

IT2300 - Database Design and Management

Spring 2024

Syllabus

This course will instruct students in administration of database management systems, logical database design, implementation of database designs, and application development using a DBMS. Students will be required to design, manage and implement databases. Additionally, students will develop applications that use databases.

Prerequisites: CS1400 & IT1100

Course fee: \$20, used to assist in maintaining Computing infrastructure.

Sections: IT2300-01 MW 12:00pm-1:15pm Smith Computer Ctr 113 taught by Jay Sneddon

****Final exam Wednesday May 1st @ 11am in SCC 113****

IT2300-02 TR 1:30pm-2:45pm Smith Computer Ctr 113 taught by Carol Stander

****Final exam Tuesday April 30th @ 1pm in SCC 113****

Instructors:

Carol Stander

Office Location: 236 North Burns

Office Phone Number: 435-652-7886 (The best way to contact me is through email)

Office Hours (in-person & virtual) : Zoom Link:

Jay Sneddon

Office Location: 235 North Burns

Office Phone Number: 435-652-7887 (email preferred)

Office Hours (in-person & virtual) : MW 11:00am-11:50am, TR 10:30am-11:50am

Course learning outcomes

By the end of this course, you will be able to...	Achievement of this outcome is measured through...
1) Design an effective database system. PLO #1	Assignments, Quizzes, and Exams
2) Demonstrate the proper use of database normal forms. PLO #1 , PLO#2	Assignments, Quizzes, and Exams
3) Demonstrate the proper use of the SQL programming language. PLO #1 , PLO#2 , PLO #3	Assignments, Quizzes, and Exams

Tools

[Virtual Server Farm](#)

[MySQL Workbench](#)

[Data Grip](#)

[WinSCP](#)

Resources

Computer Resources

It is expected that you provide your own computer resource for this class. Windows or MacOS laptops are recommended. ChromeBooks are strongly discouraged. That said some computers are occasionally available for use in Smith 113 when there is not a class being held.

Course Website

This course is managed through Canvas. You are responsible for announcements, the schedule, and other resources posted there.

Artificial Intelligence (AI)

Examples of AI are chatGPT, bard, etc. The instructor recognizes that AI can answer many of the questions in this beginning course. However, the purpose of this course is for the student to learn how to work with databases - not if the AI can work with databases. AI's can write simple SQL code but they cannot write code for the complexity of a real-world environment. They are very helpful, but if a student becomes dependent on AI, they will not be able to meet the course learning objectives.

When to use AI:

Using AI as a coach can be helpful. You can put code in the AI and ask it what it is doing. You can ask the AI to give you questions similar to the ones in class to practice. You can ask it why your code is not working. You can ask for help with terminology, etc.

As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own work and is cheating.

Where not to use AI:

Exams & Quizzes: *Accessing an AI for any reason during an exam or quiz IS cheating.*

Topic Schedule (this is subject to change)

Week	Topic
1	Normalization
2	MySQL Installation
3	Basic SQL
4	SQL Functions
5	Grouping Data
6	Joins
7	Sub Selects
8	Sets
9	Inserts Updates Deletes
10	Creating and Altering Tables
11	Indexes
12	Views
13	Transactions
14	Security
15	Comprehensive Review
Apr 30, May 1	Finals 2300-01 - Wed May 1st @ 1pm, 2300-02 - Tues Apr 30th @ 1pm

Assignments

Assignments will be graded for accuracy of function and style of design. Programs that do not compile will receive no credit. It is important that you start early and get each of your assignments done before its due date. Many problems will take much longer to solve in a single sitting than in many shorter sessions. Give yourself time to think; sleep on difficult problems. Finish early so you can go back and refine your initial approach.

Assignments are due on the date listed in the schedule, and must be passed off to the instructor or a lab assistant for the course. This means that you must reserve time to pass it off at a suitable time before the end of the day it is due.

Quizzes

There will be at least 3 in-class quizzes.

Exams

This course has a comprehensive final exam. The exam will consist of questions similar to the quizzes.

Grading

Assignments and exams each contribute to your point total. The assignments count for 50% of your grade, the quizzes for 25%, and the final exam for the 25%.

