

CS 435 –DATABASE SYSTEMS

COURSE INFORMATION

- Instructor : Prof. Sampath Jayarathna, Web: <http://www.cpp.edu/~ukjayarathna>
- Contact : Office: 8-46, Email: ukjayarathna@cpp.edu, Phone: (909) 869-3145
- Office Hours : Wed. (Office), Thursday (Online), 10.00 AM – 12.00 PM, or email me for an appointment
- Schedule : Monday and Wednesday, Room: 8-345, Time: 1.00 PM – 4.50 PM
- Website : <http://www.cpp.edu/~ukjayarathna/courses/su18/cs435>
- Piazza : www.piazza.com/cppomona/summer2018/cs435/home
- Blackboard : <https://blackboard.cpp.edu/>
- Prerequisites : CS 241 with a grade of C or better

WHAT IS THIS COURSE ABOUT?

This course covers the fundamental concepts and topics of database systems. Topics include data models (ER, relational, and others); query languages (relational algebra, SQL, and others); implementation techniques of database management systems (index structures and hashing); management of semi-structured and complex data; distributed and NoSQL databases.

REQUIRED/OPTIONAL MATERIALS:

- **Required textbook.** No textbook is required. All the key course content will be documented in slides, which will be available in the course website before each lecture.
- List of optional but recommended materials. You may find some of these optional textbooks helpful, though none are required:
 - Fundamentals of Database Systems, Ramez Elmasri, Shamkant Navathe. 7th Edition. Rent the eBook for \$41.00 through www.vitalsource.com

TENTATIVE COURSE SCHEDULE

Topics: Topics and specific course activities may change as needed. PowerPoint slides will be available on the course web page after each lecture.

- Week 1 (June 18, 20): Syllabus, Conceptual Modeling and ER
- Week 2 (June 25, 27): EER and ER to Relational Mapping, Normalization, SQL + midterm 1 (1hr)
- Week 3 (July 02, 04): MySQL Workshop, Relational Algebra & Calculus, **4th of July No Classes**
- Week 4 (July 09, 11): Semi-Structured Data, Hashing & Indexing + midterm 2 (1hr)
- Week 5 (July 16, 18): NoSQL Databases, MongoDB Workshop, Database Trends
- Week 6: Final Exam: Monday July 23, 1.00 PM – 3.00 PM

WHAT YOU CAN EXPECT FROM ME:

I am committed to supporting students with disabilities. If you have challenges related to these issues or others I want to work with you to help you succeed. Please come and talk to me, since only you can properly communicate your situation to me.

WHAT YOU CAN GIVE TO THE CLASS:

It is extremely important for you to be engaged in the course. Otherwise, you will fall asleep and wonder what happened to your tuition dollars. So, I encourage you to ask questions during lecture and actively participate at the piazza forum. For the first few weeks, when asking a question at the class, state your name so that I know who you are.

Cell phones and Tardiness: You may have cell phones in class, but they must be on mute, or airplane mode and not answered until the end of class. You are expected to arrive on time so that you do not cause a disruption in the middle of class. I would like to start the class at the scheduled time. If you cannot make it on time or want to leave early for some reason, please let me know. Persistent tardiness will be noted.

COMMUNICATION

Piazza: All questions will be fielded through Piazza. The primary benefit is that for many questions everyone can see the answer and other students can answer as well. I will endorse good student responses. Additionally, I expect you to actively participate in online discussions at Piazza. Over the course of the quarter, you should post at least one substantive, interesting post to the discussion forum. You must also respond to at least four posts made by others. You can also post private messages that can only be seen by the instructor. You will be signed up with your cpp email, but you may switch to another email.

Blackboard: Blackboard will be used primarily for grade dissemination.

Email: If you send email to me, please be sure to include your name and the course number in the body of the e-mail. You should also use an appropriate subject line that looks like “CS435-Quiz” etc. Failure to follow these guideline may result in delayed response. *Again, email should only be used in rare instances*, I will probably point you back to Piazza if you have a question related to course materials and/or relevant to other students in the class.

