Course Syllabus

Spring2026 College of the Redwoods

Course Information

Semester & Year: Spring 2026

Course ID & Section #number: CIS-50-E9927 (059927) Intro Database Mgmt. Systems

Instructor's name: Trevor Hartman

Day/Time of required meetings: Wednesday 2:15PM - 5:25PM

Location: HU-210

Number of proctored exams: 3

Course units: 4

Instructor Contact Information

Office location or Online: Eureka Campus, HU-210 or Zoom by appointment

In-Person Office hours: **Mon, Wed, Thur 12:15PM - 2:15PM (HU-210)**

Online Office hours: **Tue, Fri 10:00AM - 11:00AM (Zoom)**

Phone number: (707) 476-4366

Email address: trevor-hartman@redwoods.edu

Canvas messaging is the best way to communicate with me. I check it for student needs consistently, and receive notifications.

Required Material

Required Materials:

Zero Cost Textbook title: A Practical Introduction to DatabasesLinks to an external site.

Zero Cost Textbook title: Readings in Database Systems, 5th Edition

Online Materials:

- TutorialPoint - DBMSLinks to an external site.
- THartmanOfTheRedwoods CIS-50 Class NotesLinks to an external site.

Optional, BUT recommended book:

Textbook title: Database Systems: Design, Implementation, & Management, 14th Edition

ISBN: 978-0357673034

Author: Carlos Coronel and Steven Morris

Publisher: Cengage Learning, Inc., 2022

Software: Links to an external site.MySQL Server 8 Links to an external site. OR Docker DesktopLinks to an external site. with Configured MySQL containerLinks to an external site. AND DBeaver database clientLinks to an external site.

- **Make sure to download the Community Edition, you don't need Professional for this course!**

Catalog Description

This course provides students with an introduction to the core concepts in data and information management. It is centered around the core skills of identifying organizational information requirements, modeling them using conceptual data modeling techniques, converting the conceptual data models into relational data models and verifying its structural characteristics with normalization techniques, and implementing and utilizing a relational database using an industrial-strength database management system. The course will also include coverage of basic database administration tasks and key concepts of data quality and data security. In addition to developing database applications, the course helps students understand how large-scale packaged systems are highly dependent on the use of Database Management Systems (DBMSs). Building on the transactional database understanding, the course provides an introduction to data and information management technologies that provide decision support capabilities under the broad business intelligence umbrella.

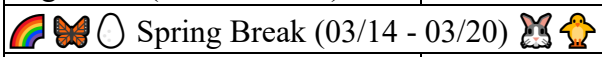
Course Student Learning Outcomes

Upon successful completion, the student will be able to:

- Write queries in SQL, GraphQL, and other information system query languages.
- Understand the purpose of normalization, and various ER modeling techniques.
- Solve common business problems using appropriate information technology applications and systems.
- Demonstrate an understanding of information systems used in business.

Course Calendar

Course Calendar

Week	Wednesday 2:15-3:15	Wednesday 3:15-5:25
Week 1 - Database Systems & Data Models - (01/17 - 01/23)	Lecture	Lab
Week 2 - The Relational Database Model - (01/24 - 01/30)	Lecture	Lab
Week 3 - Entity Relationship (ER) Diagrams & Converting ERD into Database - (01/31 - 02/06)	Lecture	Lab
Week 4 - Normalization - (02/07 - 02/13)		
Week 5 - Exam 1 - (02/14 - 02/20)	Study Session	Exam
Week 6 - Introduction to Structured Query Language (SQL) - (02/21 - 02/27)	Lecture	Lab
Week 7 - Advanced Structured Query Language (SQL) - (02/28 - 03/06)	Lecture	Lab
Week 8 - Build it Better Together - (03/07 - 03/13)	Lecture	Lab
 Spring Break (03/14 - 03/20)		
Week 9 - Row Store VS Column Store (EAV Model) - (03/21 - 03/27)	Lecture	Lab
Week 10 - Exam 2 - (03/28 - 04/03)	Study Session	Exam
Week 11 - Other Schema (Star, Snowflake, Network, Hierarchical, etc.) - (04/04 - 04/10)	Lecture	Lab

