ARST/LIBR 554: DATABASE DESIGN[1]

We acknowledge that we are on the traditional, ancestral and unceded territory of the hən̓q̓əmin̓əm̓ speaking Musqueam people.

Program: Master of Library and Information Studies/Master of Archival Studies
Year: 2018-2019 Winter Session, Term 1
Course Schedule: Tuesdays, 14:00-16:50 PM
Location: Terrace Lab @iSchool
Instructor: Fereshteh Didegah
Office location: 483 IKBLC
Office phone: 604-827-3927
Office hours: Tuesdays, 10:00 AM-12:00 PM
E-mail address: f.didegah@ubc.ca
Canvas: http://canvas.ubc.ca

COURSE GOAL

In the era of information explosion, 'big data' management has become an important challenge, requiring database management skills. The aim of a database system is to provide a convenient and efficient way to retrieve and analyze data stored in the database. The main goal of this course is to teach students an introduction of database design and how to use it in LIS research and library tasks. The course emphasizes the understanding of relational systems to manage and analyze data and information.

COURSE OBJECTIVES

Upon completion of this course, students will be able to:

1. Explain basic database concepts and terminology [1.4, 2.1]*
2. Identify information needs within an organization [1.1, 3.1, 3.2, 5.3]*
3. Formulate user and organizational requirements for a database [1.1, 2.1, 3.2]*
4. Design a conceptual model that satisfies these needs and requirements using a relational data / entity relationship model [1.1,1.2, 2.1, 3.2]*
5. Normalize this relational data / entity relationship model [1.2, 1.3, 2.1]*

---

[1] This course is modified and designed based on the past database design course taught by Dr. Richard Arias Hernandez.

6. Implement the corresponding logical model in a relational database management software (e.g. MS ACCESS, MS SQL Server, etc.) [1.1, 1.2, 1.3, 3.1, 3.2, 5.3]*
7. Design SQL queries for a relational database to satisfy users' information needs [1.1, 1.2, 1.3, 3.1]*

COURSE TOPICS

- Concepts and terminology related to database design and management
- Database Management System components
- Database design application
- Relational model of data
- Normalization
- SQL queries and SQL software such as MS SQL Server

FORMAT OF THE COURSE

Class sessions will be a combination of lectures, group discussions and hands on and in-class exercises.

REQUIRED READING FOR THE COURSE

Database systems: Design, Implementation, and Management. Either 10th Edition by Coronel, Morris and Rob OR 11th OR 12th Edition by Coronel and Morris. Publisher: Cengage Learning. One copy of the 10th ed. is available on reserve at the I.K. Barber Library.

COURSE ASSIGNMENTS

Due dates and weight in relation to final course mark are as follows:

Assignment Name	Due Date	Weight
Submit your team information (team members & selected library)	Week 3 – September 18	N/A
Library Database Phase 1: Initial study and conceptual design	Week 8 – October 23	25%
Quiz (Review of SQL from weeks 8-9)	Week 10 – November 20	15%
Library Database Phase 2: Logical design	Week 11 – November 13	25%
Library Database Phase 3: Physical design	Week 12 – November 20	25% (Groups A)

Library Database Phase 3: Physical design	Week 13 – November 27	(Groups B)
Participation[1]	-	10%

COURSE SCHEDULE [WEEK-BY-WEEK]

Date	Topic/s	Assignments
Week 1 – September 4	Course Overview and introduction	
Week 2 – September 11	Database Concepts	
Week 3 – September 18	Database Design Application	Submit your team information
Week 4 – September 25	**No meeting this week:** *Time to work on Library Database Project*	
Week 5 – October 2	Relational database model	
Week 6 – October 9	ER Model & Diagram	
Week 7 – October 16	Normalization	
Week 8 – October 23	Introduction to SQL	Library Database Phase 1
Week 9 – October 30	SQL Queries I	
Week 10 – November 6	SQL Queries II	Quiz (Review of SQL from weeks 8-9)
Week 11 – November 13	SQL Queries III	Library Database Phase 2
Week 12 – November 20	In-class presentations – Library Database project	Library Database Phase 3
Week 13 – November 27	In-class presentations – Library Database project	Library Database Phase 3

ATTENDANCE

Attendance is required in all class meetings. If you know you are going to be absent you must alert me beforehand if at all possible. One (1) excused absence is allowed with prior notification to me. Additional absences will require a note from a health professional or Access and Diversity. Students with multiple absences will get a lower grade for participation. More than three absences will result in failing the class.

