

# CSC 355 Database Systems

DePaul University - Jarvis College of Computing and Digital Media  
School of Computing  
Spring 2023

## Instructor information

### Instructor

Eliecer Peraza Ayala

### Email

eperazaa@depaul.edu

### Website

<http://d2l.depaul.edu/>

### Class Meetings

- Section 601T (Loop Campus, Tuesdays/Thursdays 11:50 am - 1:20 pm)
- Section 630 (Online Synchronous, Tuesdays/Thursdays 11:50 am- 1:20 pm)

### Office location & hours

- **Tuesdays:** 1:30 pm - 2:15 pm at the classroom or CDM 941 (if the classroom is not available)  
*Note: please knock on the door or call (312) 362-8207.*
- **Thursdays:** 1:30 pm - 2:15 pm via Zoom at <https://depaul.zoom.us/my/eperazaa> (appointment)

## General information

### Description

An introduction to modern database systems; the course covers the traditional concepts and techniques of database systems including the relational model, SQL, indexes, and normalization as well as a selection of advanced topics such as constraints and triggers, transactions, database programming, semi-structured data, and recursive SQL.

### Learning outcomes

Learn the principles of data management in the context of a relational database management system by:

- Getting familiar with database models, particularly the relational model. Sketch conceptual data models (including ER) to describe a database structure.
- Using Structured Query Language (SQL) to create a relational database schema based on conceptual and relational models.
- Building queries in relational algebra to retrieve data as well as queries in SQL to populate, retrieve, modify, and delete data in a relational database.
- Applying the concepts of entity integrity constraint and referential integrity constraint (including the definition of the concept of a foreign key).
- Learning functional dependencies, and normal forms and applying normalization to a relation to create a well-designed relational schema.
- Understanding and applying PL/SQL to generate triggers using a relational DBMS.
- Learning how transactions work when manipulating databases.
- Generating views and Materialized views over a database schema.

### Course Delivery

The course material for CSC 355 Section 601T/630 will be delivered simultaneously on campus and via Zoom. Both sections will use the course website at <http://d2l.depaul.edu/>.

**Prerequisites:** CSC 301 - Data Structures II (or CSC 393 - Data Structures in C++)

**Drop dates:** Please refer to [DePaul Academic Calendar](#)

## Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L, and sent via email.

## Course materials

### Textbooks

- **A First Course in Database Systems (Third Edition)**, by Jeffrey D. Ullman and Jennifer Widom, ISBN 9780136006374
- **Optional Additional Reference:** Murach's Oracle SQL and PL/SQL for Developers (Second Edition), by Joel Murach, ISBN 9781890774806

### Software

Oracle SQL Developer <https://www.oracle.com/tools/downloads/sqldev-downloads.html>.

**Note:** All CDM machines have SQL Developer installed.

## Assessment/Grading

**Homework assignments 25%** - Homework will be given most weeks and will be worth a total of 25% of the course grade (the lowest homework score will be dropped).

**Quizzes 15%** - Short weekly quizzes given through d2l will be worth a total of 15% of the course grade.

**Midterm exam 30%** - the midterm exam will be given during class time on Week 6 and will be worth 30% of the course grade.

**Final Exam 30%** - A comprehensive final exam given during class time on Week 11 will be worth 30% of the course grade.

## Exam schedule

Date	Exam
Week 6	Midterm: comprehends all the material prior to the exam
Week 11	Final: comprehends all the material of the course

## Student Expectations

### Course-related

- Students are expected to watch the online recording within 48 hours of it being posted, read posts on D2L in a timely fashion, and read the book and reflect upon it.
- Lecture slides are a supplement to lectures only. The slides are not intended to be read in place of listening to the lecture.
- The course requires that students actively engage in the material on their own. Students should not only read the notes and example coding in class, but also do self-tests, modify code and queries, and run it.
- Students are strongly encouraged to ask questions in the Discussion forum and offer comments relevant to the day's topic.

