Syllabus

Syllabus: Database Management Systems (BCIS 475/595)

Instructor Information

Dr. Jennifer Kreie

- Email: Use the LMS email system during this course.
- Office phone: 575.646.2990
- Office: Guthrie 318

Use the "Instructor Information" page to find more details about my class schedule, my office hours and how to schedule an appointment.

Course Information and Course Delivery Method

Database Management Systems (DBMS)
Log in to Canvas at http://learn.nmsu.edu using your NMSU username and password.

Most course materials are delivered through the LMS (Canvas is our current Learning Management Systems) and the modules section delivers most of this content. The learning module have links to handouts, cited Web pages, and videos, and quizzes and assignment activities are listed. The course homepage also has links to other components of the course, such as the schedule, course resources and university resources for students.

Please be aware that Canvas is not fully compatible with mobile devices. Many components will work well in mobile devices but not necessarily all. The design of the course assumes you have access to a computer (desktop or laptop) for completing the work in this course.

The course material was developed using a variety of software programs in either a Windows operating system or Web tools. Mac owners will need to handle any issues they encounter due to Mac-to-PC interaction or use the Windows-based computers available on campus.

Online students: Important information about exams! When this course is taught online the three exams in this course must be proctored. Students within 75 miles of campus must take their exams at the NMSU main campus. Those further than 75 miles from campus must find and register their own proctors no later than one week prior to each exam. Here are links to the instructions for arranging a proctor and the proctor form.

Course Description

This course teaches database concepts with a focus on relational databases. This course covers concepts about building, managing, and using databases and includes extensive coverage of SQL (structured query language), the standard language of relational databases. The coverage of SQL includes DDL (data definition language) used to construct a database and DML (data manipulation language) used for basic and advanced queries and embedded SQL in procedural programming languages for applications that must interact with a relational database. The major of SQL covered runs in any commercial DBMS, not just Oracle. Some Oracle-specific SQL commands are covered but there are comparable commands in each
commercial DBMS. This course also introduces database management concepts that deal with managing users and physical storage (DCL = data control language). Data warehouses and data mining are covered and current topics, such as big data and noSQL are discussed. Prerequisite: BCIS 350/540 with a grade of "C" or better.

Course Goals

The student who completes this course will be able to:

- Explain the primary features of database management systems (Oracle, Microsoft SQL Server or DB2, for example).
- Explain relational database concepts, such as primary key and referential integrity, and normalization—1st, 2nd, and 3rd normal form.
- Write SQL—the standard language of relational databases—at an advanced level.
- Interpret a data model and complete an SQL design template based on the model.
- Explain what embedded SQL is and identify examples of embedded SQL in a computer program.
- Perform basic DBA activities to manage a relational database, such as manage physical storage, manage user accounts and CRUD (create, retrieve, update, delete) rights.
- Discuss current topics, such as data warehouses, big data, noSQL and others.
- Discuss professional codes of ethics and ethical issues related to data.

Textbook & Required Materials

Database: Design, Application Development, & Administration,

M.V. Mannino. The textbook uses two databases for which scripts are available online in this course. One database is the basis for chapter examples and the other is used for end-of-chapter problems. We will use the most recent addition.

Preferred Modes of Communication

For general questions about the course or about a particular assignment, please post in the Discussion section so everyone can benefit from the questions and answers. For any email communications about this course, please use the email system within the LMS.

Comments in Canvas assignments versus Canvas email: When you want to make comments about an assignment, it is recommended that you not use the comment box within the assignment in the LMS. Rather than posting a comment within the assignment send it to me via the LMS email. The reason for this is that when Canvas notifies me about comments made within an assignment the message looks exactly as though you had simply submitted an assignment so I may not realize that you tried to communicate something. (Canvas is working to improve its notification of messages within an assignment.)

I use the Announcement tool in Canvas to post alerts and current information about this course. Check Announcements whenever you log into this course.

If you want, you can set your New Announcements in Notifications to "Right Away" to ensure that you receive any announcements. (Go to Profile>Notifications, find for new announcements and set to Right
Away).

**Virtual Office Hours.** All time-related information is stated in Mountain Standard Time. I have office hours for both face-to-face or online and a block of time solely online (Instructor Information page). If you want to meet online and you haven't used Adobe Connect before, the first time you will be prompted to install a plug-in for your browser. We need to be able to talk to one another, not just type text via chat and this works best if you have a headset with a microphone rather than relying on your laptop's or desktop machine's built in microphone and speakers.

