

California State University, Channel Islands
Computer Science
Spring/2022
COMP / IT 420, Database Theory and Design

Instructor: Dr. Evren Eryilmaz (or just Dr. E)

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Office/Mailbox: Online

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Class Meetings: Mondays from 3pm-4:45pm and Wednesdays from 3-5:45pm

Office Hours: MW from 1:30-2:30 **OR** by appointment

COURSE DESCRIPTION

COMP420 covers database structure including: database definition, data models, semantics of relations, and operation on data models; database schemas: element definition, use and manipulation of the database schema; elements of implementation; algebra of relations on a database; hierarchical data bases. Discussion of information retrieval, reliability, protection and integrity of databases are also covered.

Prerequisite(s): MATH 300 or MATH 301 and COMP 151 or IT 151

LEARNING OBJECTIVES

Upon completion of the course, the student will be able to:

1. Identify the components of a database system.
2. Represent information in the form of tables, records, and fields.
3. Construct table design diagrams.
4. Analyze and implement basic SQL queries.
5. Integrate a database with a programming language.
6. Identify and represent system constraints.
7. Synthesize and articulate ideas clearly and convincingly in oral and written forms.

TEXTBOOKS

1. Database Processing: Fundamentals, Design, and Implementation, 15th Edition, by David Kroenke, David Auer, Robert Yoder, & Scott Vandenberg published by Pearson, 2018. ISBN-13: 978-0134802749. **(Optional)**

STUDENT ATTENDANCE and CLASS WITHDRAWAL POLICY

Please be courteous and arrive **ON TIME** for class. Students are required to attend all classes for which they are registered. Each student is responsible for fulfilling all course requirements and completion of all course assignments to receive credit for the course. If classes are missed for any reason, the student is not excused for any missed work. It is the student's responsibility to understand when they need to consider disenrolling from a course. Refer to the Channel Islands Course Schedule for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. For extenuating circumstances related to a medical condition or disability for which you may require reasonable accommodation, please refer to Course Accommodations.

CLASS CANCELLATIONS

Please check email, CI Learn or visit the CSU Channel Islands website (<http://www.csuci.edu>) to obtain the latest information on university-wide cancellations or delayed openings.

MOBILE DEVICES

It is important that you and your classmates are not distracted from learning. Please be mindful of your classmates and ensure that mobile devices are placed in silent-mode as to not cause a distraction to your classmates and the professor.

COURSE ACCOMMODATIONS

If you are a student with a disability requesting reasonable accommodations in this course, please visit Disability Accommodations and Support Services (DASS) located on the second floor of Arroyo Hall, or call 805-437-3331. All requests for reasonable accommodations require registration with DASS in advance of need: <https://www.csuci.edu/dass/students/apply-for-services.htm>. Faculty, students and DASS will work together regarding classroom accommodations. You are encouraged to discuss approved accommodations with your faculty.

ACADEMIC INTEGRITY

By enrolling at CSU Channel Islands, students are responsible for upholding the University's policies and the Student Conduct Code. Academic integrity and scholarship are values of the institution that ensure respect for the academic reputation of the University, students, faculty, and staff. Cheating, plagiarism, unauthorized collaboration with another student, knowingly furnishing false information to the University, buying, selling or stealing any material for an examination, or substituting for another person may be considered violations of the Student Conduct Code (located at <http://www.csuci.edu/campuslife/student-conduct/academic-dishonesty.htm>). Please ask about my expectations regarding academic dishonesty in this course if they are unclear.

GRADING

- Quizzes (20%)
- Assignments (40%)
- Final Exam (20%)
- Course Project and Presentation (20%)

It is the student's responsibility to ensure all documents and assignments are correctly uploaded to CI Learn by the due date. Always check to ensure documents have been uploaded and are visible to the professor. A broken computer is NOT a reason for late submissions. If necessary, use university resources to complete your work.

Letter	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Points	97+	93+	90+	87+	83+	80+	77+	73+	70+	67+	60+	<60

TENTATIVE COURSE SCHEDULE

Week	Topic
Week 1	<ul style="list-style-type: none">• Introduction to Databases• Accessing to DBMSs• Structured Query Language
Week 2	<ul style="list-style-type: none">• Structured Query Language• Views
Week 3	<ul style="list-style-type: none">• Relational Databases
Week 4	<ul style="list-style-type: none">• DB Normalization
Week 5	<ul style="list-style-type: none">• DB Normalization
Week 6	<ul style="list-style-type: none">• Data Modeling
Week 7	<ul style="list-style-type: none">• Data Modeling
Week 8	<ul style="list-style-type: none">• Projects
Week 9	<ul style="list-style-type: none">• Projects
Week 10	<ul style="list-style-type: none">• Triggers
Week 11	<ul style="list-style-type: none">• Triggers
Week 12	<ul style="list-style-type: none">• Events
Week 13	<ul style="list-style-type: none">• Stored Procedures
Week 14	<ul style="list-style-type: none">• Stored Procedures
Week 16	<ul style="list-style-type: none">• DB Administration / Security
Week 16	<ul style="list-style-type: none">• Projects• Final Exam Review
Week 17	Final Exam