Course Description

Prerequisites: Cos 103 and Cos 260. Explores database fundamentals, design, implementation and administration using industry standard methodologies and technologies. Examines the relational database model and the newer semantic object models of database design and provides students the opportunity to model, design and implement databases using both methods. Emphasis is on modern multi-user, multi-processing, Web-enabled databases. There will be significant hands on components in this course. 4 credit hours.

Instructor

Tony Gauvin
(207) 834-7519
216 Nadeau Hall

E-mail: TonyG@maine.edu
Office Hours: 2 -3:30 PM MR
9:30-11 AM TF
Or by appointment

Text

Database Processing 10e
Author: David Kroenke
Publisher: Prentice Hall
ISBN: 0131672673

SQL for SQL Server
Author: Bijoy Bordoloi and Douglas Block
Publisher: Prentice Hall
ISBN: 0131132997
**Required Materials**

Storage media or Device

**Goals and Objectives**

- Learn the role of databases and database applications in contemporary organizations
- Learn and practice data modeling using the entity-relationship and semantic object models
- Learn and practice developing database designs
- Understand the use of SQL and learn SQL syntax
- Understand the special needs of multi-user database processing and learn techniques for controlling the consequences of concurrent data access
- Know the features and functions of a commercial-duty DBMS product and understand how these are implemented in SQL Server 2000.
- Learn how to install, configure and maintain an Oracle 9i database
- Learn the need for both database administration and data administration
- Learn emerging Internet technology that is relevant to database processing including the use of XML, ASP, OLE DB, ADO, ODBC, JDBC, and JSP
- Understand the issues involved in enterprise data sharing and learn the nature of data warehouses
- Learn the features and functions of OLAP (OnLine Analytical Processing) and understand its relationship to database processing

**Requirements**

Students will be required to demonstrate their knowledge of the Database Processing fundamentals through examinations, assignments, and the Capstone project. Individualized Capstone projects will allow each student to develop an in-depth understanding of a particular aspect of Database processing and will allow the student to demonstrate his/her ability to apply newly learned skills and concepts to the instructor and his/her classmates.

**Other Resources**

WebCT  
[http://webct.umfk.maine.edu](http://webct.umfk.maine.edu)

Kroenke Text Website  
[http://wps.prenhall.com/bp_kroenke_database_10](http://wps.prenhall.com/bp_kroenke_database_10)

Bordoloi Text Website  

Instructor’s website  
[http://perleybrook.umfk.maine.edu](http://perleybrook.umfk.maine.edu)

SQL Server 2000 TechNet  
**Method of Instruction**

Lectures and demonstrations covering the above listed material will be further supplemented with **hands-on** Database lessons and assignments. Lectures will provide general conceptual overviews and demonstrations of applied concepts and technologies. Projects and assignments will be (to the greatest extent possible) tailored to the participants' needs. Materials from outside sources will be used for added emphasis. All information and material presented in class and through assigned readings are to be considered **fair game** in any exam.

**Method of Evaluation**

The examinations will be comprised of questions that test the student’s knowledge of the concepts along with their ability to apply those concepts to real-world networking issues. The Capstone project will be evaluated on content, form, presentation and the ability of the student to conduct independent analysis, design and implementation. Weekly assignments will be required to demonstrate understanding of the concepts being discussed. Students will be expected to participate and collaborate with their classmates and the course instructor. Attendance at all classes without participation does not warrant a full 10% in the over-all course grade.

**Course Grade Calculation**

- **Exams (4 @ 7.5% each)**: 30%
- **Assignments**:
  - (11 assignments, 10 highest @ 4%): 40%
- **Capstone Project**: 20%
- **Attendance/Participation**: 10% 100%

**Grading Scale**

- A 90 - 100 %
- B 80 - 89 %
- C 70 - 79 %
- D 60 - 69 %
- F 0 - 59 %

At his/her discretion, the instructor may add a “plus” to a student’s grade score to indicate superior achievement within the scope of the assigned grade. No “minus” grades will be given.
## Course Schedule

