

Course Information

Course Title: INST 327 (Section 0102)

Course: Fall 2018

Course Format: On-Campus

Professor: Dr. Timothy M. Richards

Contact Information: timothy@umd.edu

AMPs (Academic Peer Mentor): Ronit Gopalan (rgopalan@terpmail.umd.edu)
Kirena Manivannan (kmanivan@terpmail.umd.edu)

Class time and location: MWF 10-10:50AM ATL2428

Required Textbook(s)/Resources/Equipment:

- Murach's MySQL 2nd Ed (ISBN: 9781890774820)
- Laptop computer for in-class labs and exercises
- MySQL and MySQL Workbench (we will download and install in class)

Course Schedule and Documents: The course schedule, reading plan, assignment instructions and rubrics, research resources, and other helpful documents will be available in ELMS.

Office Hours: Both the professor and academic peer mentors will hold weekly office hours. These hours and any changes to these hours will be posted in ELMs. Dr. Richards office hours for the fall 2018 term are MW 9:00am-9:30am & Tu/Th 11:00am-12:00pm. Due to the large number of students who will visit my office hours, I require students to make an appointment at least 24 hours prior to the requested time you would like to meet. This is to ensure that students can obtain the help they need and that I am available when you arrive. AMP office hours and study sessions are implemented on a drop-in basis. Feel free to stop in for help at any one of the sessions posted in ELMs.

Course Description and Objectives

Catalog Description Pre-requisite:

INST126, or CMSC122, or CMSC106

Pre- or co- requisite: INST 201 - Introduction to Information Science, or INST 301.

This course is an introduction to databases, the relational model, entity-relationship diagrams, user-oriented database design and normalization, and Structured Query Language (SQL). Through labs, tests, and a project, students develop both theoretical and practical knowledge of relational database systems.

Extended Course Description:

A broad introduction to relational database systems, this course will provide students with a combination of conceptual understanding and technical practice. Students will learn about the relational model, which provides the logical framework for designing and querying relational databases. Students will also learn important technical and conceptual approaches to database

design, including user-oriented design, requirements analysis and specification, entity relationship modeling, and normalization. Students will put these fundamentals into action by learning and using the Structured Query Language (SQL) and a database management system (DBMS) to build, populate, and query a working database.

Student Learning Outcomes:

Upon successful completion of the course, students will be able to:

- Create user-oriented database queries using the Structured Query Language (SQL)
- Describe the relational model as a logical system for structuring data for retrieval;
- Translate user needs into functional database requirements by using entity-relationship models that conform to the relational model;
- Build a working relational database using a database management system (DBMS);
- Normalize and de-normalize a relational database to optimize performance;
- Identify security issues in databases and develop approaches to address them.

Course Activities:

- **Textbook Chapters / Lectures:** It is expected that you will read and study assigned textbook chapters prior to class time. Lectures will be interactive; please arrive in class on time and prepared to participate. You may have your laptops open during lecture but only for class activities such as note-taking, referencing an e-copy of the book, or running class exercises in MySQL Workbench.
- **Quizzes:** Online and in-class quizzes will test your comprehension of readings and lectures. They will cover the readings and/or the lectures. All quizzes, including the in-class ones will be administered on Canvas. In-class quizzes will require being physically in the classroom at the time of the quiz.
- **Lab Exercises:** There will be several in-class lab exercises. You will usually receive these practice problems before class and should preview them before class, but you must execute them in class with instructor or peer assistance as needed. You will submit your work via Canvas, and these will receive a pass/fail grade. Some lab exercises will be done as part of your work with your project team.
- **Homework Assignments:** There will be four assignments over the semester, each of which will include multiple questions. Most of the questions will be practical tasks, such as writing SQL queries, normalizing a table, or developing a stored program. The assignments are individual work. Although you may consult with your classmates, the peer mentors and the instructor to develop general approaches to solving questions, you must work individually while you build, type, test and debug your answers. Assignment questions will be available on Canvas. Completed assignments will be submitted via Canvas, as well. Timely submission of the completed assignments is essential. The due date of each assignment will be stated clearly in the assignment description. If an assignment due date is a religious holiday for you, please let the instructor know as soon as the assignment is announced, so an alternate due date can be set for you.

- **Team Project:** Students will work in 5-person teams to design and build a non-trivial relational database throughout the semester. Project-related work is central to this course, and 40% of graded work is based on the project. The project will involve identifying an end-user need for a relational database, reviewing and evaluating an existing, nonoptimal database aimed at addressing the identified need, determining the requirements for the database, developing a deadline-oriented plan for building the database, and designing the logical specifications, building and populating the database, and developing queries/views that will showcase the capabilities of the database for fulfilling the identified user needs. Students will be assigned to teams by the instructor. The teams will choose their topics from a list of possible project topics.
- **Mid-term Exam:** An in-class mid-term exam will be administered to test students' understanding of data modeling and relational database concepts, as well as their SQL query developing skills. The mid-term exam may include conceptual questions such as those that ask for definitions of and comparisons between data modeling and relational database concepts, as well as query challenges that test students' SQL skills. Some of the questions may be related to students' work on the team project.
- **Final Exam:** An in-class final exam will be administered to test students' understanding of data modeling and relational database concepts, as well as their SQL query developing skills. The final exam may include conceptual questions such as those that ask for definitions of and comparisons between data modeling and relational database concepts, as well as query challenges that test students' SQL skills. Some of the questions may be related to students' work on the team project.

