

ICT 301 Section 001 Introduction to Databases

Instructor: Joe Kratzat
Email: Joe.Kratzat@uky.edu
Office hours: By appointment
Virtual Office hours: Same as above in Canvas
Preferred method of contact: Email
I usually respond to questions within 24 hours. I will not respond after 6pm or on weekends or holidays.

Course Description

This course is intended to give students a solid background in databases, with a focus on relational database management systems. Topics include data modeling, database design theory, data definition and manipulation languages, storage and indexing techniques, query processing and optimization, and database programming interfaces.

Class Information

Section: 001
TR 11:00 -12:15am
Lucille Caudill Little Library, Room 302

This is a face-to-face course. You are required to attend scheduled classroom sessions. The Canvas course management system will also be used to facilitate the class. You will need access to an appropriate computer with a broadband Internet connection. It is advised that you have with you in class a laptop computer (tablet can work too as long as they are Windows-based or Unix-based, e.g., Ubuntu, Mac OS X etc.). Attendance will be taken using an electronic system (at least smartphones are necessary). Expect practicing the concepts taught in class at home weekly if you want to succeed in the class.

Student Learning Outcomes

Students successfully completing the course will be able to:

- Develop a clear understanding of the basic concepts and principles of database systems
- Design a database application using a relational DBMS
- Describe and apply Structured Query Language (SQL)
- Access and manage database information through web technologies.

Required Materials

Required Textbook:

Tahaghoghi, S. M. M., & Williams, H. E. (2006). Learning MySQL. O'Reilly Media.

Course Activities and Assignments

Participation, 15%
Homework Assignments, 30%
Midterm Quiz, 25%
Final Exam, 30%

Course Grading

90 – 100% = **A (Exceptional Achievement)**
80 – 89% = **B (High Achievement)**
70 – 79% = **C (Average Achievement)**
60 – 69% = **D (Below Average Achievement)**
Below 60% = **E (Failing)**

Tentative Course Schedule

See Course Calendar below

Final Exam Information

Thursday 12/14/2017, 3:30 pm in the normal classroom

Mid-term Grade

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/registrar/calendar>).

Submission of Assignments

All assignments should be submitted before 12 o'clock midnight on the day of the due date. All due dates are posted on the course calendar. Late assignments will not be accepted

Attendance Policy

This class is a community whose success depends on everyone's participation, and it is vital for you to attend class in order to be successful. Attendance will be taken at the beginning of class. If you miss this, it is your responsibility to let me know you arrived late.

If you are absent on a day when an assignment is due, you will be allowed to hand in or make up that work **only** if the absence is **officially excused**. You will be asked to provide official written documentation for excused absences the next time you are in class in order for your absence to be excused. If you know ahead of time that you will be absent from class with an excused absence, please discuss this with your instructor and turn in any assignments ahead of time. Excuses for university-sponsored activities must be made *prior* to such absences. For any emergency situation that arises, **email your instructor** as soon as you know about the situation when possible. **No make-up work is available for in-class exercises or quizzes unless approved in advance by your instructor**. Students have one week to complete a missed assignment or quiz due to an excused absence upon their return without penalty.

If you know ahead of time that you will be absent from class with an excused absence, please discuss this with your instructor and turn in any assignments ahead of time. Excuses for university-sponsored activities must be made *prior* to such absences. For any

emergency situation that arises, **email your instructor** as soon as you know about the situation when possible. Students have **one week** to complete a missed assignment or quiz due to an excused absence upon their return without penalty.

Competence vs Skills

Technology changes rapidly. When I first touched a computer I was using MS-DOS as my operating system. All the skills that I obtained during that era are almost completely obsolete. The competence of understanding how software is built and structured stayed with me which helped me transition through a variety of operating systems as times and needs changed. Having me spoon-feed you the answers will teach you how to work with the software you are currently learning, while your understanding of other similar or future software and technologies at large will still be at the same or a bit higher level. Computer efficacy is gained through personal effort and sadly frustration. It is through a process of searching and trial and error that competence is gained. Please keep in mind, that while I will give you breadcrumbs to follow and get you to completing your assignments, I require you to put in personal effort as my goal is to make you competent administrators, not just skilled at “Software X Version 1.0” that you will encounter during your time in this class.

Backups!

It is your responsibility alone to maintain backups of your work. Using services such as cloud (e.g., dropbox) or flash drives to maintain backups will prevent you from losing your work due to unfortunate circumstances such as computer theft etc., and, it is a good habit for both personal and professional affairs. Lost work will not account for an excuse in this course.