You can schedule an appointment, rather than just dropping by online or face-to-face, by using the link for appointments on the "Instructor Information" page. Please note that there are some times listed when I am potentially available but that are not part of my scheduled office hours. These are times when I'm often working in my office and I might be available. When you make a request through MeetMe, I'll confirm whether or not I can meet that requested time.

**Email.** Use the email system in the LMS for communications related to this specific course. I will respond within 24 hours except over the weekends when the response time may be up to 48 hours. Please don't hesitate to contact me again if I haven't responded. (For example, if you send two separate emails in the LMS within a short time the first message maybe overlooked. Feel free to point this out to me. I will appreciate it.)

Please be advised that due to privacy and security concerns, I am unable to respond to emails from or about students that do not originate from within Canvas or an official NMSU email address.

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**Prerequisites**

The prerequisite for this course is Systems Analysis and Design (BCIS 350/540). This prerequisite is enforced. Contact the instructor immediately if you believe you have met the prerequisite but through a different course.

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**Coursework - Online or Face-to-Face**

Whether you are taking this course online or face-to-face, you are expected to log in to this course at least 3 times a week in order to keep up with the pace of the course and to keep up with any announcements or emails.

You need to set aside time to complete the assigned coursework—readings, exercises, quizzes, etc. These cannot be done at the last minute. Expect to spend an average of 4 to 6 hours per week on this class. For students in a face-to-face section, some of this required time occurs during class time. For online students, you must have the discipline to spend the required time to complete the coursework.

- If you enrolled in an online section, are you ready for the demands of an online class? Here's a short self evaluation you can do, that might be helpful: [http://distance.nmsu.edu/prospective/self_eval_dl.html](http://distance.nmsu.edu/prospective/self_eval_dl.html)

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**Required Technical Skills**
This course requires a number of technical skills. If you have questions about technical requirements for the course, please contact me immediately.

To begin in this course, you must:

- Read this syllabus carefully and contact me right away if you have questions. You are responsible for the content and assignments in this syllabus.
- Be able to obtain access to an Internet connection, preferably broadband, and a working computer for the duration of this course.
- If you haven't used Adobe Connect before, which is used for online office hours, the first time you use Adobe Connect you will be prompted to install a plug-in for your browser. You must be able to add that plug-in when prompted.
- Be able to send and receive emails and email attachments using the NMSU LMS (learning management system), which currently is Canvas.
- Be able to use NMSU's VPN software from off campus.
- Be able to use your NMSU email address.
- Know how to change your Canvas Notification settings. Maintain backups of all work you create for this course.
- Be familiar with many computer features, such as locating files on the computer hard drive, using browsers (Chrome, Firefox, and others) and be comfortable with learning new software.
- Be able to deal with Mac-to-PC issues if you own a MAC. Some support may be available through ICT here at NMSU but the instructor does not provide technical support.

You do not need to know Oracle SQL Data Modeler or SQL Developer. These are taught in this course and they are available for download without charge from Oracle Corporation. (The course resources page has links for this software.)

Course Organization

This course is organized by units or modules. Each module has readings, videos and activities (activities include at least one quiz or assignment but may have several).

- Getting started
- DBMS Overview
- SQL Basics
- Normalization
- Advanced SQL
- Applications & SQL
- Database Administration
- Current Topics

The content and pace of this course requires that you stay up-to-date with the scheduled readings, videos and activities. The format of this course for students in a face-to-face section is that of a flipped classroom. Students prepare for class beforehand by reading assigned material and watching assignment videos. Students come to class already familiar with the current topic. Class time is devoted to discussion, practice and work on assignments. Typically, the majority of time during the second class period of the week is given to students for completing assignments and the instructor is available to assist. However, don't assume you can complete all assignments during class.

If you are taking an online section of this course but you live within driving distance of the campus, you are
welcome to attend any of the face-to-face class periods. Please consider doing this if you are having difficulty completing the assignments.

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**Assignments**

Assignment exercises will be assigned as individual work unless otherwise specified by the instructor. Students are expected to submit their own work. You are free to discuss assignments with other students but do not give out SQL solutions or copy code from someone else. Submission of someone else’s work as one’s own will result in a zero for that assignment. See the section on scholastic dishonesty for further penalties.

