90-728: Introduction to Database Management
Syllabus - Spring 2021, Section A3

Instructor:

Karyn Moore karyn@cmu.edu
Office Hours: See Course Website.

Teaching Assistants:

Fahmi Islami and Jiarong Xie
Contact info and office hours will be posted on Course Website for each TA by end of first week.

Meeting Times and Locations:

Thursday, 6:30 – 9:20PM, Zoom link posted to Canvas

Class Web Site: canvas.cmu.edu

Textbooks

There are no required texts. All reference and reading material will be provided by the instructor.

Course Rationale

Most organizations depend on databases for delivery of goods and services, allocation of resources, and support of management decision making and policy analysis. Policy analysts and managers also find database packages like Microsoft Access valuable for personal use, especially in getting data ready for use.

Course Objectives

Almost all databases used in organizations today are relational databases—the most flexible and easiest to use type of database. This course covers design and implementation of relational databases at the introductory level, including tables, forms, queries, and reports.

At the end of the course, you will be able to:

- Formulate basic and advanced relational database queries using a visual query generation tool. In this course the tool used is Access's Query by Example.
- Create basic database queries using Structured Query Language (SQL).
- Import data into, and export data from relational databases.
- Describe the rationale for the basic design principals of relational databases such as referential integrity and foreign keys.
- Interpret an entity relationship diagram for an existing relational database including participation and cardinality.
- Create an entity relationship diagram based on an organization's data and business rules.
- Create a physical relational database design based on an entity relationship diagram.
- Given a short case, propose and develop appropriate queries that support decision making for a fictional non-profit organization.

Course Structure

The class meetings consist of lectures, discussions, and in-class exercises. The course content is organized as follows:

I. Effective & efficient use of database systems. (5 weeks)
   - Relational database architecture
   - Database queries.

II. Database systems design and development. (1 week)
   - Relational database design and modeling

Course Schedule

Please refer to the separate document titled Course at a Glance (posted to Course Website) for a listing of weekly lecture topics, labs, and assignments. Assignment due dates are also posted in that document.

Student Evaluation

Your work will be evaluated on a combination of individual homework assignments, a group database project, quizzes, and a final exam.

Final grades are based on the following weights:

• Prep work (4)	12%	Completed in advance of week's lectures
• Individual assignments (4)*	36%	Complete after week's lectures
• In-class Lab assignments (2)	6%	Completed in-class
• Quizzes (2)	30%	30-40 minutes online quizzes; available for 27-hour period.
• Final Project (group and individual work)	16%	Two parts, completed over 4 weeks.
Total	**100%**	

* ***Late Pass - Each student has:***

- ☐ ***One (1) 48-hour late pass to use on one (1) of four (4) individual assignments OR***
- ☐ ***Two (2) 24-hour late passes to use on two (2) of the four (4) individual assignments.***

Late passes may <u>not</u> be used on Prep Work, Project Work (neither part), Quizzes, or In-Class Lab Work. You do <u>not</u> need to notify the instructor when you want to use your late pass.

Participation: You have the opportunity to earn <u>up to</u> 1 additional bonus point on your **final** course score from <u>regular</u> participation (at least 50%) that is of value to the class. There are a variety of participation opportunities. These participation opportunities take the form of:

- In-class participation (questions, answers, comments)
- Answering in-class questions posted via Google Forms (synchronous and asynchronous participation)
- Posting questions or comments related to lecture content to Discussion Boards (synchronous and asynchronous participation)

Final letter grades are assigned to your body of work in this course according to the following scale:

A+	97% to 100%	Exceptional
A	93% to 96%	Excellent
A-	90% to 92%	Very Good
B+	87% to 89%	Good
B	83% to 86%	Acceptable
B-	80% to 82%	Fair
C+	77% to 79%	Poor
C	73% to 76%	Very Poor
C-	70% to 72%	Minimal Passing
R	less than 70%	Failing

The average grade in a core Heinz course is expected to be 3.33-3.4, equivalent to a B+. This expected average reflects the degree of difficulty and/or breadth of coverage for a core course. No curve is applied when determining students' final grades.

Late Homework Policy and Make-up Exams

Assignments

Normally, late homework is not accepted without prior approval. If you have an extenuating, circumstance (illness, accident, unexpected family matter, etc.), notify me as early as possible and I will take your situation into consideration.

You will have ONE late pass you can use on an individual assignment (not the prep work, lab work, or project work.) The late pass allows you to submit assignment work 48 hours (2 days) after the due date and still receive full credit. Alternatively, you can split the one pass into TWO 24-hour passes, using on two assignments.

