

ICT301 - Introduction to Databases Fall 2020

Instructor:	Dr. Firaz Peer
Office Address:	Lucille Little Fine Arts Library
Email:	firazpeer@uky.edu
Office hours:	Online by appointment.
Preferred method of contact:	Canvas/Email. I usually respond to questions within 24 hours. (expect a delay during weekends and holidays).
Class Meetings:	Tue/Thu 12:30 pm - 1:45 pm (Online)

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 and Requirements

- This is an introductory course. The course is designed for beginners who do not have any prior experience in databases and programming.
- **This is an online course.** You are required to participate in scheduled classroom sessions either synchronously or asynchronously. A typical class consists of a lecture, lab exercise, and/or other activities (e.g., small-group discussion, group project, quiz). Please let the instructor know beforehand if you cannot attend a class session. Class recordings will be made available on Canvas.
- 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 have a laptop (with either MS-Windows or Mac OS) for class lab activities. It is recommended you use 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, please make sure you have all the necessary software installed. UK's Technology Help Center lists [minimum requirements for technology for eLearning](#).

- 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 (<https://www.uky.edu/wifihelp/sfs.html>).
- Virtual office hours will be available via a web conferencing program called Zoom. More information for using Zoom will be provided in Canvas. If you want to meet via Zoom, you will need to email me ahead of time so I can setup the virtual meeting and invite you to join it.

Course Activities and Assignments

Your final grade is determined by your performance on the following items:

- **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. Detailed instructions 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

Submission of Assignments

Assignments should be submitted online via Canvas. Over the course of the term, students will have three "late days" where work may be submitted late with no explanation needed. Students must specify "Use my late days" on the first page of the assignment if using late days towards a submission.

After late days have been exhausted, overdue assignments will receive a penalty of 10% of total points. Assignments or projects will not be accepted after five days of the due date.

Technology Information and Requirements

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/>.

Minimum technical requirements for UK courses and suggested hardware, software, and internet connections are available at [ITS Student Hardware & Software Guidelines](#).

As your instructor, I am your first go-to person for technology problems. If you need more immediate assistance, please contact UKIT. For more resources about online classes and student resources, visit <http://www.uky.edu/ukonline/>

Information Technology Customer Service Center (UKIT)

For account help, contact UK's [Information Technology Customer Services online](#), by [email](#), or by phone at 859-218-HELP (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

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

Attendance Policy

This is an online course, which requires both synchronous and asynchronous participation 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.

Please use Canvas to contact me for course related questions. In ordinary circumstances, I will respond within 24 hours during weekdays. Please expect a delay during weekends and holidays.

Excused Absences (Senate Rules 5.2.4.2)

Senate Rules 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) significant illness, (b) death of a family member, (c) trips for members of student organizations sponsored by an educational unit, trips for University classes, and trips for participation in intercollegiate athletic events, (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 instructor of record.

Students should notify the professor of absences prior to class when possible.

If a course syllabus requires specific interactions (e.g., with the instructor or other students), in situations where a student's total EXCUSED absences exceed 1/5 (or 20%) of the required interactions for the course, the student shall have the right to request and receive a "W," or the Instructor of Record may award an "I" for the course if the student declines a "W." (Senate Rules 5.2.4.2.1)

Verification of Absences (Senate Rules 5.2.4.2.A, B, C, and E)

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 due to: significant illness; death in the household, trips for classes, trips sponsored by an educational unit and trips for participation related to intercollegiate athletic events; and interviews for full-time job opportunities after graduation and interviews for graduate and professional school. (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.)

Religious Observances (Senate Rules 5.2.4.2.D)

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. Please check the course syllabus for the notification requirement. If no requirement is specified, two weeks prior to the absence is reasonable and should not be given any later. Information regarding major religious holidays may be obtained through [the Ombud's website](#) or calling 859-257-3737.

Make-Up Work (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 instructor must give the student an opportunity to make up the work and/or the exams missed due to the excused absence, and shall do so, if feasible, during the semester in which the absence occurred. The instructor shall provide the student with an opportunity to make up the graded work and may not simply calculate the student's grade on the basis of the other course requirements, unless the student agrees in writing.

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. Visit the [DRC website](#), [email the DRC](#), contact them by phone at (859) 257-2754, or visit their office on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407.

Non-Discrimination Statement and Title IX Information

UK is committed to providing a safe learning, living, and working environment for all members of the University community. The University maintains a comprehensive program which protects all members from discrimination, harassment, and sexual misconduct. For complete information about UK's prohibition on discrimination and harassment on aspects such as race, color, ethnic origin, national origin, creed, religion, political belief, sex, and sexual orientation, please see [the electronic version of UK's Administrative Regulation 6:1 \("Policy on Discrimination and Harassment"\)](#).

