93-732, A1: Database Theory & Practice for Creative Enterprises
Fall 2014, Mini-Semester 1

Revised August 26, 2014

Instructor:
Karyn Moore karyn@cmu.edu, 3014 HB, 412-268-8465
Office Hours: Monday & Wednesday 1 – 3 and by appointment.

Faculty Assistant:
Carole McCoy cm4w@andrew.cmu.edu, 2102 HB, 412-268-6077

TAs: (Office hours & locations will be posted on Blackboard by end of first week)

  Andy Minton                  aminton@andrew.cmu.edu
  Ran You                     ranyou@andrew.cmu.edu

Meeting Times:
  Tuesday and Thursday, 1:30 – 3:00, Room HBH 239

Class Web Site: http://www.cmu.edu/blackboard

Textbooks


Please bring this book to class every week.

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, students will be able to:

- Formulate basic and advanced relational database queries using a query tool such as Access’s Query by Example.
- 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.
- Illustrate special cases of database designs including weak entities, generalization classes, and case life cycle representation.
- Create a physical relational database design based on an entity relationship diagram.
- Design and implement simple customized database user interfaces including forms and reports using a development tool.
- Design and develop a personal-use database in Access.

Course Structure

The course consists of lectures, discussions, and in-class Access labs. The labs are either integrated into the lecture, or occur after the lecture. You do not need to bring your laptop to class.

Course Schedule

Please refer to the separate document titled Course Schedule for a listing of weekly lecture topics, labs and assignments. Assignment due dates are also posted in the Course Schedule.

Student Evaluation

Students will be evaluated on a combination of individual homework assignments, a group database project, and a final exam.
Final grades are based on the following weights:

- Individual Assignments (5)  25%
- In-class Lab assignments (3)    4%
- Prep Work (3)    6%
- Group Project (1)  15%
- Final exam 50%
- Total  100%

Regular participation counts +1 point on final grade.

Final letter grades are assigned to a student’s 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 required 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. However, if all students earn 90% and above in this course, then all will receive grades of ‘A-‘ or above. There is no curving of grades. Please realize that a grade of ‘B ‘is considered an acceptable grade at Carnegie Mellon. Also note that a grade of ‘C-‘is considered a passing grade.

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 that into consideration.

Each student will have ONE late pass they can use on the individual assignments (not the prep work or group work.) The late pass allows the student to submit the assignment work 72 hours (3 days) after the due date and have it count.
Exam Date

Students are expected to take the final exam at the time indicated on the Course Schedule. If a student has a need to take an exam at a different time, he/she should bring this request to the instructor as soon as possible, and at least one week before the scheduled exam. The instructor may or may not grant the request.

Policy on Collaboration and Cheating

Excluding assignments that are assigned as group work, the work students submit should reflect individual effort. Students are encouraged to discuss assignments with each other, but the final work product must reflect the student’s knowledge and effort, not his/her classmate’s.

Cheating includes but is not necessarily limited to:

1. Submission of work that is not the student's 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, 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 an assignment, unless expressly allowed by the instructor.
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.
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 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 Dean. Additional penalties may be imposed.

Classroom Etiquette

As 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 not permitted to use your laptop or ipad during class. Desktop computers in the classroom may only be used for in-class Access exercises.

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. The instructor may ask any student to leave class if their repeated conversations are found distracting by the instructor.

Classroom activities may be taped or recorded by a student for the personal, educational use of that student or for all students presently enrolled in the class only. Permission must be obtained from the instructor prior to recording. The recording may not be further copied, distributed, published or otherwise used for any other purpose without the express written consent of the instructor. All students are advised that classroom activities may be taped by students for this purpose.

The instructor appreciates all efforts from students to arrive on time for class, but understands this may not always be possible.