Asking for Help

Since this is a technical course you are most likely to encounter issues or get stuck with an assignment. The optimum process for addressing these issues and resolving them (similar to that followed by many professional today) is in the following order:

1. Use a search engine such as Google to search for the issue using a variety of keywords (you can also use descriptive terms related to your problem)
2. Attempt to read the search results and try out their solutions
3. Ask your classmates
4. Post your issue on a forum or community such as stackexchange.com or stackoverflow.com
5. Email me about the issue. In your email you should demonstrate that you have attempted to resolve the issue on your own by including what you have found through a search engine or your post on a forum. Please be specific about your problem. Descriptions like “I have a problem with MySQL” are hardly informative about what your problem may be

Note: Contact me far enough in advance so that I can respond and you can make adjustments or corrections. While I may respond the same afternoon for emails I receive in the morning, I may not respond until the next weekday (excluding holidays). Do not email

me on the due date of the assignment. Get assignments done as far in advance as possible to avoid problems or to give you time to contact me with questions that might arise. You never know when you might need clarification before an assignment is due. This is also a good way to avoid any issues with technology that can and will happen.

Group Work and Collaboration

Although you will be individually evaluated, group collaboration is allowed and encouraged. You are advised to ask questions and collaborate to solve any issues you may encounter with the website development.

Excused Absences

Students need to notify the professor of absences prior to class when possible. *Senate Rules 5.2.4.2* defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Two weeks prior to the absence is reasonable, but should not be given any later. Information regarding major religious holidays may be obtained through the Ombud (859-257-3737, http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused) per University policy.

Per *Senate Rule 5.2.4.2*, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Verification of Absences

Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness, or death in the family. Appropriate notification of absences due to University-related trips is required prior to the absence when feasible and in no case more than one week after the absence.

Academic Integrity

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which

the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rules 6.3.1 (see <http://www.uky.edu/Faculty/Senate/> for the current set of *Senate Rules*) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability

Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at drc@uky.edu. Their web address is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>.

Policies concerning academic integrity, excused absences and academic accommodations due to disability are available online at: <https://ci.uky.edu/sis/sites/default/files/policies.pdf>

TECHNOLOGY INFORMATION & RESOURCES

Distance Learning Students are expected to have a minimum level of technological acumen and the availability of technological resources. Students must have regular access a computer with a reliable Internet connection and audio capabilities. Internet Explorer 7 (IE) or Firefox 2.x are the recommended browsers for those using a Windows-based PC. Those using Firefox 3.x may encounter problems with assignment uploads. Those using an Apple computer with MAC OS X (10.5.x) may use Firefox 3.x or Safari 3.x. Please be certain that your computer and/or browser allow you to view Adobe Reader documents (.pdf). Microsoft Office and other software products are free for students: <http://download.uky.edu/>.

As your instructor, I am your first go-to person for technology problems. If you need more immediate assistance, please contact UKIT.

Information Technology Customer Service Center (UKIT)

<http://www.uky.edu/UKIT/>; 859-218-4357

Library Services & Distance Learning Services

<http://www.uky.edu/Libraries/DLLS>

- Carla Cantagallo, DL Librarian
- Local phone number: (859) 257-0500, ext. 2171; long-distance phone #: (800) 828-0439 (option #6)
- Email: dllservice@email.uky.edu
- DL Interlibrary Loan Service:
http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16

For more resources about online classes and student resources, visit <http://www.uky.edu/ukonline/>

The School of Information Science has a page with a comprehensive list of technology resources here: <http://ci.uky.edu/sis/students/techtips>

Military Members and Veterans

We recognize the complexities of being a member of the military community and also a student. If you are a member of the military or a military veteran or dependent, please inform your instructor if you are in need of special accommodations. Drill schedules, calls to active duty, mandatory training exercises, complications with GI Bill disbursement, and other unforeseen military and veteran related developments can complicate your academic life. If you are aware of a complication, we will work with you and put you in contact with university staff members who are trained to assist you. Please contact the Coordinator of the University of Kentucky Veterans Resource Center at (859) 257-1148 for additional assistance. Visit <http://www.uky.edu/veterans> for more available resources.

COURSE CALENDAR

(Schedule and topics is subject to change. Changes will be posted in the Announcements.)

(Deadlines for assignments are posted on canvas)

Modules & Dates	Topics	Due
Week 1	Introduction to Databases	
Week 2	Digital Storage and Processing: Hardware	
Week 3	DBMS-Like Objects	Homework 1 (H1)
Week 4	Relational Database Design	Chapter 4
Week 5	Relational Database Design	H2
Week 6	Relational Algebra	H3
Week 7	Introduction to SQL	Chapter 5
Week 8	Introduction to SQL	H4 Midterm quiz
Week 9	CREATING and ALTERING using SQL	Chapter 6
Week 10	Advanced Querying	Chapter 7 H5
Week 11	Advanced Querying	H6
Week 12	User and Privileges Management	Chapter 9
Week 13	Data and Database Security	Chapter 10
Week 14	Tuning Up Your Server	Chapter 12
Week 15	Anything goes	
Week 16	Final	Final