Course Calendar

Week	Wednesday 2:15-3:15	Wednesday 3:15-5:25
Week 12 - Business Intelligence and Data Warehouses - (04/11 - 04/17)	Lecture	Lab
Week 13 - Database Connectivity & Web Technologies - Part 1 - Web Frameworks & ORM - (04/18 - 04/24)	Lecture	Lab
Week 14 - Database Connectivity & Web Technologies - Part 2 - Directus & GraphQL - (04/25 - 05/01)	Lecture	Lab
Week 15 - Cluster Computing, Big Data, NoSQL - (05/02 - 05/08)	Lecture	Lab
Week 16 - Final Exam (05/09 - 05/15)		Final Exam: Wednesday 1:00pm to 3:00pm HU-210

Evaluation & Grading Policy

Course Grading:
Exams(3) = 35%

Labs and Assignments = 40%

Quizzes = 10%

Discussion Forums = 15%

Grade Scale:
90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; Less than 60% = F

Participation:
This class is a hybrid course. It is VERY easy to fall behind in the online material. It actually takes **MORE** effort to stay on schedule in a hybrid course than it does in a traditional face-to-face course. I highly recommend that you log on to Canvas at least 5 days a week to check announcements, post labs and assignments, and take quizzes and exams. There are strict deadlines posted for labs, assignments, quizzes, and exams that you must be aware of in order to avoid penalties.

There are no scheduled Zoom meetings. Previously recorded video tutorials and In-Person Lab hours will be provided to support your coursework.

Students are expected to:

1. Use AI **ONLY** when directed to do so
2. Do the assigned reading from the textbook
3. As needed, research topics using the Web and/or supplemental textbooks
4. As needed, download, install, and learn additional free software
5. Complete all assignments
6. Complete all labs
7. Take all quizzes
8. Take exams online
9. Participate in online discussion forums

Course Policies

Exams:
The exams are administered online, and you typically have a time window to complete the exam once it is open. Failure to complete an exam during the defined time window will result in a zero on that exam. There are no makeup exams. Be sure to give yourself plenty of time for technology and logistical problems when taking the exam. Please do not test this policy, you will be very disappointed with the results.

Quizzes:
Quizzes are administered online weekly, and are typically due on Saturday of each week. Failure to complete a quiz by the posted due date will result in a zero on that quiz. There are no makeup quizzes. Be sure to give yourself plenty of time for technology and logistical problems when taking the quiz.

Lab Work:
54 hours of lab work is also required. Note: The lab work doubles the amount of hours you will be working as compared to a typical non-lab 3 unit course. Be sure you understand the time commitment needed. The lab work will consist of exercises and tutorials requiring the use of a computer to demonstrate your understanding of the material presented. In addition to the technical requirements, labs are graded on proper documentation, neatness and completeness. All required elements must be present for full credit on a Lab. Labs will be due as noted in each week's Module.

Assignments:
Your assignments will incorporate features that build on the knowledge and skills gained from doing the lab work and require the use of a computer to demonstrate your understanding of the material presented. In addition to the technical requirements, assignments are graded on proper documentation, neatness, design and completeness. All required elements must be present for full credit on your assignments. Assignments will be due as noted in each week's Module and validated in review sessions.

Assignments and Labs (does NOT apply to Discussions/Quizzes/Exams):
We all have "emergencies" that arise from time to time. In recognition of this reality, I have a "no questions asked" (NQA) policy. Here's how it works. At the beginning of the semester you will receive 3 NQA credits (virtually of-course). Each credit is worth one week. If something comes up, and you need to turn in an assignment or lab late, you can use an NQA credit and turn it in up to one week late. A late assignment or lab with the proper number of NQA credits indicated will be graded as if it were handed in on time, no questions asked!

A late assignment or lab without an NQA will receive a zero! Late credit cannot be applied towards discussions, quizzes or exams and will not be allowed for the last lab or final assignment due date.

