CSC 174: MODERN DATABASES AND AI APPLICATIONS

In Workflow

1. CSC Committee Chair (abeer.abdelkhaleq@csus.edu)
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10. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. 2026-08-26T18:41:01Z
   Abeer Abdel Khaleq (abeer.abdelkhaleq): Rollback to Initiator
2. 2026-08-31T16:48:58Z
   Abeer Abdel Khaleq (abeer.abdelkhaleq): Approved for CSC Committee Chair
3. 2026-08-31T18:29:47Z
   Jinsong Ouyang (jouyang): Approved for CSC Chair
4. 2026-10-02T16:55:39Z
   Tongren Zhu (tongren.zhu): Approved for ECS College Committee Chair
5. 2026-10-02T17:51:06Z
   Behnam Arad (arad): Approved for ECS Dean

Date Submitted: 2026-08-28T19:10:09Z

Viewing: CSC 174 : Modern Databases and AI Applications

Last edit: 2026-10-02T16:55:20Z

Changes proposed by: Ying Jin (102041392)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Ying	jiny@csus.edu	916-278-6250

Catalog Title:
Modern Databases and AI Applications

Class Schedule Title:
Modern Databases & AI Apps

Academic Group: (College)
ECS - Engineering & Computer Science

Academic Organization: (Department)
Computer Science

Will this course be offered through the College of Continuing Education (CCE)?
No

Catalog Year Effective:
Fall 2027 (2027/2028 Catalog)

Subject Area: (prefix)
CSC - Computer Science

Catalog Number: (course number)
174

Course ID: (For administrative use only.)
112216

Units:
3

Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?
No

In what term(s) will this course typically be offered?
Fall, Spring, Summer

Does this course require a room for its final exam?
Yes, final exam requires a room

This course complies with the credit hour policy:
Yes

Justification for course proposal:
Incorporate recent advances in data management, including vector databases, Retrieval-Augmented Generation (RAG), and frameworks for programming with large language model (LLM) APIs to develop AI-driven applications.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)
Enhanced Entity-Relationship (EER) modeling; relational database design based on EER; SQL views; integrity constraints and triggers; stored procedures and functions; database programming techniques; query processing and optimization; transactions concurrency and recovery techniques; vector databases; Retrieval-Augmented Generation; frameworks for programming with Large Language Model (LLM) APIs.

Are one or more field trips required with this course?
No

Fee Course?
No

Is this course designated as Service Learning?
No

Is this course designated as Curricular Community Engaged Learning?
No

Does this course require safety training?
No

Does this course require personal protective equipment (PPE)?
No

Does this course have prerequisites?
Yes

Prerequisite:
CSC 134

Prerequisites Enforced at Registration?
Yes

Does this course have corequisites?
No

Graded:
Letter

Approval required for enrollment?
No Approval Required

Course Component(s) and Classification(s):
Discussion

Discussion Classification
CS#02 - Lecture/Discussion (K-factor=1WTU per unit)
Discussion Units
3

Is this a paired course?
No

Is this course crosslisted?
No

Can this course be repeated for credit?
No

Can the course be taken for credit more than once during the same term?
No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Use Enhanced Entity-Relationship (EER) model for conceptual design	Assignments and/or Exams
2	Design a relational database by EER-to-relational mapping	Assignments and/or Exams
3	Use SQL to implement database views, functions, and procedures	Assignments and/or Exams
4	Implement Retrieval-Augmented Generation and manipulate vector databases	Assignments and/or Exams

Attach a list of the required/recommended course readings and activities:
CSC174 Syllabus AC.docx

Is this course required in a degree program (major, minor, graduate degree, certificate?)
No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?
No

Will there be any departments affected by this proposed course?
No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.
I/we agree

University Learning Goals

Undergraduate Learning Goals:
Competence in the disciplines
Intellectual and practical skills

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?
No

Is this a General Education (GE) or Graduation Requirement (GR) course or is it being considered for GE/GR?

Is this a General Education (GE) course or is it being considered for GE?
No

Please attach any additional files not requested above:
CSC174 Syllabus AC.docx

Reviewer Comments:
Abeer Abdel Khaleq (abeer.abdelkhaleq) (Wed, 26 Aug 2026 18:41:01 GMT): Rollback: Please upload syllabus template as required.

Key: 1057