

Database Systems – CSCI 3410

Spring 2020

Quick Facts

- Class meets MW 2:30 PM–3:45 PM in [Hull McKnight GA Cyber Center](#), 2301
- The instructor's contact and office hours are at <http://spots.augusta.edu/caubert/#contact>.
- You can download [this syllabus](#).
- The lecture notes are at spots.augusta.edu/caubert/db/ln/.
- For the detail of the planning and evaluations, refer to [the planned schedule](#).

Presentation

Course Description

This course offers an introduction to database systems as a key concept in information management. The course covers logical and physical database organization, data models, file structures, indexing, hashing, query optimization, and design issues. This course will cover the design and implementation of databases.

Learning Outcomes

Upon successful completion of this class, the student will:

- Understand key concepts in databases, such as the entity-relationship model, the relational database model and constraints, as well as relational algebra and relational calculus.
- Be able to design databases by mapping ER relations, use SQL and SQL programming, as well as stored procedures and triggers.
- Understand advanced topics such as normalization, hashing techniques and data storage mechanisms.

Format and Procedures

Lectures are devoted to general explanations of the concepts and ideas underlying the topic at stake. All practical work, coding, programming, testing, etc. will be carried at home.

Homework assignments will assist the students in making sure they understand classes expectations and the content of the lecture, as well as to practice their coding and problem-solving skills. The progression of the students will be regularly tested and assessed through quizzes and exams. Active and relevant participation during the lectures is appreciated.

Teaching Philosophy

It is our mutual interest for you to succeed: I love to share knowledge and to expand it by helping students, and students want to gain a useful and agreeable experience that will prove valuable in their future endeavors. To this end, here is:

What I'm expecting from you

- Check periodically your email account and read the email I send.
- Read this entire syllabus carefully.
- Participate actively in all class discussions.
- Do the homework wisely: read your notes before starting the homework assignment, make sure you understand it completely before considering it done.
- Come prepared and on time to classes, exams and quizzes.

What you should expect from me:

- Clear and accessible lectures.
- Fair and impartial grading.
- Availability, during office hours, by appointment, and by email.
- Open hear to your suggestions to improve this class.
- Commitment to the principles of [universal design](#).
- Dedication to your success!

Course Requirements

- Attendance is not mandatory. However, if you come to class, come on time, and stay until the end of the lecture: late arrival and early departure disturb the learning experience for everyone.
- No laptop or similar electronic device is allowed during the lectures. This policy will help you to [improve your grades](#), [increase memorization](#) and to [be more respectful of your fellow students](#).

- You are responsible for all course material, whether or not you attend lectures or do the assigned reading or coursework.
- It is the student's responsibility to [initiate a withdrawal](#) before [midterm](#), but I reserve the [right to withdraw](#) a student that missed too many classes or lab, or is performing poorly.
- A student not withdrawn from a course who stops attending class (or who never attends class) is subject to receiving a grade of **WF** or **F**.
- All coursework is individual coursework.
- Any student missing the final exam without an documented excuse (brought to me or to [the dean of Student Life](#)) or who has not taken action to withdraw will receive a grade of **F**. In case of an documented emergency at the time of the final, the student may be allowed to receive a grade of **I**.
- No make up quizzes or exam will be allowed. In case of a documented excuse (cf. previous item), the weight of the missed exam or quiz can be placed onto the final's weight.

Practical Information

Getting Help

I should be your first point of contact for any question regarding the content of this class, but many other resources are available:

- If you are food insecure, [you are not alone](#), and the [Open Paws Food Pantry](#) will help you.
- For tutoring resources, consult the [Academic Success Center](#) (or "ASC"). It can help you, among other things, in the areas of time management, test preparation and study strategies.
- The [Testing & Disability Services](#) (or "TDS") can help you—and me!—accommodate this class.
- The [Student Counseling & Psychological Services](#) (or "SCAPS") is here to assist students with a variety of personal, developmental, and mental health concerns.
- The [Writing Center](#) can help you with any written, oral, or multimedia project.

ACM Club

There is an [A.C.M](#) club at Augusta University.

It is the ideal place to get to meet fellow students, to work on exciting projects, and to learn more about various aspects of Computer Science and Information Technology. Join the discord chat at <https://discord.gg/RKdvFnu> or contact its president, Mark Holcomb, to get more information about it.

Grades

Students will be evaluated using four different types of evaluation:

1. Homework assignments will be given during the course of the semester: they are not expected to be handed back, and won't be graded, but quizzes with questions taken or inspired from those assignments will be given. Those quizzes are closed book and timed (± 10 min.).
2. Projects will be carried at home.
3. There will be in-class exams, held during the regular class periods.
4. The final exam will take place during the [exam period](#).

Refer to the [planned schedule](#) for precise dates.

Your grade will be computed as follows:

Quizzes ($\times 4$)	10%
Project ($\times 2$)	10%
In-class Exams ($\times 2$)	40%
Final Exam	40%

using the following course grade scale:

Below 65	65–70	70–79	80–89	90–100
F	D	C	B	A

Planned Course Schedule

The week starts on *Monday*.

Week	Date	Note	Topic
1	01/06	-	Syllabus, Introduction
2	01/13	-	The Relational Model
3	01/20	01/20: <i>MLK</i> , 01/22 : Quiz	-
4	01/27	-	SQL
5	02/03	02/05: Project	-
6	02/10	02/12: Exam	Review Session
7	02/17	-	Entity-Relationship Model
8	02/24	02/26: Quiz , 02/27: <i>Midterm</i>	E.R.-to-Relational Models Mapping
9	03/02	03/05–06 <i>Spring Pause</i>	Guidelines and Normal Form
10	03/09	-	Unified Modeling Language Diagram
11	03/16	03/18: Quiz	Introduction to Data Programming Using Java

Week	Date	Note	Topic
12	03/23	03/25: Project	-
13	03/30	04/01: Exam	Review Session
14	04/06	04/06–10: <i>Spring Break</i>	-
15	04/13	-	Introduction to NoSQL
16	04/20	04/22: Quiz	-
17	04/27	04/29: <i>End of class</i>	Wrapping up
18	05/04	05/06 (2–4PM): Final	-

This schedule is subject to change and enhancements, but provide an indication of the pace, assignments, and major deadlines that you will need to plan for the semester.

Legal and Recommendations

Academic Integrity

The University's [Student Code of Conduct](#), the [student's manual](#), the [academic regulations](#) as well as the [applicable policies](#) are supposed to be known by the students and will be enforced.

Section 5.2, Academic Conduct of the [student's manual](#) defines precisely what kind of collaborations are acceptable. As long as you don't lie, cheat, plagiarize, assist others or being assisted by others without authorization, we should not need any of that. If you are unsure about whether or not certain kinds of collaboration are permissible, please ask me.

Universal Design

I am committed to the founding principles of [Universal Design](#), and to make [my lecture accessible to every one](#). Concretely, that means that I'm not requiring you to use a particular Operating System, that I always try to give the information repeatedly, and using multiple channels, that I am available over the phone, email, or in my office. If you are registered with [Testing and Disability Services](#), please see me at your earlier convenience to discuss accommodations.

Campus Carry Legislation

Please be aware of the [USG guidance on House Bill 280](#). Note that you **may not** carry a handgun if high school students are enrolled in the class, and that it is your responsibility to visit the registrar to determine whenever this is the case or not.

Miscellaneous

- Reservation of rights: I reserve the right to change this syllabus without limitation and without prior notice. If I do substantially modify any item or policy, I will notify you during a lecture, or send an e-mail to your augusta.edu e-mail account.
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