In accordance with Title IX of the Education Amendments of 1972, the University prohibits discrimination and harassment on the basis of sex in academics, employment, and all of its programs and activities. Sexual misconduct is a form of sexual harassment in which one act is severe enough to create a hostile environment based on sex and is prohibited between members of the University community and shall not be tolerated. For more details, please see [the electronic version of Administrative Regulations 6:2 \("Policy and Procedures for Addressing and Resolving Allegations of Sexual Assault, Stalking, Dating Violence, Domestic Violence, and Sexual Exploitation"\)](#). Complaints regarding violations of University policies on discrimination, harassment, and sexual misconduct are handled by the Office of Institutional Equity and Equal Opportunity (IEEO), which is located in 13 Main Building and can be reached by phone at (859) 257-8927. You can also visit [the IEEO's website](#).

Faculty members are obligated to forward any report made by a student related to IEEO matters to the Office of Institutional Equity and Equal Opportunity. Students can *confidentially* report alleged incidences through the Violence Intervention and Prevention Center, Counseling Center, or University Health Services.

Midterm Grades for Undergraduate Students (Senate Rules 6.1.3.A)

Mid-term grades will be posted in myUK by the deadline established in the [Academic Calendar](#).

Tentative Course Schedule

Any changes made to the syllabus for reasons related to business travel or otherwise will be communicated to the students with reasonable notice.

Week	Date	Topic	Assignment
1	8/18	Course overview	
	8/20	Introduction to LAMP platform, SFTP, Software Installation	
2	8/25	Basic HTML	Hands-on Assignment 1 (Due: 8/30)
	8/27		
3	9/1	Introduction to PHP	Hands-on Assignment 2 (Due: 9/6)
	9/3		
4	9/8	Programming with PHP Quiz 1	Hands-on Assignment 3 (Due: 9/13)
	9/10	Programming with PHP	
5	9/15	Programming with PHP	Hands-on Assignment 4 (Due: 9/20)
	9/17	Programming with PHP	
6	9/22	Programming with PHP Quiz 2	Hands-on Assignment 5 (Due: 9/27)
	9/24	Programming with PHP	
7	9/29	Introduction to Relational Database Systems (RDMS)	Hands-on Assignment 6 (Due: 10/11)
	10/1	Entity Relationship Modeling	
8	10/6	Relational Tables and Normalization Quiz 3	
	10/8	Relational Tables and Normalization Structure Query Language	
9	10/13	Structure Query Language	
	10/15	Structure Query Language (Final Project Information)	
10	10/20	MySQL Connection with PHP Quiz 4	Hands-on Assignment 8 (Due: 10/25)
	10/22	MySQL Connection with PHP	

11	10/27	Database Driven Application Development	Hands-on Assignment 9 (Due: 11/10)
	10/29		
12	11/3	Database Driven Application Development	Hands-on Assignment 10 (Due: 11/17)
	11/5		
13	11/10	Database Driven Application Development Quiz 5	Hands-on Assignment 11 (Due: 11/24)
	11/12	Database Driven Application Development	
14	11/17	Group Project Lab Session	
	11/19	Group Project Lab Session	
15	11/24	Group Project Lab Session and Wrap Up	Final Group Project Due: 11/30

Academic Policies in relation to COVID-19

Fall Academic Calendar, Reading Days and Dead Week

Several modifications to the academic calendar have been made in response to the COVID-19 situation. The current calendar is available [on the uky.edu website](#).

The calendar features a Reading Day. The current Dead Week restrictions on certain instructional activities would continue to apply to Reading Days. An additional restriction would apply to Reading Days, namely no required class meetings or, more generally, no “required interactions.” Reading Days are not academic holidays.

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.

Academic Integrity– Prohibition on Plagiarism (Senate Rules 6.3.1)

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 on the [Academic Ombud](#) page. 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 Rule 6.3.1 (see current [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.

Academic Integrity – Prohibition on Cheating (Senate Rules 6.3.2)

Cheating is defined by its general usage. It includes, but is not limited to, the wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade. The fact that a student could not have benefited from an action is not by itself proof that the action does not constitute cheating. Any question of definition shall be referred to the University Appeals Board.

Academic Integrity – Prohibition on Falsification/Misuse of Academic Records (SR 6.3.3)

Maintaining the integrity, accuracy, and appropriate privacy of student academic records is an essential administrative function of the University and a basic protection of all students. Accordingly, the actual or attempted falsification, theft, misrepresentation or other alteration or misuse of any official academic record of the University, specifically including knowingly having unauthorized access to such records or the unauthorized disclosure of information contained in such records, is a serious academic offense. As used in this context, "academic record" includes all paper and electronic versions of the partial or complete permanent academic record, all official and unofficial academic transcripts, application documents and admission credentials,

and all academic record transaction documents. The minimum sanction for falsification, including the omission of information, or attempted falsification or other misuse of academic records as described in this section is suspension for one semester.