Discussion Forum Participation:
Ten percent of your grade is based on Discussion Forum participation. There are 10 participation points available per week that are earned by posting answers to the week's discussion-forum topic and responding to classmates' postings. A maximum of 5 points can be earned by posting a quality answer to the week's discussion topic by the end of the day on Wednesday. An additional 5 points can be earned by posting at least **2 quality** responses to classmates' postings by the end of the day on Saturday. If you do not post your topic response by the end of the day on Wednesday, you forfeit 5 points. You can still earn 5 points for the week by responding to classmates' postings by the end of the day on Saturday. Failure to respond to classmates' postings by the end of the day on Saturday will result in forfeiture of 5 points for the week. Timely postings are essential to create a reasonable dialog on the week's discussion topic. You cannot makeup participation points, which means you cannot use NQA credits for discussion-forum postings. So make sure you post your response to the week's topic by Wednesday and respond to classmates' postings by Saturday.

Generally, a model posting will be one that shares what you have learned about the topic by providing at least one specific example from the assigned reading and/or video lecture material, and addresses any difficult/challenging concepts with specific descriptions. Replies to classmates will substantially comment on their examples and answer any questions they have. Read your peers' posts regularly to see their viewpoints. Sometimes it's surprising how many different ways a concept can be described.

In addition, you can spend some time researching the topics outside of your textbook. Use the Internet and other books to provide another perspective or a more detailed explanation. Including a hyperlink to relevant Internet information gives others the opportunity to learn more too. **Remember to cite your references.**

Just as you would use a nice tone in the classroom, be sure to prepare thoughtful and friendly responses online. The forum discussions are an opportunity to help others with their understanding of the concepts covered. If you see a post where someone is struggling to understand (or is incorrect), try to help them out. Find something positive to say about their effort, and then add your comments. Try to illustrate your explanation, rather than referring them to your post. Be polite, supportive, and encouraging. The online learning environment should be helpful and enjoyable!

One final note - anyone that acts offensively online will be subject to removal from the class. This includes using insulting (or foul) language, or being demeaning in discussion forum posts.

Connection Issues:
Problems with your internet connection or your computer will NOT result in an extension of the due date for any deliverable (lab/quiz/exam, etc.).

Disqualification/Excessive Absence Policy:
You will automatically be disqualified (dropped from the roll) if you have not posted your Week 1 Introduction to the Discussion Forum AND do not complete Quiz1 and Lab 1 by their respective due dates. In addition, you will be dropped from the course if you are not participating at least four days a week, or failing the course due to a lack of participation resulting in missed quizzes, labs, assignments, discussions or exams.

Incomplete Grades:
I do not give incomplete! However, if your place of residence is carried away by a tsunami while completing your final exam, lab or assignment, I may reconsider. This means an incomplete may be granted in EXTREME circumstances. You must be receiving at least a C grade at the time of the tsunami 😅.

Prerequisites / Co-requisites / Recommended Preparation

CIS-1 is the recommended preparation for this class, which means a fundamental understanding of how computers work.

Educational Accessibility & Support

College of the Redwoods is committed to providing reasonable accommodations for qualified students who could benefit from additional educational support and services. You may qualify if you have a physical, mental, sensory, or intellectual condition which causes you to struggle academically, including but not limited to:

- Mental health conditions such as depression, anxiety, PTSD, or bipolar disorder
- Common ailments such as arthritis, asthma, diabetes, autoimmune disorders and diseases
- Temporary impairments such as a broken bone, recovery from significant surgery, or a pregnancy-related disability
- Neurodevelopmental disorders such as a learning disability, intellectual disability, autism, acquired brain injury, or ADHD
- Vision, hearing, or mobility conditions

Available services include extended test time, quiet testing environments, academic assistance and tutoring through the LIGHT Center Links to an external site., counseling and advising, alternate formats of course materials (e.g. audio books or E-texts), assistive technology, learning disability assessments, approval for personal attendants, interpreters, priority registration, on-campus transportation, adaptive physical education and living skills courses, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact Student Accessibility Support Services (SASS) Links to an external site..

If you are unsure whether you qualify, please contact SASS for a consultation: SASS@redwoods.edu.

