

**Instructor: Dr. Seyed Mahdi Ghamkhari**  
**Email: ghamkhs@miamioh.edu**  
**Office Hours:**  
**Tuesday 12:00 p.m. to 1:00 p.m.**  
**<https://miamioh.zoom.us/j/6611985445>**

**Course Description:**

Overview of database management, database system architecture, and database modeling principles. Logical database design. The relational database model, relational integrity constraints, and relational algebra. Relational commercial database management systems and languages. Interactive database processing, view processing, and database application programming. Database integrity. Relational database design by normalization. File structures for database systems.

**Prerequisite:**

CSE 274 or concurrent registration.

**Learning Objectives:**

1. Students will use a fundamental conceptual modeling technique to capture database requirements in a graphical representation.
2. Students will learn relational database terminology and concepts and derive an implementation schema from their conceptual design.
3. Students will apply relational normalization theory to evaluate good design practices.
4. Students will learn query processing techniques by writing queries using a standard language and studying the impact of physical storage options such as indexing.

**Textbook:**

C.M. Ricardo and S.D. Urban, *Databases Illuminated*, 3<sup>rd</sup> edition, Jones & Bartlett Learning, 2017.

**Grading:**

100 point scale

*Course components:*

- Assignments (30%)
- Quizzes 10%
- projects (10%)
- Midterm exam (25%)
- Final exam (25%)

Late policy: I don't accept late submissions.

**Collaboration Policy:**

*tests:* No access to any material nor discussion with anyone is allowed. Access to electronics beyond the testing platform (e.g., mobile devices) is not permitted.

*assignments:* stealing, giving, or receiving any code, drawings, diagrams, text, or designs from any other person is not allowed for independent work. Having access to another student's work electronically or giving access is not allowed.

*academic dishonesty:* CSE and Miami University guidelines will be followed.

**Communication Policy:**

Canvas used for class announcements. Students are accountable for any content sent to the class via announcements.

**Class Attendance:**

Exercises and materials used during class sessions will be posted on Canvas.

**Note:**

As an instructor, I have a duty to report. This means I am required to promptly report to the Deputy Title IX Coordinator ([titleix@miamioh.edu](mailto:titleix@miamioh.edu)) any information a student shares with me regarding harassment, discrimination, sexual misconduct and interpersonal violence, or retaliation. A report does not initiate an investigation. It engages a discussion of your resources, supportive measures, and options available. If students want to speak with someone confidentially, the following resources are available on and off campus:

\* Student Health Services, (513) 529-3000

\* Student Counseling Services, (513) 529-4634

\* Women Helping Women (WHW) Sexual and Interpersonal Violence Support Specialists are available to support all students and can be contacted by emailing [mu@womenhelpingwomen.org](mailto:mu@womenhelpingwomen.org). As well as calling/texting 513-846-8402 between 9AM-5PM. The 24-hour hotline is 513-381-5610. WHW supports ALL survivors of dating/domestic violence, sexual assault, and stalking, regardless of gender identity or sexual orientation.

Speaking with a confidential resource person does not preclude students from making a formal report to the University if and when they are ready.

<https://miamioh.edu/diversity-inclusion/programs-resources/report-incident/index.html>

**Academic Integrity Policy**

You must comply with the [CSE department expectations for Academic Integrity](#).

The default penalty for any instance of academic dishonesty in CSE will be a zero on the assignment followed by a reduction of a full letter grade in the course. This will be the case whether the judgment is reached in the Office of Academic Integrity or by the department chair.

### Students with Disabilities

If you have a documented disability and need special accommodations in this course, you must contact the Office of Disability Resources, 19 Campus Avenue Building. Once you submit the required documentation, they can determine what accommodations, if any, you will be given by your instructor. You will also receive paperwork with which to notify your instructor. For more information, refer to Chapter 3 (Part 4: Health and Safety) of the *Student Handbook*.

Grading scale for your final grade		
If grade is at least...	but less than...	Final grade
92	100	A
90	92	A-
88	90	B+
82	88	B
80	82	B-
78	80	C+
72	78	C
70	72	C-
68	70	D+
62	68	D
60	62	D-
0	60	F

Final grades will be rounded to the nearest whole number. For example, 81.5 or 81.6 would be rounded to 82, but 81.4 would be rounded to 81.

### Disclaimer:

The subject matter and dates for the course may evolve a little and should be considered tentative. Updates will be announced.

**Important Dates:***University dates:*

- November 7: last day to withdraw from a full semester course (course grade will be “W”).
- Fri Dec 2: last class meeting
- Dec 5-9: final exams

**Software Tools:****A. Dia**

<https://wiki.gnome.org/Apps/Dia/Download>

To use Dia on a Mac, first install XQuartz. Once you have both Dia and XQuartz installed, click the Dia app icon. It should open up an XQuartz terminal, where you need to enter the following two commands:

```
export DISPLAY=:0
/Applications/Dia.app/Contents/Resources/bin/dia
```

**B. RelaX**

<https://dbis-uibk.github.io/relax/>

Web browser-based relational algebra interpreter

**C. MySQL Workbench**

<https://dev.mysql.com/downloads/workbench/>

Google Cloud Platform student credits will be used to create a MySQL instance in the cloud; the database will be accessed using MySQL Workbench (students should download and install the workbench but there is no need to install the server.)

Other software to be determined.

**D. Google Docs, Sheets, Slides**