

ICT301-201
Introduction to Databases
Fall 2019

Instructor:	Dr. Soohyung Joo
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Office Phone:	859-257-5942
Office hours:	Tue/Thu 8:45 AM to 10:45 AM
Preferred method of contact:	Email/ Canvas. I usually respond to questions within 24 hours. (expect a delay during weekends and holidays).
Class Meetings:	Tue/Thu 11:00 am - 12:15 pm (Lucille Little Lib. Rm.312)

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.

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.

Textbooks

- No required textbook.
- Readings will be posted on Canvas.
- Recommended book for reference (not required)
“PHP and MySQL for Dynamic Web Sites: Visual QuickPro Guide 5th Edition” by Larry Ullman (ISBN-13: 978-0134301846)

Class Information

- This is an introductory course. The course is designed for beginners who do not have any prior experience in databases and programming.
- This is a face-to-face course. You are required to attend scheduled classroom sessions. A typical class consists of a lecture, lab exercise, and/or other activities (e.g., small-group discussion, group project, quiz).
- You will need access to an appropriate laptop computer. There are intensive lab exercises, so a laptop computer is necessary in this class. It is your responsibility to bring a laptop (with either MS-Windows or Mac OS) for class lab activities. It is recommended you bring your own laptop, if you have one. Otherwise, you can check out a laptop from the School of Information Science. If you check out a laptop, it should be ready before starting the class. No excuse will be accepted for not being ready for in-class lab exercises.

- You will need to install required software for lab exercises, assignments and a final project, such as a text editor, ftp client tool, MySQL Workbench, and others.
- You are required to access a Wifi connection via UK eduroam (<https://www.uky.edu/wifihelp/sfs.html>).

Course Activities and Assignments

Your final grade is determined by your performance on the following items: (1) ten assignments (70%), (2) two online quizzes (15%), and (3) online discussion (15%).

Summary Description of Course Assignments

- **Weekly hands-on assignments (50%)**
 - Hands-on Assignment #1 (2%)
 - Hands-on Assignment #2 (2%)
 - Hands-on Assignment #3 (3%)
 - Hands-on Assignment #4 (3%)
 - Hands-on Assignment #5 (3%)
 - Hands-on Assignment #6 (9%)
 - Hands-on Assignment #7 (8%)
 - Hands-on Assignment #8 (5%)
 - Hands-on Assignment #9 (5%)
 - Hands-on Assignment #10 (5%)
 - Hands-on Assignment #11 (5%)
- **Quizzes (20%)** – There are five “in-class” quizzes. Each quiz makes 5% of the total grade.
- **Group Project (15%)** – Each group (consisting of 4-5 students) will be asked to develop a database-driven web application using PHP and MySQL. Groups will be randomly formed. Anonymous peer assessment will be conducted to ensure the participation of each group member. A detailed instruction will be provided in Week 9.
- **Class Participation (15%)** – You are required to attend scheduled classroom sessions. Most class meetings include an in-class lab session, so you will need to bring a laptop (either your own laptop or a check-out from the School of Information Science) and actively participate in lab sessions. In addition, there will be small-group discussion activities for some topics. Discussion participation will be also reflected on your grade.

Course Grading

Grading scale for this course:

- 90.00 – 100% = A
- 80.00 – 89.99% = B
- 70.00 – 79.99% = C
- 60.00 – 69.99% = D
- 0.00 – 59.99% = E

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>).

Dead Week: Senate Rules 5.2.4.6 define the last week of class during a regular semester as dead week. Class participation and attendance policies apply during dead week and regularly assigned homework that was announced in the syllabus applies, but no written examinations or quizzes will be assigned during dead week. See Senate Rules 5.2.4.6 for complete policy information.

Tentative Course Schedule

Week	Date	Topic	Assignment
1	8/27	Course overview	
	8/29	Introduction to LAMP platform, SFTP, Software Installation	
2	9/3	Basic HTML	Hands-on Assignment 1 (Due: 9/8)
	9/5		
3	9/10	Introduction to PHP	Hands-on Assignment 2 (Due: 9/15)
	9/12		
4	9/17	Programming with PHP Quiz 1	Hands-on Assignment 3 (Due: 9/22)
	9/19	Programming with PHP	
5	9/24	Programming with PHP	Hands-on Assignment 4 (Due: 9/29)
	9/26	Programming with PHP	
6	10/1	Programming with PHP Quiz 2	Hands-on Assignment 5 (Due: 10/6)
	10/3	Programming with PHP	
7	10/8	Introduction to Relational Database Systems (RDMS)	Hands-on Assignment 6 (Due: 10/20)
	10/10	Entity Relationship Modeling	
8	10/15	Relational Tables and Normalization Quiz 3	
	10/17	Relational Tables and Normalization Structure Query Language	
9	10/22	Structure Query Language	Hands-on Assignment 7 (Due: 10/27)
	10/24	Structure Query Language (Final Project Information)	
10	10/29	MySQL Connection with PHP Quiz 4	Hands-on Assignment 8

	10/31	MySQL Connection with PHP	(Due: 11/3)
11	11/5	Database Driven Application Development	Hands-on Assignment 9 (Due: 11/10)
	11/7		
12	11/12	Database Driven Application Development	Hands-on Assignment 10 (Due: 11/17)
	11/14		
13	11/19	Database Driven Application Development Quiz 5	Hands-on Assignment 11 (Due: 11/24)
	11/21	Database Driven Application Development	
14	11/26	Online class (No class meeting): You will watch a couple of videos about recent trends in databases and participate in online discussion.	
	11/28	Thanksgiving Break	
15	12/3 & 12/5	Group Project Lab Session	
16	12/10	Group Project Lab Session	Final Group Project Due: 12/17

* The instructor might have business travels during the semester. In those cases, classes will be offered online or replaced with other hands-on exercises.

Submission of Assignments

Assignments should be submitted online via Canvas. An overdue assignment will get a penalty of 20% of total points. No assignment and project will be accepted after five days.

Attendance Policy

This is an online course, which requires asynchronous class discussion via Canvas to facilitate a sense of community. Canvas will also be used for making course announcements, distributing reading materials, submitting assignments and posting grades. Please visit <https://www.uky.edu/canvas> (Canvas) for course homepage.

Course related communications will occur mainly in Canvas (online discussions, questions and answers, etc.). In addition, all announcements will be posted in Canvas. Students thus are required to check the course shell in Canvas on a regular basis. Failure to receive such announcements cannot be used as an excuse for not being informed.

I welcome emails sent to my UKY.EDU email account. Please feel free to email me via soohyung.joo@uky.edu if you have any questions or concerns. In ordinary circumstances, it is expected that the instructor will respond within 24 hours during weekdays. Please expect a delay during weekends and holidays.

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, (e)

interviews for graduate/professional school or full-time employment post-graduation, and (f) 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).

In situations where a student’s total EXCUSED absences exceed 1/5 (or 20%) of the class periods scheduled for the semester, students are strongly encouraged to withdraw (take a “W”) from the class as per university policy. If a student has excused absences in excess of one-fifth of the class contact hours for that course, the student shall have the right to receive a ‘W’, or the Instructor of Record may award an ‘I’ for the course if the student declines to receive a ‘W.’

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/DisabilityResourceCenter>.

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.