90-728: Introduction to Database Management
Fall 2021
Sections A1, B1

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

Teaching Assistants:
TAs, office hours will be posted on Course Website for each TA by end of first week.

Meeting Times and Locations:
Section A1 – Hamburg Hall Room 1005, Monday, Wednesday, 8:35AM – 9:55AM
Section B1 – Hamburg Hall Room 1005, Monday, Wednesday, 10:10AM – 11:30AM

Class Web Site: canvas.cmu.edu

Textbooks
There are no required texts. All reference 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 successfully completing this course, you will be able to:

- Formulate basic and advanced relational database queries using a query tool such as Access’s Query by Example.
- Create basic database queries using Structured Query Language (SQL)
- 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.
- Design and implement simple customized database user interfaces including forms created using a forms development tool.
- Use Access macros to automate a data analysis process.

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. (8 lectures)
   - Relational database architecture
   - Database queries.
   - Introduction to SQL

II. Database systems design and development. (2 lectures)
   - Relational database design and modeling
   - End-user development of basic database components: tables, reports, and forms

III. Use of Access & Excel for basic data analysis. (2 lectures)
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 (3) 8% Completed in advance of lectures
- Individual assignments (4)* 40% Complete after lectures
- In-class lab assignments (4) 12% Completed in-class during lecture
- Quizzes (2) 40% 30-40 minutes quiz, in-class

Total 100%

* Late pass: 48-hour late pass can be used on one of these four (4) individual assignments or two 24-hour late passes used on two of these four assignments.

Participation: You will have the opportunity to earn up to 1 additional point on your final course score from regular participation (50% or more participation). Participation can take the form of asking or answering a question during lecture, posting questions or comments to the lecture discussion board, and/or responding to in-class Google Form exercises.

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 mw as early as possible and I will take that into consideration.

You will have **ONE** late pass you can use on an individual assignment (not the prep work, lab work, or group 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 individual assignments.

Quiz Dates

The dates for the Quizzes are posted on the Course Schedule on Canvas. All quizzes are open notes, open book, closed computer.

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.

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.

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, I 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
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.

Respect for Diversity

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

Classroom Expectations Related to Covid

In order to attend class meetings in person, all students are expected to abide by all behaviors indicated in A Tartan’s Responsibility, including any timely updates based on the current conditions.

In terms of specific classroom expectations, whenever the requirement to wear a facial covering is in effect on campus, students are expected to wear a facial covering throughout class. Note: the requirement to wear a facial covering is in effect for the start of the Fall 2021 semester. If you do not wear a facial covering to class, I will ask you to put one on (and if you don’t have one with you, I will provide you one or direct you to a distribution location on campus, see https://www.cmu.edu/coronavirus/health-and-wellness/facial-covering.html). If you do not comply, you will be referred to the Office of Community Standards and Integrity for follow up, which could include student conduct action. Finally, please note that sanitizing wipes should be available in our classroom for those who wish to use them.

Classroom Etiquette

Research on learning shows unexpected noises and movement automatically divert and capture people’s attention, which means you are affecting everyone’s learning experience if your cell phone, pager, laptop, etc. makes noise or is visually distracting during class. For this reason, your mobile devices should be silenced and not used during class.
You ARE permitted to use your laptop during class to respond to in-class exercises that use Google Forms or to take notes for THIS class only. If you are using your laptop to take notes, please sit in the last few rows of the classroom so you are less likely to create a distraction for others in the class. I reserve the right to call on anyone using a laptop to answer a question at any time during the lecture. Failure to answer the question will result in an assessment of negative participation points.

NOTE – the quizzes are open book and notes, but closed computer. You will not be permitted to access your notes during the exam if they are stored in your computer. Hardcopy of the lecture handouts will always be provided at each class meeting for note taking.

Please limit your peer conversations during class. If you must chat with your neighbor, please sit at the far corners of the room to be less distracting. I may ask you to leave the class if I find your repeated conversations distracting.

You may record classroom activities ONLY for personal, educational use, or for the educational use of another student currently enrolled in the class. You must first obtain my permission prior to recording any lecture. The recording may not be further copied, distributed, published or otherwise used for any other purpose without my express written consent. All students are advised that classroom activities may be taped by students for this purpose.

I will make every attempt to start each lecture promptly at the scheduled start time. I appreciate your efforts to arrive on time for every lecture.