## Email Communication

Please begin the subject line of any email to me with “CSC 355”, so that course-related messages can be easily identified. If not, there is no guarantee of a response. I will generally reply to email messages within one to two business days after received; therefore, questions that are only received by me on an assignment’s due date are not guaranteed replies before the assignment is due. Please plan accordingly and begin the assignments early enough to ask questions and receive answers. If you are having problems, send me a detailed description of the problems you are having; I will guide you in locating and solving your problems yourself, rather than simply solving the problems for you. For general questions, please consult the course syllabus and course announcements for answers before emailing me. Please **do not use** the comment field of the assignment submission system to send me questions.

## Homework

- Homework assignments will be distributed and submitted via D2L. Emailed submissions **will not** be accepted.
- Grades and comments will be returned through D2L.
- Late Submission policy is set to deduct 15% per day for late submissions, up to 2 days.
- Submitted work must be worked on individually. You must not use or look at anyone else’s solution, and you must acknowledge any code that you obtain from other sources (such as books, magazines, or the Internet). If you are in any doubt, contact the instructor well before the submission date for advice. You may use as much code as you like (without acknowledgment) from the examples discussed in class. Plagiarism will result in penalties up to and including failing the course.

## Exams

Students are going to take an online midterm and final exam. Midterm and Final Exams will be proctored via D2L. You must take note of the midterm exam and final exam dates as they are posted on the schedule on the course homepage.

**Important note:** *There is no third party proctoring the exam, I will be proctoring the exam. The Respondus Lockdown Browser is only a browser used to access the exam environment. You can check respondus privacy policy here: <https://web.respondus.com/privacy-policy/>*

Everyone must take the midterm and final exams on the scheduled days and times - as a rule, no make-up exams will be given. If you wish to petition for a make-up exam in an emergency, you must contact me in advance and provide written documentation of the emergency. In case of a medical emergency, a medical note, cc’ed to the Dean of Students and your Graduate Advisor, will be required for an absence. Business trips or vacations **are not valid reasons** for missing exams.

### Location: D2L

There will be a lab room available to take the exam if you don't have a computer and/or camera. If this is your case, or you simply want to come and take the exam on campus, please let me know at least one week prior to the exam via email. It is important that you notify me in advance.

### Remarks

- You **MUST** be connected to zoom during the whole exam. Indications about the exam will be given at 11:30 am along with a code to access the exam (as in the mockup quiz - to be posted on D2L).
- You **SHOULD** have taken the mockup quiz **BEFORE** the midterm/final exam day
- Please **keep your camera on** since it will be used for the sole purpose of proctoring the exam. Not complying with this rule will have severe consequences.
- Closed book, closed notes, no electronic devices (only the computer used to take the exam)
- You may use one 8.5”x11” sheet of original, handwritten notes for the exam (both sides)
- No typed, printed, or photocopied notes are permitted.

### Important reading

- [DePaul’s Academic Integrity Policy.](#)
- <https://web.respondus.com/privacy-policy/>

## School Policies

### COVID-19 Health and Safety Precautions

The health and safety of everyone at DePaul depend on the cooperation of all who come to campus. By taking care of yourself, you protect the entire community. DePaul's COVID-19 response plans are based on the latest guidance from the Centers for Disease Control and Prevention, the Chicago Department of Public Health, and the university's medical advisor from AMITA Health.