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.

Bias Incident Support Services

Bias Incident Support Services (BISS) provides confidential support and advocacy for any student, staff, or faculty member impacted by bias, hatred, and/or an act of identity-based violence. BISS staff aid impacted parties in accessing campus and community resources, including the Bias Incident Response Team, the University's official reporting system for acts that negatively impact a sense of belonging. Campus and community consultation and educational opportunities centered on inclusion, diversity, equity and belonging is a resource also provided by BISS. For more detailed information please visit the [BISS website](#) or contact them [via email](#).

Counseling Center

The UK Counseling Center (UKCC) provides a range of confidential psychological services to students enrolled in 6 credit hours or more, psychoeducational outreach programming (including QPR suicide prevention), and consultation to members of the UK community (students, faculty, staff, administrators, parents, concerned others). Please visit the website <https://www.uky.edu/counselingcenter/> for more detailed information, or call 859.257.8701.

Martin Luther King Center

The Martin Luther King Center (MLKC) supports an inclusive learning environment where diversity and individual differences are understood, respected, and appreciated as a source of strength. The MLKC's year-round programs and activities that focus on the importance of cultural awareness and cross-cultural understanding support its three primary goals: 1) sponsoring cultural and educational programming; 2) offering opportunities for student support and development; and 3) through programmatic linkages with a wide variety of civic and community agencies, promoting community outreach, engagement, and collaboration. Students can reach the MLKC via phone at (859) 257-4130, by visiting them in Gatton Student Center Suite A230, [via email](#), and by visiting [the MLKC website](#).

Office of LGBTQ* Resources

UK is committed to supporting students and upholding the University's efforts to promote inclusion among our community. UK faculty and staff employees support inclusion and diversity throughout the University, including the ways in which faculty structure classroom conversations and manage those dynamics. To assist in these efforts, students are welcome to

provide the names and pronouns they prefer. One easy way to do this is by using the pronoun feature of UK's Name Change Form. (More information about the form can be found on the [Office of LGBTQ*'s website](#).) Otherwise, students can provide this information to faculty members directly.

Discrimination based on sexual orientation, gender expression, and gender identity is prohibited at UK. If you have questions about support, advocacy, and community-building services related to sexual orientation, gender expression, or gender identity, students are encouraged to visit the [website of the Office of LGBTQ* Resources](#).

Veteran's Resource Center

Being both a member of the military community and a student can bring some complexities. If you are a member of the military or a military veteran or dependent, please let me know when these challenges arise. Drill schedules, calls to active duty, mandatory training exercises, issues with GI Bill disbursement, etc. can complicate your academic life. Please let me know if you experience complications and I will do my best to work with you.

If you are a military student serving in the National Guard or Reserve it is in your best interest to let all of your professors know that immediately. You might also consider sharing a copy of your training schedule as well as any orders activating you. The Veterans Resource Center (VRC) can provide a letter for your professors validating your absence but be aware that there is no current UK policy protecting military students who miss class due to short term activations such as long weekend drills, annual training or emergency activations. See the instructor or the VRC for details.

The VRC is a great resource for members of our military family. If you have questions regarding your VA benefits or other related issues, the VRC has a full complement of staff to assist you. The VRC also provides study and lounge space, as well as free printing. Please visit the [VRC website](#), [email the DRC](#), visit them in the basement of Erikson Hall, or call the director, Tony Dotson, at (859) 257-1148.

Violence Intervention and Prevention (VIP) Center

If you experience an incident of sex- or gender-based discrimination or interpersonal violence, we encourage you to report it. While you may talk to a faculty member or TA/RA/GA, understand that as a "Responsible Employee" of the University these individuals MUST report any acts of violence (including verbal bullying and sexual harassment) to the University's Title IX Coordinator in the IEEO Office. If you would like to speak with someone who may be able to afford you confidentiality, you can visit the [Violence Intervention and Prevention \(VIP\) Center's website](#) (offices located in Frazee Hall, lower level; [email them](#); or call (859) 257-3574), the [Counseling Center's \(CC\) website](#) (106 Frazee Hall; (859)), and the [University Health Services \(UHS\) website](#); the VIP Center, CC, and UHS are confidential resources on campus. **The VIP Center accepts walk-in appointments.**

Course Material Copyright Statement

Materials distributed or made available to students in connection with this course may be copyright protected. They are intended for use only by students registered and enrolled in this course and only for the instructional activities associated with and for the duration of this course. They may not be converted to or retained in another medium or disseminated further.