COURSE ACTIVITIES

The scores you receive on the various graded tasks in the class will be weighted as follows:

30%	Final Exam
30%	In-Class Assignments (3)
30%	Mini-midterm (2)
10%	In-Class Activities
2%	Research paper summary report
102%	Your Total Score for the class

Final Exam: The final exam is comprehensive, closed books and will be held on **Monday, July 23 from 1.00 pm to 3.00 PM**. You may bring one standard 8.5" by 11" piece of paper with any notes you deem appropriate or significant (front and back). No iPads, iPhones, Blackberries, Android phones/tablets are allowed. Standard calculators are allowed.

Mini-midterm: Attendance in class and participation in the discussion are both important to your success in the course. As one crude measure of your participation and course preparation, you will have around 2 scheduled mini-midterms spread across the quarter. I will use them to gauge what topics we need to devote more time.

In Class Assignments: We will have 3 in-class assignments, each worth 10% of your overall grade. You will finish the assignment in-class for completion (submit to Blackboard for grading)

In Class Activities: We will have in class activities related to lecture topics to supplement the learning. I will ask you to bring a computing device (laptop, tablet) capable of handling modern database systems (ex. MySQL).

Research Paper Summary: You can get up to two points added to your final grade through preparing the research paper summary. Use a research paper in the area of databases to summarize, and provide your thoughts about this article (more information at the course web page). Note: Borderline grades will not be boosted if extra credit is not submitted.

GRADES

Final course grades are based on the overall average. You are guaranteed a grade based on a 10% window (e.g., 90-100% is an A). Overall class grade (not the individual grade) windows may be increased in size if the instructor finds it appropriate.

Notes: Final score in % will be rounded to the nearest whole number. Assigning + or – grades may be made at instructor’s discretion.)

A: 90-100, B: 80-89, C: 70-79, D: 60-69, Fail (Grade F): 0-59

Grading correction: Bring any assignment or exam grading correction requests to the instructor within 1 week of receiving the grade, or before the end of the quarter, whichever comes first. After that, your grade will not be adjusted. If you find a mistake in grading, please let the instructor know. Your grade will not be lowered.

ATTENDANCE, MAKE-UPS AND LATE POLICIES:

If you have a valid excuse (some form of a document evidence is required such as doctors note, police report etc.), the missing component of your grade (assignments) will be computed based on the other parts of the relevant course content, at the option of the course instructor.

An exam (final, midterm) missed without an acceptable excuse will be recorded as a grade of zero (0). There are no makeups or rescheduling of final exam unless you have a plausible reason with appropriate document or verification for absence. Rescheduling of exams must be arranged at least two weeks in advance. In class assignments must be completed during class time in order to contribute to your grade. Each late submission will incur a 5 points penalty per day. No submission will be accepted after 3rd day and will be recorded as a grade of zero (0). There will be no makeup for assignments and in-class activities.

ACADEMIC OFFENSES

Scholarly dishonesty, especially plagiarism, will not be tolerated. Plagiarism is defined as "Failing to credit sources used in a work product in an attempt to pass off the work as one's own. Attempting to receive credit for work performed by another, including papers obtained in whole or in part from individuals or other sources." Students found to have engaged in plagiarism will be punished severely, typically earning an automatic F in the course and being reported to the Office of Student Conduct and Integrity. The Office of Student Conduct & Integrity investigates issues of student misconduct to determine if there has been a violation of the Student Conduct Code. If students are found responsible for a violation, students receive educational sanctions which can range anywhere from warnings to expulsion from the California State University system.

For the assignments, you may talk to any other class member or work in groups to discuss the problems in a general way. However, your actual detailed solution must be yours alone.

Assignment Collaboration Clarification: To clarify, your assignment is yours alone and you are expected to complete each assignment independently show it to the instructor. Your solution should be written by you without the direct aid or help of anyone else. However, I believe that collaboration and teamwork are important for facilitating learning, so I encourage you to discuss problems and general problem approaches (but not actual solutions) with your classmates. The basic rule is that no student should explicitly share a solution with another student (and thereby circumvent the basic learning process), but it is okay to share general approaches, directions, and so on. If you feel like you have an issue that needs clarification, feel free to contact me.

DISABILITY RESOURCES

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities.

If you have a physical or a learning disability, please talk to me privately and/or contact the Disability Resource Center (DRC) at 909-869-3333. The location is at Bldg 9-103 to coordinate course accommodations. For further information, visit the DRC website at <http://www.cpp.edu/~drc/index.shtml>