I encourage you to use the online course discussion section to ask questions and post responses. It is OK to post code snippets to illustrate what is generating an error message but don’t post a complete SQL solution to a problem. It is helpful to post screen shots of errors messages to clearly show what problems you encounter. I encourage you to respond to other students’ questions posted in the online discussion area if you have a suggestion or solution.

The SQL assignments provide hands-on practice that is essential to learning the material. Several databases besides the ones provided by the textbook will be used throughout the course. Many of the practice problems and assignment problems will mirror examples given in the textbook or the problems listed at the end of the chapter but the assignments will usually use different databases than those presented in the textbook. It is recommended that you type all the chapter examples to practice the SQL commands. One of the benefits of this textbook is that Mannino provides numerous SQL examples and example output. The only way to master this material is to practice writing SQL.

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**Graduate Students**. Graduate students will complete an extra assignment for this course to receive credit for BCIS 595. This is a 5-page paper on a current DBMS topic. It is due by 5 PM on Friday of the last weeks of classes (the week before the final exam is given).

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**Course or Institutional Policies**

**Grading Policy.** The grading is weighted for different types of work and the percentages are shown below.

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<thead>
<tr>
<th></th>
<th>Weight in Overall Grade</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>15%</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Assignments</td>
<td>35%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
</table>

The exams are a combination of several multiple choice questions, a few fill-in-the-blank, and hands-on problems.

I will give you feedback/grade on assignments within 7 days of the due date. If I cannot meet this
turn-around time, I'll post information about the delay.

Grades will be assigned as follows:
98% through 100%: A+
92% through 97.9%: A
90% through 91.9%: A-
88% through 89.9%: B+
82% through 87.9%: B
80% through 81.9%: B-
78% through 79.9%: C+
72% through 77.9%: C
70% through 71.9%: C-
60% through 69.9%: D
below 60%: F

Late Work

- Online quizzes are not accepted late.
- Some assignments will be accepted within 24 hours of the due date. There will be a 10% late penalty. Beyond 24 hours after the due date, assignments are not accepted.
- Some assignments will not be accepted late and the assignment information online will indicate this.

Incomplete Grades. The grade of "I" may only be assigned if the student is unable to complete the course due to circumstances beyond the student's control that develop after the last day to withdraw from the course.

Class Withdrawals. It is your responsibility to know important dates such as the final day to withdraw from classes. You must officially withdraw from any class that you intend to drop.

Course Schedule

A separate document provides a weekly outline of the course schedule. There is a link to this from the course homepage.

Netiquette

Here are some guidelines for working with others in an LMS. Here is a link to an overview of these guidelines.

Academic Integrity

The Student Code of Conduct defines academic misconduct, non-academic misconduct and the consequences or penalties for each. The Student Code of Conduct is available in the NMSU Student Handbook online: http://deanofstudents.nmsu.edu/student-handbook/1-student-code-of-conduct/

Academic misconduct is explained here: http://deanofstudents.nmsu.edu/student-handbook/1-student-code-of-conduct/3-academic-misconduct.html

Plagiarism. Plagiarism is using another person's work without acknowledgment, making it appear to be
one's own. Intentional and unintentional instances of plagiarism are considered instances of academic misconduct and are subject to disciplinary action such as failure on the assignment, failure of the course or dismissal from the university. The NMSU Library has more information and help on how to avoid plagiarism at http://lib.nmsu.edu/plagiarism/.

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**Technology Requirements**

**Computer Hardware & Software**

- Access to a Windows or Macintosh desktop computer or laptop with Internet access, sound, and speakers
- Canvas Learning Management System
- Microsoft Office 2007 or higher or open-source software that will produce Microsoft compatible files.
- Adobe Reader (for reading PDF files)
- Headsets with microphone (optional, but recommended) for online office hours through Adobe Connect.
- Adobe Connect (A browser plug-in will need to be installed.)
- Oracle SQL Developer* (optional). This is a free tool from Oracle Corporation but you may be required to create an account with Oracle TechNet. During the download process you will be prompted to do this.

* This software can be used in the BC computer lab, which is **not** open on weekends, or you can install it on your personal computer and use NMSU’s VPN to connect from office campus, or you can use remote desktop connection to leia.nmsu.edu.