Mandatory protocols must be followed by DePaul students, faculty, and staff at all times on both campuses <https://resources.depaul.edu/coronavirus/guidance/health-safety-practices/Pages/default.aspx>

### Respect for Diversity and Inclusion at DePaul University as aligned with our Vincentian Values

At DePaul, our mission calls us to explore “what must be done” in order to respect the inherent dignity and identity of each human person. We value diversity because it is part of our history, our traditions, and our future. We see diversity as an asset and a strength that adds to the richness of classroom learning. In my course, I strive to include diverse authors, perspectives, and teaching pedagogies. I also encourage open dialogue and spaces for students to express their unique identities and perspectives. I am open to having difficult conversations and I will strive to create an inclusive classroom that values all perspectives. If at any time, the classroom experience does not live up to this expectation, please feel free to contact me via email or during office hours

### Academic Integrity and Plagiarism

This course is subject to the university's academic integrity policy. More information can be found at <http://academicintegrity.depaul.edu/>. Violations of the Academic Integrity Policy will be dealt with decisively; in particular, penalties for cheating, plagiarism, and/or complicity as defined in the policy may range up to an automatic F in the course and possible expulsion for repeated offenses.

Posting work on online sites, such as CourseHero is strictly prohibited. All students are expected to abide by the University's Academic Integrity Policy which prohibits cheating and other misconduct in student coursework. Publicly sharing or posting online any prior or current materials from this course (including exam questions or answers), is providing unauthorized assistance prohibited by the policy. Both students who share/post and students who access or use such materials are considered to be cheating under the Policy and will be subject to sanctions for violations of Academic Integrity. These terms are further described below.

**Cheating:** Cheating is any action that violates university norms or instructor's guidelines for the preparation and submission of assignments. This includes but is not limited to unauthorized access to examination materials before the examination itself, use or possession of unauthorized materials during the examination or quiz; having someone take an examination in one's place-copying from another student; unauthorized assistance to another student; or acceptance of such assistance.

**Plagiarism:** Plagiarism is a major form of academic dishonesty involving the presentation of the work of another as one's own. Plagiarism includes, but is not limited to: Turning in another person's work as your own (including hiring someone else to complete an assignment for you); Starting with another person's work and modifying it to turn in as your own; Cutting and pasting, or otherwise copying, sections of another person's work into your assignment; Allowing another person (such as a tutor) to write any part of your assignment; and so on. (Obviously, any examples that I post qualify as “another person's work”.) Supplying such assistance to another student is also considered a violation of the policy.

**Complicity:** Complicity is any intentional attempt to facilitate any of the violations described above. This includes but is not limited to allowing another student to copy from a paper or test document; providing any kind of material—including one's research, data, or writing—to another student if one believes it might be misrepresented to a teacher or university official; providing information about or answers to test questions. More information can be found at <http://academicintegrity.depaul.edu/>. If you have any questions, be sure to consult with your professor.

You may always discuss the course material with other students, and you may also discuss assignments at a general level. However, when completing your assignments, you must work individually and neither share your solutions with other students nor consult other students' solutions. Any assignment you submit must be entirely your work.

### Students with Disabilities

Students who feel they may need accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

csd@depaul.edu Lewis Center  
1420, 25 East Jackson Blvd.  
Phone number: 312 362 8002  
Fax: 312 362 6544  
TTY: 773 325 7296

### Dean of Students Office

The Dean of Students Office (DOS) helps students navigate the college experience, particularly during difficult situations such as personal, financial, medical, and/or family crises. For a list of support services and advocacy information, please visit <http://studentaffairs.depaul.edu/dos/>

### Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect. Please see <https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teaching-evaluations.aspx> for additional information.

### Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading, and incompletes can be found at: <https://www.cdm.depaul.edu/Student-Resources/Pages/PoliciesandProcedures.aspx>

### Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exception cases will receive such approval. Information about the Incomplete Grades policy can be found at <https://www.cdm.depaul.edu/Student-Resources/Pages/Grading-Policies.aspx>

### Preferred Name & Gender Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records. Please also note that students may choose to identify within the University community with a preferred first name that differs from their legal name and may also update their gender. The preferred first name will appear in university-related systems and documents except where the use of the legal name is necessitated or required by university business or legal need. For more information and instructions on how to do so, please see the Student Preferred Name and Gender Policy at <http://policies.depaul.edu/policy/policy.aspx?pid=332>