EVALUATION

All assignments will be marked using the evaluative criteria given on the [SLAIS web site](). Quizzes are generally review but may contain the current day's reading. Quiz 1 will be a review of SQL queries taught on weeks 8-9. Quiz 2 will be a review of SQL queries taught on weeks 10-11.

ACCESS & DIVERSITY

Access & Diversity works with the University to create an inclusive living and learning environment in which all students can thrive. The University accommodates students with disabilities who have registered with the Access and Diversity unit: [https://students.ubc.ca/about-student-services/access-diversity]. You must register with the Disability Resource Centre to be granted special accommodations for any on-going conditions.

RELIGIOUS ACCOMMODATION

The University accommodates students whose religious obligations conflict with attendance, submitting assignments, or completing scheduled tests and examinations. Please let your instructor know in advance, preferably in the first week of class, if you will require any accommodation on these grounds. Students who plan to be absent for varsity athletics, family obligations, or other similar commitments, cannot assume they will be accommodated, and should discuss their commitments with the instructor before the course drop date. UBC policy on Religious Holidays: http://equity.ubc.ca/days-of-significance/

ACADEMIC INTEGRITY

Plagiarism

The Faculty of Arts considers plagiarism to be the most serious academic offence that a student can commit. Regardless of whether or not it was committed intentionally, plagiarism has serious academic consequences and can result in expulsion from the university. Plagiarism involves the improper use of somebody else's words or ideas in one's work.

It is your responsibility to make sure you fully understand what plagiarism is. Many students who think they understand plagiarism do in fact commit what UBC calls "reckless plagiarism." Below is an excerpt on reckless plagiarism from UBC Faculty of Arts' leaflet, "Plagiarism Avoided: Taking

Responsibility for Your Work", (http://www.arts.ubc.ca/arts-students/plagiarism-avoided.html).

"The bulk of plagiarism falls into this category. Reckless plagiarism is often the result of careless research, poor time management, and a lack of confidence in your own ability to think critically. Examples of reckless plagiarism include:

- Taking phrases, sentences, paragraphs, or statistical findings from a variety of sources and piecing them together into an essay (piecemeal plagiarism);
- Taking the words of another author and failing to note clearly that they are not your own. In other words, you have not put a direct quotation within quotation marks;
- Using statistical findings without acknowledging your source;
- Taking another author's idea, without your own critical analysis, and failing to acknowledge that this idea is not yours;
- Paraphrasing (i.e. rewording or rearranging words so that your work resembles, but does not copy, the original) without acknowledging your source;
- Using footnotes or material quoted in other sources as if they were the results of your own research; and
- Submitting a piece of work with inaccurate text references, sloppy footnotes, or incomplete source (bibliographic) information."

Bear in mind that this is only one example of the different forms of plagiarism. Before preparing for their written assignments, students are strongly encouraged to familiarize themselves with the following source on plagiarism: the Academic Integrity Resource Centre http://help.library.ubc.ca/researching/academic-integrity. Additional information is available on the Connect site http://connect.ubc.ca.

If after reading these materials you still are unsure about how to properly use sources in your work, please ask me for clarification.

Students are held responsible for knowing and following all University regulations regarding academic dishonesty. If a student does not know how to properly cite a source or what constitutes proper use of a source it is the student's personal responsibility to obtain the needed information and to apply it within University guidelines and policies. If evidence of academic dishonesty is found in a course assignment, previously submitted work in this course may be reviewed for possible academic dishonesty and grades modified as appropriate. UBC policy requires that all suspected cases of academic dishonesty must be forwarded to the Dean for possible action.

Other Course Policies as Relevant – The instructor holds regular office hours for drop-in meetings, at the times noted at the top of the syllabus. In addition, queries can be made by email. The instructor will attempt to respond to email within 2 work days, but this may not be possible at all times during the term. If students do not receive replies within that time frame, they are invited to resend the email with a polite reminder.