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**Learning Management System**

- Instructure Canvas
- Canvas Instructions

**Canvas Announcements.** I will use Announcements to send time sensitive information to the entire class. Because you can set your own notification preferences in Canvas, you will need to make sure you receive announcements daily. You are required to set your notifications for **New Announcements** to be **Right Away**.

**Web Browsers.** Use the following browsers in Canvas. Please remember to update the web browser you are using to access Canvas. Internet Explorer is not recommended for use with Canvas at this time.


Canvas does not fully support mobile devices; While there is a free Canvas mobile app available through iTunes store, a lot of functionality is unavailable when using a mobile phone. When you take this course, it is assumed you have access to a computer or laptop for full access to functionality in this course.

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**Learner Support**
Accessibility Support. Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) covers issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact:

Trudy Luken, Director, Student Accessibility Services (SAS); Corbett Center, Rm. 244
Phone: (575) 646-6840 -- E-mail: sas@nmsu.edu -- Web site: www.nmsu.edu/~ssd

NMSU policy prohibits discrimination on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex, sexual orientation, spousal affiliation and protected veterans status. Furthermore, Title IX prohibits sex discrimination to include sexual misconduct, sexual violence, sexual harassment and retaliation. For more information on discrimination issues, Title IX or NMSU's complaint process contact:
Gerard Nevarez, Executive Director or Agustín Díaz, Associate Director
Office of Institutional Equity (OIE); O'Loughlin House
Phone: (575) 646-3635 -- E-mail: equity@nmsu.edu -- Web site: http://www.nmsu.edu/~eeo/

Academic Services Support. NMSU provides academic support to students in a variety of ways. Here are some of these resources:

- The Student Writing Center offers free tutoring for undergraduate and graduate writers at any level of experience. Contact information and hours are at: http://english.nmsu.edu/resources/writingcenter/index.html

- Free campus Tutoring – There are undergraduate tutors from a variety of disciplines who are available to assist students. Campus Tutoring is on the west end of the first floor of Corbett Center. For more information, contact Student Success at 575.646.6050 or go to: http://ssc.nmsu.edu/

- The College of Business provides an "Academic Survival Kit" for writing and presentations at: http://business.nmsu.edu/students/survival-kit

Student Services Support. The College of Business and NMSU, in general, provide services to help students with advising. Be wise, don't self-advice. Talk to an advisor each semester to keep your educational plan on track.

- The College of Business Advising Center is at Guthrie 109. More information is at: http://business.nmsu.edu/student-services/
- NMSU Advising: http://advising.nmsu.edu/
- NMSU has other services that help students with information about financial assistance and career planning.
  - Career Services: http://careereexploration.nmsu.edu/

Technical Support

The ICT Customer Service Center will help you with your information technology (IT) and telecommunications needs at NMSU. The ICT Customer Service Center hours of operation are from 8:00 am until 5:00 pm Monday through Friday Mountain Time. You can contact customer service at 646-1840 or via e-mail at helpdesk@nmsu.edu.

For questions about Canvas, you can also go to the Student Technology Help web page and Student
Resources.

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**Accessibility of eLearning Tools**

**Canvas.** Our learning management system (LMS) is Canvas which provides a user experience that is easy, simple, and intuitive. Special attention has been paid to making Canvas screen-readable. Here is the voluntary product accessibility template (VPAT) for Canvas. The National Federation of the Blind granted Canvas the Gold Level Web Certification in 2010.

**SoftChalk.** Many of the Web pages in this course were created using SoftChalk. Here is an overview of SoftChalk's VPAT statement of how it complies with the U.S. Section 508 accessibility standard.

**Oracle.** We will use two Oracle product during this course. Here is a link to the VPAT statement for the free, stand-alone from Oracle called SQL Developer Data Modeler.

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**Syllabus Modifications Statement**

It is my intention to adhere to the information provided here in the syllabus and in the course schedule. However, sometime changes are necessary. For example, scheduling changes typically come up when a department or college meeting is called that conflicts with my scheduled office hours. I will notify you of changes as soon as possible through the Announcements tool in Canvas.

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**Check what you know from the syllabus.**

These are not necessarily the same questions you will see in the "syllabus and schedule" quiz but they will help you prepare.

**NOTE:** These points do NOT transfer to your grade in this course. This is just for practice.

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**Self Check**

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**Self Check**

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**Self Check**