Quiz Dates

The dates for the Quizzes are posted on the Course Schedule on Canvas. For the two quizzes, you will be given 24 hours to take each quiz, although once you start, you will be required to complete the quiz within the specified time (usually 40 minutes).

No make-up quizzes are given unless due to extraordinary circumstances outside of your control. You must notify the instructor within 24 hours after the quiz period has ended.

Synchronous Delivery of Course

Classroom Technology

In our class, we will be using Zoom for synchronous (same time) class meetings. The link is available on Canvas. Every lecture each week will use Zoom. There are no on-campus class meetings for this course.

Please make sure that your Internet connection and equipment are set up to use Zoom and able to share audio and video during class meetings. (See this page from CMU Computing Resources for information on the technology you are likely to need.) https://www.cmu.edu/computing/start/students.html

Let me know if there is a gap in your technology set-up **(karyn@cmu.edu)** as soon as possible, and we can see about finding solutions.

Zoom Classroom Participation and Etiquette

- During our class meetings, please keep your mic muted unless you are sharing with the class.
- For video, you may choose to have it on or off. You may also choose to have video turned off until you are sharing something with the class. The choice is up to you. If you want, you may use an appropriate, non-distracting (to the instructor) image as a virtual background.
- If you want to **pose a question**, or **make a comment**, please use the **chat** or **"raise hand" feature** (available when the participant list is pulled up). Remember to turn the raised hand off after you have shared. ***My preference is for you to raise your hand rather than use the chat feature as I am not always able to respond to chat in class but will respond after class.*** Participation points are awarded only for raised hand questions or comments, not chat.
- If you want to **answer a question**, please used the **"raise hand" feature**, and wait to be called on by the instructor. The chat feature should not be used to answer a question, only to raise one or make a comment.
- If you like, please feel free to include your preferred pronouns with your name that appears in the participant list.
- Feel free to use Zoom positive reaction icons (clapping and thumbs up) to react to peers' contributions. These can be found by clicking the "More" button at the bottom of the participant list.
- If you feel the lecture is moving too fast, please use the "slow-down" icon in the participant list to communicate that concern to the instructor. You may also "raise your hand" and ask the instructor to repeat anything that you felt was covered too quickly.

Policy on Collaboration and Cheating

Excluding assignments that are assigned as group work, the work you submit should reflect individual effort. You may discuss assignments with fellow students***, but the final work product must reflect your knowledge and effort, not your classmates.***

Cheating includes but is not necessarily limited to:

1. Submission of work that is not your own for papers, assignments, lab exercises, or exams.
2. Submission or use of falsified data.
3. Theft of or unauthorized access to an exam, current or previous.
4. Use of an alternate, stand-in or proxy during an examination.
5. Use of unauthorized material including textbooks, internet material, notes, or computer programs in the preparation of an assignment or during an examination, unless otherwise indicated.
6. Supplying or communicating in any way unauthorized information to another student for the preparation of an assignment or during an examination.
7. Collaboration in the preparation of a solution to a problem unless expressly allowed by the assignment.
8. Plagiarism which includes, but is not limited to, failure to indicate the source with quotation marks or footnotes where appropriate if any of the following are reproduced in the work submitted by a student:
    a. A graphic element.
    b. A proof.
    c. A phrase, written or musical
    d. Specific language.
    e. An idea derived from the work, published or unpublished, of another person.
    f. Program code or algorithms.

If you are unsure about what is acceptable collaboration, you should consult with me.

Penalties for Cheating

Penalties imposed are at the instructor's discretion. In this class, the penalty imposed can be any of the following depending on the violation:

- zero on the assignment
- a letter reduction on final course grade (final grade of A- becomes B-)
- a failing grade in the course

Regardless of the penalty imposed, all incidents of cheating are reported to the Associate Dean. Additional penalties may be imposed.

Disability Accommodations

If you have a disability and are registered with the Office of Disability Resources, I encourage you to use their online system to notify me of your accommodations and discuss your needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu.

Managing Stress and Obtaining Support

Take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep, and taking some time to relax. This will help you achieve your goals and cope with stress.

If you experience any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. ***Consider reaching out to a friend, faculty, or family member you trust for help getting connected to the support that can help***.
On campus, Counseling and Psychological Services (CaPS) is here to help. Contact them at: *412-268-2922; or* http://www.cmu.edu/counseling/

If you or someone you know is feeling suicidal or in danger of self-harm, call someone immediately, day or night:

CaPS: 412-268-2922; http://www.cmu.edu/counseling/
Re:solve Crisis Network: 888-796-8226

If the situation is life threatening, call the police:
On campus: CMU Police: 412-268-2323
Off campus: 911