<table>
<thead>
<tr>
<th>Class Date</th>
<th>Subject</th>
<th>Required Reading</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 19</td>
<td>Introduction to Database Processing</td>
<td>DP Chap 1</td>
<td></td>
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<tr>
<td>Jan 23 &amp; 26</td>
<td>Intro To SQL</td>
<td>DP Chap 2, SQL Chap 1</td>
<td>Assignment #1</td>
</tr>
<tr>
<td>Jan 30 &amp; Feb 2</td>
<td>Database Design &amp; Normalization</td>
<td>DP Chap 3 &amp; 4</td>
<td>Assignment #2</td>
</tr>
<tr>
<td>Feb 6 &amp; 9</td>
<td>Entity-Relationship Modeling</td>
<td>DP Chap 5</td>
<td>Assignment #3</td>
</tr>
<tr>
<td>Feb 13 &amp; 16</td>
<td>Creating Databases</td>
<td>DP Chap 6, SQL Chap 2</td>
<td>Assignment #4</td>
</tr>
<tr>
<td>Feb 20 &amp; 23</td>
<td>SQL</td>
<td>DP Chap 7, SQL Chap 3, 4 &amp; 5</td>
<td>Assignment #5</td>
</tr>
<tr>
<td>Feb 27 &amp; Mar 2</td>
<td>SQL</td>
<td>SQL Chap 6, 7 &amp; 8</td>
<td>Assignment #6</td>
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<tr>
<td>Mar 6-17</td>
<td>Spring Break</td>
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<tr>
<td>Mar 20 &amp; 23</td>
<td>SQL</td>
<td>SQL Chap 9 &amp; 10</td>
<td>Assignment #7</td>
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<tr>
<td>Mar 27 &amp; 30</td>
<td>Database Redesign</td>
<td>DP Chap 8</td>
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</tr>
<tr>
<td>Apr 3 &amp; 6</td>
<td>Managing Multi-user Databases</td>
<td>DP Chap 9, SQL Chap 11</td>
<td>Assignment #8</td>
</tr>
<tr>
<td>Apr 10 &amp; 13</td>
<td>Managing Multi-user Databases</td>
<td>DP Chap 11</td>
<td>Assignment #9</td>
</tr>
<tr>
<td>Apr 17 &amp; 20</td>
<td>Databases Access Standards</td>
<td>DP Chap 12, SQL Chap 12</td>
<td>Assignment #10</td>
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<tr>
<td>Apr 24 &amp; 27</td>
<td>Databases Access Standards</td>
<td>DP Chap 13 &amp; 14</td>
<td>Assignment #11</td>
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<tr>
<td>May 1 &amp; 4</td>
<td>BI Systems</td>
<td>DP 15</td>
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<tr>
<td>May 12 10 AM</td>
<td>Exam #4 &amp; Capstone Presentations</td>
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</tbody>
</table>
**Examination Dates**

(Subject to change)

<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Type</th>
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<tbody>
<tr>
<td>Feb 20</td>
<td>DP Chap 1-6, SQL Chap 1 &amp; 2</td>
<td>M/C and Short Essay</td>
</tr>
<tr>
<td>Apr 3</td>
<td>DP Chap 7 &amp; 8, SQL Chap 3-10</td>
<td>M/C and Short Essay</td>
</tr>
<tr>
<td>Apr 17</td>
<td>DP Chap 9 &amp; 11, SQL Chap 11</td>
<td>M/C and Short Essay</td>
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<tr>
<td>May 12</td>
<td>DP Chap 12-15</td>
<td>M/C and Short Essay</td>
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**Absence Policy**

As participation is considered essential to a successful educational experience, students may register at most two unexcused class absences before being considered dropped from the course. Excused absences are those for which prior arrangements have been made with the instructor or extenuating circumstances can be clearly documented. Please check with the instructor and make arrangements prior to any planned absences. There will be no makeup exams, students must instead make arrangements with the instructor to take the exam prior to the planned absence or forfeit the opportunity to complete it. Students failing to maintain a passing grade at any point during the semester may be involuntarily dropped from the course through an instructor-initiated withdrawal process. Overall, it is essential to keep the instructor informed of your progress as well as any difficulties you may be experiencing.

**Special Notes**

Any student who qualifies for accommodations based on the impact of a disability should contact Academic & Counseling Services during the first two weeks of class at 207-834-7530 Room 107 Cyr Hall. Academic & Counseling Services will coordinate reasonable accommodations for students with documented disabilities.

A student’s work should be their own. Collaboration between students is encouraged, but the work products delivered for grading should reflect the individual student’s efforts. Students who produce nearly identical work products will both receive a grade of zero. The creation of student study groups is strongly encouraged.

Students who plagiarize published works will receive a score of zero on the plagiarized work upon the first offense. A subsequent offense will warrant failure of the entire course.
WebCT will be used to keep students appraised of their progress and as a communication forum for instructor/student and student/student interactions. Its use is mandatory for all students.

Students must record on all submitted materials their name, instructor name(s), course and assignment number, and date of submission. Students are encouraged to retain for their record a personal copy of all submitted materials.

Students are encouraged to regularly submit during non-class hours constructive suggestions regarding delivery of the course.

The instructor(s) reserve(s) the right to make necessary changes to the syllabus in light of any circumstances occurring during the delivery of the course provided such changes are announced in class.

Students are required to observe appropriate error prevention techniques throughout the semester. For example, students must frequently save their work to disk to prevent loss. Loss due to power fluctuations, illegal instructions, viruses, or any other reason beyond the instructors' control will not constitute adequate reason for accommodations.

Assignments are due no later than the beginning of the class on the date assigned. Assignments submitted beyond the due date will receive a twenty-point reduction per day. Assignments submitted on the correct day but beyond the required time will receive a ten-point deduction.