MIS7373
Business Applications of Database
Management Systems
C.T. Bauer College of Business
University of Houston

"Data are becoming the new raw material of business." – The Economist

Instructor: Nina Huang, PhD
Office Hours: By appointment
Discord: TBD
Email: nihuang@uh.edu

Teaching Assistant: TBD
Office Hours: TBD
Discord: TBD
Email: TBD

Please add [course number] to the subject line when emailing about the course. Please give TA and I 24 hours to respond. We will only respond to emails from 9am-5pm from Mon to Fri. So, please plan ahead when you want to email us. Don't wait until the last minute to work on homework, projects and exams.

About grading, please email our TA directly. If there is still grade disagreement after discussion with our TA, Viet will cc my email. I will take over. Thank you for cooperation and enjoy the class. Please note, our TA cannot answer questions via email or Discord during his office hours, as s/he needs to concentrate on answering students' questions.

Course Delivery Formats

This course is taught Asynchronously, which means there is no designated day or time assigned to the course (although optional synchronous sessions are possible, such as virtual office hours or discussion groups). Asynchronous instruction generally involves accessing content, such as recorded video lectures, readings, discussion prompts, assignments, and assessments during a flexible time frame, with due dates as specified.

The core lecture material is provided in asynchronous online videos (YouTube) that you should watch before TA's normally scheduled office hours. The link for each module will be provided on blackboard before each class. During our synchronous office hours, if you still have

questions about the lecture material or about this course, you can come to TA's office hours and discuss during office hours via zoom. A link will be provided later in the semester.

Course Description

Data is one of the most important assets modern businesses have. Consider Google, Uber, Facebook, AirBnB, eBay, and Alibaba - these companies do not provide value by the physical products they provide, but rather by managing and presenting data in such a way as to provide value to users. As a future IS professional, learning to manage data is critical to your success.

In this course, we will learn about the fundamentals of data modeling, database design, and structured query language (SQL). By the end of the class you should have a solid understanding of how and why businesses use databases, and the tools necessary to start designing, developing, and using databases yourself.

The topics covered in this class are divided into four parts:
1. Conceptual data modeling using entity relationship (ER) diagrams.
2. Creating relational data models based on conceptual ER models.
3. Normalizing data to improve the accuracy, speed, efficiency, and robustness of a database.
4. Implementation of the relational data model using SQL to define and create a database, implement various relational algebra operations, and query multiple tables.

Course Materials:

Required: *Data Modeling and Database Design, 2nd Edition.*
ISBN-10: 1285085256
Additional materials will be made available via Blackboard.

Participation in Discord (invitation link: TBD) are strongly encouraged! Discord is the hotspot for course discussions!

Learning Objectives:

Each module will have specific learning objectives to help you gauge your understanding of the material (and ensure you are prepared for the exams!). In general, by the end of this class you should be able to:
- Describe the differences between data, information, and metadata
- Create a data dictionary, entity relationship diagrams, relational data models
- Infer and describe the types of data and data structures a system is using
- Understand the normalization process, describe the normal forms and transform data between first, second, and third normal forms
- Compose SQL code to create, read, update, and delete data and data structures

Grading:

Your course grade will be based on your participation, homework, performance in exams, and two comprehensive database projects. Extra credit opportunities are also provided.

Element	Total Points	Percentage
Exams: 2 * 250 points	500	50%
Assignments: 8* 35 points	280	28%
Database Experience Projects: 2 * 110 points	220	22%
Total	1000	100%

- **Exams (*25% × 2 = 50% of grade*):** Two exams, each worth 25% of your grade, will be given during the semester. Final exam is not accumulative so it will only test the contents after midterm exam. Two exams will be online exam. Once they're made accessible online, you will have 12 hours to log in the exams. Once you choose to start the exam, you must finish the exam within the time limit using UH's blackboard lockdown browser with camera on. UH has a technology called Respondus lockdown bowser which locks down the computer to make testing more secure. Please click on the link and read its information https://uh.edu/fdis/technology/respondus-lockdown/lockdown-tutorial-student/ More details will be provided when it is close to the exam dates.

  Rescheduling exams will only be allowed in exceptional circumstances - please let me know as far in advance as possible if you have a conflict. If you miss an exam without prior approval, no makeup opportunities will be available. Any exam missed with a valid excused absence or doctor's note can be made up, but must be made up within 2 days of the exam date (not including weekends). Please see the valid excuses section at the end of the syllabus for details. Exams may consist of multiple choice, short answer, essay and diagramming questions.

