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|  | **College of Engineering and Applied Sciences**  **Department of Computer Science** |

**ICSI 410**

**Database Systems**

**(Fall 2020)**

**Class Meeting Time: T,Th 10:30 – 11:50**

**Location: Campus Center Ballroom**

**INSTRUCTOR**

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| Instructor’s name | Michael Phipps |
| Instructor’s title | Lecturer |
| Office location | UAB440 |
| Office hours | By appointment on Zoom |
| E-mail address | mphipps@albany.edu |

**TEACHING ASSISTANTS** (AND LAB/DISCUSSION SCHEDULE, if any)

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| TA’s / Peer educators | |  | |
| TA’s office location | |  | |
| TA’s office hours (if any) | |  | |
| TA’s email addresses | |  | |

**REQUIRED TEXTBOOK**

No textbook is REQUIRED for this class.

**COURSE DESCRIPTION / OVERVIEW**

This course covers the fundamentals and concepts of design, implementation and use of databases. Topics include database system architectures, data abstractions and models, query languages, relational algebra, and calculus, indexing mechanisms, data integrity, rollback and recovery mechanisms, access control, theory of database design, and access methods including interfaces to programming languages.

PREREQUISITES/COREQUISITES

Grade of C or better in both I CSI/I ECE 210 and I CSI/I ECE 213.

**STUDENT LEARNING OBJECTIVES / OUTCOMES**

At the completion of this course, the student will:

* 1. Be able to understand and discuss database management systems
  2. Be able to write complex queries in SQL
  3. Be able to model real world applications in a DBMS
  4. Be able to write software that interfaces with a DBMS
  5. Be able to create an entity relationship diagram

The topics that will be covered in this course are provided at the end of the syllabus.

**COURSE WEBSITE AND BLACKBOARD**

Blackboard will be used to provide essential course materials, the most current syllabus, and assignment documents and no separate course website will be maintained.

Occasionally, BlackBoard will decide not to accept assignment submissions. If this happens, please email a copy of your submission to all the TA’s and me. The date on the email will serve as proof of submission.

**ASSESSMENT AND POLICIES**

***No late assignments will be accepted.***

***Academic dishonesty is an automatic ‘E’ in the course.***

***You have one week (7 days) from when an assignment is graded to dispute the grade.***

***You are responsible for the content and timeliness of your submissions.***

***Submitting the wrong file, file type or version of the file is not a valid reason to be allowed to resubmit.***

***Code that doesn’t compile/parse is an automatic 0.***

Exams: There will be no exam for this class.

Project / Labs / Assignment: Projects / labs / assignments will be assigned and will be conducted out of class. They will be graded on a 100-point scale and will be totaled together to account for 100% of the final grade.

Final Project: A final project will not be required.

Grading

A final grade will be determined as a weighted average of the following assignments:

* Programming Projects/Assignments (100%)

Grading Scale

A: 100-95 points A-: 94-90 points

B+: 89-87 points B: 84-86 points B-: 80-83 points

C+: 79-76 points C: 75-70 points

D: 69-60 points

E: 59 points and below

Students must complete all requirements to pass the course. A grade of incomplete will be given only when circumstances beyond the student's control cause a substantial amount of course work to be unfinished by the end of the semester. Whenever possible, the student is expected to make extra efforts to prevent this situation from occurring. The instructor will be the sole judge of whether an incomplete is warranted. Final grades are computed based on the above formulas and are NOT negotiable. Per department policy, “…students may not submit additional work or be re-examined for the purpose of improving their grades once the course has been completed and final grades assigned.”

**Attendance/Lateness/Use of Computers in class**

Students are expected to attend every class and to arrive on time. Please DO NOT disrupt the class by entering late or leaving early. Computers may be used during class for note taking as long as the use is not disruptive or distracting. **Other electronic devices should be put away during class**.

Also see http://www.albany.edu/health\_center/medicalexcuse.shtml.

**Responsible Computing**

Students are required to read the University at Albany Policy for the Responsible Use of Information Technology (https://www.albany.edu/its/its\_policies.htm). Students will be expected to apply the policies discussed in this document to all computing and electronic communications in the course.

**Students With Disabilities**

Reasonable accommodations will be provided for students with documented physical, sensory, systemic, cognitive, learning, and psychiatric disabilities. If you believe you have a disability requiring accommodation in this class, please notify the Director of the Disability Resource Center (Campus Center 130, 442-5490). That office will provide the course instructor with verification of your disability and will recommend appropriate accommodations. For further information refer to the University’s Disclosure Statement regarding Reasonable Accommodation found at the bottom of the document at the following website: <http://www.albany.edu/disability/docs/RAP.doc>. This website can be reached by following the link under “Reasonable Accommodation Policy” at the following webpage [http://www.albany.edu/disability/faculty-staff.shtml.](http://www.albany.edu/disability/faculty-staff.shtml)

**Academic Honesty and Overall Regulations**

Every student has the responsibility to become familiar with the standards of academic integrity at the University. Faculty members must specify in their syllabi information about academic integrity and may refer students to this policy for more information. Nonetheless, student claims of ignorance, unintentional error, or personal or academic pressures cannot be excuses for violation of academic integrity. Students are responsible for familiarizing themselves with the standards and behaving accordingly, and UAlbany faculty are responsible for teaching, modeling, and upholding them. Anything less undermines the worth and value of our intellectual work, and the reputation and credibility of the University at Albany degree. Plagiarism and other acts of academic dishonesty will be punished. Read the Standards of Academic Integrity and policies in the University Bulletin (https://www.albany.edu/undergraduate\_bulletin/regulations.html).

***CAUTION AND A STRONG WORD OF WARNING!!!! Plagiarism and other acts of academic dishonesty will be punished. Students are expected to submit original work. While you may discuss a problem with another student, the work you submit must be your own. Any student who submits copied work or any student that provides work for copying will an E for the class. As per college policy, cheating activity, including cheating in exams, quizzes, projects, etc., WILL be written up in a Violation of Academic Integrity Report (VAIR) reported to the college administration, which includes the Computer Science Chair, the College of Engineering and Applied Sciences Dean, and the Vice Provost of Undergraduate Studies. This will become a part of your permanent record. Multiple incidents will result in being expelled from the college.***

COURSE OUTLINE AND READINGS:

The following schedule of lecture topics and reading assignments is preliminary and may be changed as the semester progresses. The final schedule and specific assignments will be discussed in class.

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| Class | Topic | Assessment | Grade Weight |
| Week of 8/24 | Intro to Course | Get Your Idea | 0% |
| Week of 8/31 | ERD | ERD | 10% |
| Week of 9/7 | Table Design | Table Creation | 10% |
| Week of 9/14 | Normality | Normalization | 10% |
| Week of 9/21 | Storage | Table Population 1 | 10% |
| Week of 9/28 | Select | Table Population 2 | 10% |
| Week of 10/5 | Join | Reports 1 | 10% |
| Week of 10/12 | Indicies | Indicies | 10% |
| Week of 10/19 | More SQL |  |  |
| Week of 10/26 | Internals 1 & 2 | Advanced SQL | 10% |
| Week of 11/2 | Programming IN SQL | Programming in the DB | 10% |
| Week of 11/9 | Last of SQL |  |  |
| Week of 11/16 | Programming WITH SQL | JDBC | 10% |
| Week of 11/23 | Other Features/Big Data |  |  |