

CSCI 4850 - Advanced Database Design and Administration

Fall 2026 Syllabus, Section 01, CRN 42656,

Credit hours: 3

Instructor

Angello Astorga

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Public Instructor Information

Instructor Title: Part-Time Faculty

Instructor Professional Qualifications:

Ph. D., Computer Science, University of Illinois Urbana-Champaign, 2024

Bachelor's, Computer Science and Engineering, The Ohio State University, 2015

Instructor Office Location: Meshel Hall 324

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Course Description

4850. Advanced Database Design and Administration. Design, development, implementation, and administration of large database systems at the enterprise level, including logical data models, data security and assurance, concurrent processing, data distribution, data marts, data warehouses, data mining, and data extraction, cleansing, and loading. Prereq.: CSIS 3722 with a grade of C or better. Crosslisted: CSCI 6950. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Database Design, Application Development & Administration	Michael Mannino	9781948426954

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Tentative Course Schedule

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Chapter 1	Introduction to DB & Management	
8/31	Chapter 2	Introduction to DB Development	Set up SQL Oracle APEX
9/7	Chapter 3	The Relational Data Model (SQL Standard)	
9/14	Chapter 4	Query Formulation SQL	Quiz Ch. 1 - 4
9/21	Chapter 4	Practice (Tentative)	Assmt Ch. 4 - Basic Queries
9/28	Chapter 5 Chapter 6	Entity Relationship Diagrams Data Models for Business Databases	Assmt Chapter 5 Creating ERD and Writing queries with this ERD. Quiz Ch. 5 and 6
10/5	Chapter 7	Normalization Concepts	Assmt Ch. 7 Normalization Quiz Ch. 7 SQL Reviews



10/12		Midterm	Midterm
10/19	Chapter 8	Physical Database Design	
10/26	Chapter 9	Advance Matching Problems	Assmt Advance SQL problems Quiz Ch. 9
11/2	Chapter 9	cont. Ch. 9	
11/9	Chapter 10	Views, Nulls, and Hierarchical Queries	Assmt Views and Nested Queries
11/16	Chapter 11 Chapter 12	Stored Procedures and Triggers Data Warehouse Concepts and management	Assmt Basic PLSQL Quiz Ch. 11 and 12
11/23	Chapter 16 Chapter 17	Database Administration Transaction Management	
11/30	Scheduled by University (See additional information)		Final Exam

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.