Here is the grading scale:

>= 94 = A
>= 90 = A-
>= 87 = B+
>= 84 = B
>= 80 = B-
>= 77 = C+
>= 74 = C
>= 70 = C-
>= 67 = D+
>= 64 = D
< 64 = F

Course Policies

Absences

Students are responsible for material covered and announcements made in class. School-related absences may be made up only if prior arrangements are made. Exams and quizzes cannot be made up unless arrangements are made prior to the scheduled time.

Time

Courses should require about 2 hours of outside work per lecture hour of class. This class will require about 6 hours of work per week on the part of the student to achieve a passing or higher grade. Be sure to evaluate your schedule before committing to this course.

Late work

Assignments are due on the date specified in the schedule. Late assignments and make up quizzes will be accepted but penalized 10% per day for five days after the due date, with the maximum penalty being 50% for late work. No work will be accepted after the last day of class.

Excused absences are happily worked with. Conversely, arranging unexcused make up quizzes and exams is despised by the instructors. It makes us extremely grumpy and moody. The student groveling gets old, and we have heard nearly all of the excuses. That said, clever students come up with new whoppers that get added to an already lengthy list. We are much happier when that cleverness is channeled into coursework learning.

- We reserve the option to reject any late work regardless of the submission date.

Quizzes can only be made up if arrangements are made in advance.

Disruptive Behavior

The classroom needs an atmosphere of learning and sharing. Class members need to feel safe and able to concentrate. Disruptive behavior that seriously detracts from this environment or inhibits the instructor's ability to conduct proper instruction will not be allowed. Disruptive behavior includes:

Physical violence, verbal abuse, or harassment Intoxication or illegal drug use Use of profanity Failing to respect others when expressing their own viewpoints Talking while the instructor or another student is talking Constant questions or interruptions that interfere with classroom presentation

Disruptive class members will be warned. Continued misbehavior may lead to dismissal from class or the course. If necessary, Campus Police may be called.

Cheating and Collaboration

Limited collaboration with other students in the course is permitted. Students may seek help learning concepts and developing programming skills from whatever sources they have available, and are encouraged to do so. Collaboration on assignments, however, must be confined to course instructors, lab assistants, and other students in the course. Students are free to discuss strategies for solving programming assignments with each other, but this must not extend to the level of programming code. Each student must code his/her own solution to each assignment. See the section on cheating.

Cheating will not be tolerated, and will result in a failing grade for the students involved as well as possible disciplinary action from the college. Cheating includes, but is not limited to, turning in homework assignments that are not the student's own work. It is okay to seek help from others and from reference materials, but only if you learn the material. As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own work.

You are encouraged to work in groups while studying for tests, discussing class lectures, discussing algorithms for homework solutions, and helping each other identify errors in your homework solutions. If you are unsure if collaboration is appropriate, contact the instructor. Also, note exactly what you did. If your actions are determined to be inappropriate, the response will be much more favorable if you are honest and complete in your disclosure.

Where collaboration is permitted, each student must still create and type in his/her own solution. Any kind of copying and pasting is not okay. If you need help understanding concepts, get it from the instructor or fellow classmates, but never copy another's code or written work, either electronically or visually. The line between collaborating and cheating is generally one of language: talking about solutions in English or other natural languages is usually okay, while discussions that take place in programming languages are usually not okay. It is a good idea to wait at least 30 minutes after any discussion to start your independent write-up. This will help you commit what you have learned to long-term memory as well as help to avoid crossing the line to cheating.

University Policies

OTHER UNIVERSITY SUPPORT SERVICES

NAME	SERVICE
Utah Tech Resources Overview	Visit this site to see many student resources in one place.
Academic Advisement	Helps students make decisions about their courses and degree path.
Academic Performance and Tutoring Center	Offers one-on-one tutoring, study hall, and online tutoring to help students in many subjects ranging from Math to Foreign Language.
Booth Wellness Center	Provides acute health care, referral services, health education, and brief mental health services.
Campus Life	The Utah Tech University Student Association offers a variety of ways to get involved socially at the university.
Career Services	Assists students with career exploration, choosing a major, writing a resume, and getting a job.
Center for Inclusion & Belonging	Increases diversity through scholarship opportunities, community outreach, academic advisement, and diversity club participation.
Dean of Students Office	Serves as a primary advocate and support network for students. Assists students who are facing personal challenges, including financial, food, and housing concerns.
Disability Resource Center	Serves students with disabilities by providing equal access to academic programs, non-academic activities, and campus facilities
DRC Accessibility	A list of DRC services including exam accommodations, ASL interpreting, materials in alternative format, and more.
Help Desk	Provides assistance for Canvas, Student Email, Student Services, Trailblazers wireless configuration, laptop assistance, and any other technical troubleshooting you may need help with.
Library	Provides the resources necessary to facilitate research and enhance university curriculum and programs.
Math Tutoring Center	Students can drop in to work on homework, take tests, and receive individualized or group tutoring. Online tutoring is also available.
Student Support	Provides a variety of free services to help first-generation, low-income, or students with

