

**ICT690-204/LIS690-204**  
**System Design for Enterprise Data Management**  
**Spring 2019**

**Instructor:** Dr. Soohyung Joo  
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**Office Phone:** 859-257-5942  
**Office hours:** Wednesday, 9:00 AM to 1:00 PM  
**Preferred method of contact:** Email/ Canvas.  
I usually respond to questions within 24 hours. (expect a delay during weekends and holidays).

### **Course Description**

This course introduces students to the fundamental principles of information system design. Emphasis will be on practical aspects of data modeling and accompanying system development. In addition, it will survey a range of most recent technologies to organize and manage enterprise data. Topics include RDMS, cloud system platforms, NoSQL, content management, web analytics, project management, interface design, and system usability.

### **Student Learning Outcomes**

Students successfully completing the course will be able to:

- Design a database system using a relational DBMS
- Organize and manage structured and semi-structured data
- Develop database driven applications.
- Build a web system environment using cloud computing.
- Apply project management skills to plan, design, and develop an information system.

### **Required Materials**

No textbook.

Extensive lecture notes will be provided each week. All course reading materials including lecture notes will be uploaded to Canvas.

### **Class Information**

This is an online course. You will need access to an appropriate computer with an Internet connection. A student will need to install required software (e.g., text editor, ftp client tool, MySQL Workbench, etc.). Also, a student needs to create an Amazon Web Services (AWS) account (detailed information will be given in class). All class exercises will be done in the Windows OS environment (and sometimes Linux via ssh), so limited help will be provided for Mac OS.

### **Course Activities and Assignments**

Your final grade is determined by your performance on the following items: (1) six assignments (50%), (2) a term paper (20%), (3) two online quizzes (15%) and (4) online discussion participation (15%).

### **Summary Description of Course Assignments**

- Weekly assignments
  - Assignment #1 (10%) – RDMS conceptual design using MySQL Workbench
  - Assignment #2 (5%) – SQL exercises
  - Assignment #3 (7%) – Web application design (1)
  - Assignment #4 (10%) – Web application design (2)
  - Assignment #5 (8%) – Content management system
  - Assignment #6 (10%) – Data flow diagram
  
- Term paper (20%) – The paper will provide an overview of the topic of interest. Acceptable topics include: relational database systems, cloud computing, web analytics, NoSQL, project management, big data, Internet of things (IoT), interface design, system usability, network models, ERP(or CRM, SCM), and others. The paper should outline the current state of the topic as well as future directions and its impact based on a review of literature or cases. A detailed instruction will be given in class.
  
- Two online quizzes (15%) – There are two quizzes in Week 7 & 15. Each quiz will consist of true/false, multiple choice, and short answer questions.
  
- Online discussion (15%) – Students are expected to participate in the weekly discussion forum (including class exercises) via Canvas. In the forum, you can discuss an important issue of each week’s topic posted by the instructor as well as any questions, ideas or thoughts you have regarding the topic, slides, readings or exercises for that week. The instructor will post some discussion questions (and/or one or two hands-on exercises) related to the topics of the week, so you can participate in the discussion based on the questions (and/or exercises). Also, you are encouraged to post your own discussion questions. The discussion will start on Monday morning, and it will end on the following Sunday night. To get full credits for class participation, each student needs to contribute at least two quality discussion posts each week. A valuable post or quality post includes a substantive and thoughtful contribution to each week’s discussion topics, during that week. Although you can continue participating in the earlier week discussions, no credit will be given for posts that occur after the week. A quality post is both substantive (in most instances this means at least 100 words) and thoughtful (“I agree with the author” only is not a credit-worthy response).

### **Course Grading**

Grading scale for this course:

- 90 – 100% = A

- 80 – 89.99% = B
- 70 – 79.99% = C
- 60 – 69.99% = D
- 0 – 59.99% = E

### Tentative Course Schedule

Week	Topic	Assignment
1 (1/9-1/13)	Course overview	
2 (1/14-1/20)	Relational database management system	Assignment 1 (Due: 1/27)
3 (1/21-1/27)	Relational database management system	
4 (1/28-2/3)	Relational database management system	Assignment 2 (Due: 2/3)
5 (2/4-2/10)	Web system development	Assignment 3 (Due: 2/10)
6 (2/11-2/17)	Web system development	Assignment 4 (Due: 2/24)
7 (2/18-2/24)	Cloud computing	Quiz 1
8 (2/25-3/3)	Cloud computing (AWS)	
9 (3/4-3/10)	Content management system Web analytics	Assignment 5 (Due: 3/17)
10 (3/11-3/17)	Spring Vacation	
11 (3/18-3/24)	NoSQL database	
12 (3/25-3/31)	Project management Data process modeling	Assignment 6 (Due: 4/14)
13 (4/1-4/7)	Project management Object modeling Use case diagram	
14 (4/8-4/14)	Interface design & usability	
15 (4/15-4/21)	Computer networks	Quiz 2
16 (4/22-4/26)	Course review	
Final term paper due (4/29)		

### Submission of Assignments

Assignments should be submitted online via Canvas. An overdue assignment will get a penalty of 10% of total points for each day late. 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](mailto: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](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](mailto: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](mailto:dllservice@email.uky.edu)
- DL Interlibrary Loan Service:  
[http://www.uky.edu/Libraries/libpage.php?lweb\\_id=253&llib\\_id=16](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.