Course Grades

Grading Your grade is determined by your performance on the assessment components in the course. All assessment scores will be posted on Canvas. If you would like to discuss your grade, or have questions about how something was scored, please schedule a time with the course professor. Grade disputes must be turned in within one week of receiving the graded work. They must be submitted as a written document in which you indicate the graded work, an explanation of what you believe was mis-graded, and an explanation for why you think it should be given a different score. For any re-grade request, the entire assignment will be regarded, and your score may go up or down.

Late work is not accepted in this course. To avoid unexpected complications, complete and submit your work well in advance of the due dates and times. Assignments submitted beyond the due date will not be accepted and you will receive a zero.

Scores on each component will be combined to produce a single overall score for each student as follows:

Component	Percentage
Quizzes	5%
Lab exercises	5%
Assignments	20%
Team Project	40%
• Project team plan	3%
• Project proposal	5%
• Proposal review	2%
• Progress report	5%
• Final database and report	20%
• Peer evaluation	5%
Mid-term Exam	15%
Final Exam	15%

Letter grades will be assigned using the following categories:

98-100	A+		87-89	B+		77-79	C+		67-69	D+	
93-97	A		83-86	B-		73-76	C		63-66	D-	
90-92	A-		80-82	B		70-72	C-		60-62	D-	
									0-59	F	

Course Expectations and Procedures

- Exam Policy:** Exams will be proctored by the professor. There is no provision for making up an exam unless it conflicts with a religious holiday or coincides with a medical emergency (see policy #3 below). Such requests will be granted at the sole discretion of the faculty member and in accordance with the policies of the iSchool and the University of Maryland.
- Late Work Policy:** No late work is accepted in this course. (A broken computer, power outage, lost internet connection, or corrupt file is not a recognized reason for a waiver of this policy.) All requests for extensions will receive the same polite and non-negotiable response – “no.” The only exception to this policy is documentable medical emergencies.
- Exceptions to Late Work Policy:** If a medical exception is to be granted to a student, the student must provide documentation (a doctor’s note or letter stating the duration the student is excused from employment and school). Prescriptions, receipts, and treatment instructions are not considered adequate documentation. Documentation must be submitted via email to the professor within 7 days of the event to be considered. Exceptions are not automatic and are at the sole discretion of the professor.
- Deliverable Format:** All work for this course should be submitted via the appropriate link in ELMS unless otherwise instructed in the assignment instructions. Work submitted via email (except by explicit instruction of the professor) will not be accepted. All deliverables (papers, discussion boards, projects, etc.) should adhere to APA guidelines.

Assignments should be typed and submitted in a Microsoft Word docx file format unless otherwise specified in the instructions. Work should be size 12 Times New Roman font with single spacing (no before or after spacing) and margins of 1” on all sides. Students who do not follow submission and format instructions may be subject to earning a grade of zero.

The syllabus and course policies are subject to change based on the needs of the class with advance written notice provided to students via ELMS.

Emailing the Professor

Email correspondence is the primary method of communication in this course. The professor will make every effort to respond to student email within 48 hours of receipt during weekdays. Emails that require further research or the response of another colleague or department may take longer. Emails received on weekends, holidays, or when the university is closed will receive a response on the next weekday that the university is open.

Email must be sent to the professor using your UMD student email. The professor is unable to respond to emails sent by students from their personal accounts – especially when corresponding regarding confidential, personally identifiable, or assessment data.

Professors receive many emails from students, colleagues, administrators, regional partner organizations, and research teams each day. To help me prioritize your emails and ensure a prompt reply, I use filters on my inbox. Please adhere to the following guidelines when sending me an email (neglecting these guidelines may prolong a response).

- Your subject line should include the course and section information and the topic of your email. Examples include:
 - INST 327; Response Requested: What is a ERD?
 - ISNT 346; Grade Fix Requested: My Quiz 1 grade is not correct
- Please proceed with an appropriate greeting:
 - Dear Dr. Richards
 - Dear Professor
- Use the body to state your question, provide information, or otherwise communicate your message to me.
- Provide all relevant data and be specific.
- Conclude with any requests you are making clearly delineated.
- Close with a proper signature line.
 - Sincerely, Your Truly, Best Regards (and your name)
- Please use correct spelling and grammar. Professional written communication is an important skill. Abbreviations and “text-like” conventions (emoji, shorthand) is not appropriate for this communication medium.
- Proof before you click send.

University policies regarding cheating, plagiarism, student code of conduct, student attendance, course accessibility, and other topics pertinent to student rights and success are located on the website for the office of undergraduate studies:

<http://www.ugst.umd.edu/courserelatedpolicies.html>

All students should review this site and familiarize themselves with these policies.

All instances of academic dishonesty will be forwarded to the appropriate university officials and will result in a minimum action by the professor and university of a grade of zero on the assignment/exam.