SASS office locations and phone numbers

Eureka campus

- Phone: 707-476-4280,
- Locations: Student Services building, first floor SS113

Del Norte campus

- Phone: 707-465-2353
- Location: Main building, near the Library

Klamath-Trinity campus

- 707-476-4280

Course Summary:

Course Summary

Date	Details	Due
Sat Aug 23, 2025	Page CIS-50 Weekly Exam / Module Schedule	to do: 11:59pm
Wed Jan 21, 2026	Discussion Topic *REQUIRED* Week 1 - Introduction	due by 11:59pm
Sat Jan 24, 2026	Assignment Introduction to Database Models and Concepts	due by 11:59pm
	Assignment Quiz 1	due by 11:59pm
Sun Jan 25, 2026	Assignment Assignment 01 - Tools of the Trade	due by 11:59pm
Wed Jan 28, 2026	Discussion Topic Week 2 Discussion - The Relational Model	due by 11:59pm
Sat Jan 31, 2026	Assignment Quiz 2	due by 11:59pm
	Assignment Relational Data Model Intro	due by 11:59pm
Wed Feb 4, 2026	Discussion Topic Week 3 Discussion - Entity Relationship Diagrams	due by 11:59pm
Sat Feb 7, 2026	Assignment ER Diagram Conceptual, Logical, Physical	due by 11:59pm
	Assignment Quiz 3	due by 11:59pm
Wed Feb 11, 2026	Discussion Topic Week 4 Discussion - Normalization	due by 11:59pm
Sat Feb 14, 2026	Assignment Normalization of Resource Management	due by 11:59pm
	Assignment Quiz 4	due by 11:59pm
Sun Feb 22, 2026	Assignment Exam 1	due by 11:59pm
Wed Feb 25, 2026	Discussion Topic Week 6 Discussion - Expressions in SQL	due by 11:59pm
Sat Feb 28, 2026	Assignment Quiz 5	due by 11:59pm
	Assignment Restaurant Classification and Rating Lab	due by 11:59pm
Wed Mar 4, 2026	Discussion Topic Week 7 Discussion - Data Types and Advanced SQL	due by 11:59pm

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Date	Details	Due
Sat Mar 7, 2026	Assignment Quiz 6	due by 11:59pm
	Assignment Simple Item Inventory Management	due by 11:59pm
Sat Mar 14, 2026	Assignment Build-It Better Together Lab	due by 11:59pm
	Assignment Mid Semester Check-In	due by 11:59pm
	Assignment Quiz 6.5	due by 11:59pm
Wed Mar 25, 2026	Discussion Topic Week 9 Discussion - Entity, Attribute, Value Model	due by 11:59pm
Sat Mar 28, 2026	Assignment Entity, Attribute, Value Model Lab	due by 11:59pm
	Assignment Quiz 7	due by 11:59pm
Sun Apr 5, 2026	Assignment Exam 2	due by 11:59pm
Wed Apr 8, 2026	Discussion Topic Week 11 Discussion - Rethinking OLTP for In-Memory Storage	due by 11:59pm
Sat Apr 11, 2026	Assignment Quiz 8	due by 11:59pm
	Assignment Sales Order Snowflake Lab	due by 11:59pm
Wed Apr 15, 2026	Discussion Topic Week 12 Discussion - Business Intelligence and Data Warehouses	due by 11:59pm
Sat Apr 18, 2026	Assignment Business Intelligence Lab	due by 11:59pm
	Assignment Quiz 9	due by 11:59pm
Wed Apr 22, 2026	Discussion Topic Week 13 Discussion - Web Technologies and Relational Databases	due by 11:59pm
Sat Apr 25, 2026	Assignment Quiz 10	due by 11:59pm
	Assignment Web Programming Lab 1 - URL Shortener	due by 11:59pm
Wed Apr 29, 2026	Discussion Topic Week 14 Discussion - Web Technologies and Relational Databases	due by 11:59pm

Course Summary		
Date	**Details**	**Due**
Sat May 2, 2026	Assignment Web Programming Lab 2 - MySQL to Web	due by 11:59pm
Sat May 9, 2026	Assignment BigData Jupyter and Spark	due by 11:59pm
	Assignment Quiz 11	due by 11:59pm
Fri May 15, 2026	Assignment Exam 3	due by 11:59pm
	Assignment Normalization of Nginx Logs	