Services	disabilities to complete an associate degree and move on to a bachelor degree.
Testing Center	Provides all proctored exams on campus and can make accommodations for remotely proctored exams.
Utah Health Scholars	Provides tutors for upper-division, health-related courses. Students must register into the UHP program to qualify for this free tutoring.
Veterans Services	Offers tutoring for some classes and arranges tutoring in other centers for other classes. Must have VA benefits to qualify.
Writing Center	Offers students personalized attention from tutors for writing.

UTAH TECH POLICIES & STATEMENTS

PRIVACY

It is your responsibility to protect your data and privacy online. Be careful and use discretion when using any of the course technologies to complete required learning activities. If you are unsure about how to protect your data and privacy online, please use the resources provided to understand your responsibility.

[101 Data Protection Tips: How To Keep Your Passwords, Financial, and Personal Information Safe](#)

Harper, E. (2018). [9 Simple Ways To Protect Your Privacy](#)

[Canvas Privacy Policy](#)

[Google Privacy Policy](#)

[YouTube Policies](#)

[Vimeo Privacy Policy](#)

Utah Tech Policy Links

[Code of Student Rights and Responsibilities \(Academic dishonesty / academic integrity policy, student academic conduct policy\)](#)

[Financial Aid](#)

[Registration](#)

[Student Association](#)

[Student absence related to college function](#)

[Sexual Harassment](#)

DISABILITY/ACCESSIBILITY RESOURCES

UT welcomes all students and strives to make the learning experience accessible. If you are a student with a medical, psychological, or learning disability that may require accommodations for this course, you are encouraged to contact the Disability Resource Center (DRC) as soon as possible. You may request reasonable accommodations at any time during the semester; however, they are not retroactive. The DRC is located next door to the Testing Center in the North Plaza Building (435-652-7516, drc@utahtech.edu).

TITLE IX STATEMENT

Utah Tech University affirms its commitment to the promotion of fairness and equity in all aspects of the educational institution. Harassment and discrimination—including sex/gender discrimination, gender identity, gender expression, sexual harassment, sexual misconduct, gender-based violence, dating violence, domestic violence, stalking, pregnancy or parental, family or marital status and or retaliation—not only disrupts our commitment to maintaining an environment in which every member of the University community is treated with respect and dignity, but may also violate University policy and federal, state, and/or local law.

Should you or someone you know experience behavior that is coercive, discriminatory, harassing, and or sexually violent in nature, or if you or someone you know has questions about their rights and options regarding such behavior, you are encouraged to contact:

[Hazel Sainsbury Dir. Of Equity Compliance, Title IX Coordinator](#) 435.652.7747 (ext. 7747)

Incidents may also be reported directly to law enforcement, either separately or in conjunction with any report made to the University's Title IX Coordinator, and the University will aid in making contact if requested.

Utah Tech University Police 435.275.4300 or by calling 9-1-1

Maintaining a safe and inclusive University community is a shared responsibility. For more information on how Title IX protections can benefit you and help us keep a productive campus environment, visit titleix.utahtech.edu to learn more.

STUDENT EMAIL

You are required to frequently check your university email account. Important class and university information will be sent to your university account, including Utah Tech bills, financial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at Utah Tech and in your courses. To access your university-sponsored account, visit helpdesk.utahtech.edu/about-dmail. Your username is your digital ID (e.g. D00111111).

NON-STUDENT

Non-student in the classroom and other designated study areas: It is expected that only bona fide students as defined and classified by the Utah Tech University catalog, will attend classes, unless specific prior permission for guests has been obtained from the instructor.

ACADEMIC GUIDELINES REGARDING COVID-19

For Utah Tech's [up-to-date COVID-19 Emergency Response Plan](#), please visit the university website.