Crosslist course *(Answer questions 7-10)*
   i. ☑️ Crosslist course *(Answer questions 7-10)*
   j. ☐ Other (describe)

2. Proposed course description, credit hours, status (required or elective), and grading system (letter or S/U). Attach draft syllabus if new course or new 5990 offering.

**Course Description:**
Introduction to the theory and application of information storage and retrieval through databases. Including data modeling, record structure, data normalization, relational database model, query language, client-server systems, data warehousing and data mining; social, technological and organizational needs in database design.

**Course Credit:**
For undergraduate students, this would be an option for Information Technology Category in the Major Requirements.
For graduate students, this course would be an option in the General Elective category.

**Letter Graded**

3. Proposed course title
   Database Design for Information Organizations
4. Suggested curriculum placement
   a. Category
      ☒ Undergraduates: Major Requirements Category Option
         □ Information and Enterprise
         □ Interpersonal Communication
         □ Organizational Communication
         □ Leadership
         □ Information in Society
         ☒ Information Technology
         □ Technical Writing
      □ Graduates: Guided elective – Category:
         □ Organizational Development and Management
         □ Information Technology
         □ Content Management
         □ Access to Knowledge Structures
         □ Research, Production, and Evaluation
      ☒ General elective

   b. Suggested course number and relationship of proposed number to other LIS course numbers
      KM/LIS 5663 will place the course within the General Electives, indicating a technology based offering.
      LIS 4663 to have parity in the undergraduate and graduate numbering

5. Prerequisites, if any
   LIS/KM 5603(5063) for graduate students
   LIS 4603 (4063) for undergraduate students

6. Delivery format for initial offering
   a. ☐ Tulsa only
   b. ☐ Norman only
   c. ☐ Tulsa and Norman - interactive video
   d. ☒ Blended web
   e. ☐ Web synchronous
   f. ☐ Web asynchronous
   g. ☐ Other (specify)

7. Rationale for proposed change
   a. Why is the change needed?
      This course provides an advanced approach to database creation and implementation by presenting the theoretical structures as well as a hands-on approach to database analysis, planning, modeling and search methods common in information organization settings. Slash-listing the course will bring the opportunity for a more applied technology focus for the graduate students, and additional theoretical considerations for the undergraduate students.

   b. How does the proposed change relate to SLIS goals and objectives?
      The course addresses specifically Objectives 2 and 4 of Goal A for the MLIS program:

      Upon completion of the program, the student will be able to:
      2. Interpret, evaluate and promote the use of information resources, technologies and services.
      4. Design and implement information products and services that respond
effectively to changes in an increasingly multicultural, multiethnic, multilingual, and global society.

The course addresses specifically Objectives 2 and 4 of Goal A for the MSKM program:

Upon completion of the program, the student will be able to:
2. Interpret, evaluate and promote the use of information resources, technologies and services.
4. Design and implement information products and services that respond effectively to changes in an increasingly multicultural, multiethnic, multilingual, and global society.

This course addresses specifically Objectives 3 and 4 of the BAIS Student Goals
Upon completion of the program,
3. Students will be able to analyze the information needs of organizations through understanding how information architecture coordinates design, technology, and business goals.
4. Students will have learned how to apply various technological tools to implement and protect information systems and networks, including programming, security, systems design and other foundational approaches and methods.

c. Does the proposed change have a potential impact on course offerings of other OU units?

☐ yes ☒ no

If yes, identify the specific courses(s) and the potential impact.

8. Are resources available to support the proposed change?

a. If a new course or one with changed content, is current faculty available to teach the course?
   If not, how could the course be offered?
   Dr. Kim has taught the course in the past as a 5990.

b. Is hardware and software available adequate to support the course?

   (1) In one of the classrooms available to SLIS? ☒ yes ☐ no
   (2) In the SLIS lab? ☒ yes ☐ no
   (3) In faculty offices? ☒ yes ☐ no
   (4) In Tulsa? ☒ yes ☐ no

   If any of the above answers are no, specify what hardware and/or software will be needed, where it is required, and the estimated cost.

c. Are additional library resources needed to support the course?

☐ yes ☒ no

If yes, specify what resources and the proposed locations (Norman/Tulsa) for the additions.

d. Will there be recurring costs associated with the course that will require a course fee? ☒ yes ☐ no

If yes, identify the fee that will be needed and provide justification for the amount.
Though there is not specific software needed for the course that is not already available for student in the computer labs in Norman and Tulsa, for more advanced experimentation faculty may choose to use the SLIS owned labs. A fee of $10 would build funds that can be used to keep these labs up to date over time.
☐ Forwarded to faculty for consideration without recommendation Date
☐ recommended for approval Date
☐ Referred back to proposer for revision Date

_________________________________, Curriculum Committee Chair
Signature