- **Assignments (*4% × 8 = 32% of grades*):** Eight assignments, each worth 4% of your grade, will be collected during the semester. Some assignments will require you to think critically about the material and apply the concepts to a real-world scenario, while others will be used to reinforce technical or conceptual items from the textbook and presentations. The assignments will help develop skills that will be useful in completing the SQL project and exams, while also enhancing your marketable skills.

- **Database Experience Projects (*11% × 2 = 22% of grade*):** The first project will involve database modeling with ERD and schema. The second project will practice SQL (Structured Query Language), which is a language used by people and applications to create, query and update relational databases. We will work with MySQL Workbench. The purpose of the Database Experience Projects is to practice database design and how SQL can be used to create the structure of a database, populate a database, and retrieve information from a database.

- *Extra Credit Opportunities:*
  + 0.5 point for signing up and participating discussion in Discord (each student receives 0.5-point max for this extra credit opportunity)
  – TBD: possible opportunities for completing surveys or online experiments for business research.

Grade Scale:
Grades will be strictly assigned conforming to the UH grade scale.

>= 90.00	A
80.00 – 89.99	B
70.00 – 79.99	C
60.00 – 69.99	D
<= 59.99	E

Notes: A grade of incomplete may be awarded only in the event that a documented emergency or illness prevents a student who is doing acceptable work from completing a small percentage of the course requirements. The guidelines in the current general UH catalog regarding a grade of incomplete will be strictly followed. A grade of incomplete will NOT be awarded unless there is documented evidence of extreme personal or immediate family hardship. Changes in work hours, or other similar personal problems will not be approved as reasons for awarding incompletes. The chair of the Department holds the authority to approve any incomplete grade requests.

Course Policies:
- **Discord/Email/Online Communication**
  All communication should be professional in form, content, and tone. That means that the message should have a subject indicating it is for MIS3376 and begin with a salutation and the body should explain the purpose of the message in clear English and give a complete description of the problem or situation you are writing about. Please do not write to ask for information that is contained in the course syllabus and schedule (e.g. grading policies, dates for final exams, etc.).
- **Appeals of Grading**
  If you wish to appeal grading for any portion of the course, this should be done by writing a brief email message or letter that explains your concerns. The purpose of a written appeal is to allow the instructor to find the student's grade (from among those of numerous current students) and to then consider the appeal on its merits without distraction. Student grade appeals will be reviewed quickly and fairly.
  – Appeals concerning validity of exam/homework questions or posted answers must be made within 48 hours of exam/homework administration.

– Other types of grade appeals must be made within one week of the time your grade is posted. It is your responsibility to verify grades on Blackboard and signal discrepancies to your instructor at your earliest possible opportunity.

- **Late Assignment Policy**
Assignments will be submitted electronically at the time specified by Blackboard. No late assignments will be accepted after the cutoff time in Blackboard.

- **Backing Up Your Work**
You are responsible for maintaining backups of all your assignments as you work through them. I highly suggest the use of a One Drive, Google Drive, or Dropbox so that you have copies of your work. If you choose not to take preventative disaster recovery measures, you remain responsible for on-time submission of your assignments.

- **Excused Absence Policy**
Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston [Undergraduate Excused Absence Policy] and [Graduate Excused Absence Policy] for only the following reasons: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition.
  a. Medical
      i. Injury or illness of a student that is too severe or contagious to attend class or participate in course requirements. Students should not come to class or participate in campus activities if they are sick and may be contagious and should contact the [Student Health Center] or their health care provider as necessary.
      ii. Illness of a dependent family member.
      iii. Serious illness of a close family member (parents, siblings, grandparents, spouse, cohabitating partner, child, cohabitating partner/spouse's child, cohabitating partner/spouse's parents, cohabitating partner/spouse's grandparents, step-parents, step-siblings, step-grandparents, grandchild, step-grandchild, legal guardian, and others as approved by course instructor, college dean, or dean's designee).
  b. Death in Family - Death of a close family member (parents, siblings, grandparents, spouse, cohabitating partner, child, cohabitating partner/spouse's child, cohabitating partner/spouse's parents, cohabitating partner/spouse's grandparents, step-parents, step-siblings, step-grandparents, grandchild, step-grandchild, legal guardian, and others as approved by course instructor, college dean, or dean's designee).
  c. Legal or Government Proceeding - Participation in legal or government proceeding that cannot be rescheduled.
  d. Professional and Educational Activities
      i. Mandatory interviews for graduate or professional school that cannot be rescheduled.
      ii. Mandatory interviews for full-time employment or internships that are related to the student's academic program and cannot be rescheduled.

iii.   Presentation of research or scholarship at a professional conference that is related to the student's academic program.

e. <u>University Sponsored Activity</u> - As indicated in the [Class Attendance](#) policy, absences caused by participation in a campus-sponsored activity are considered official if the sponsor of the activity has received approval from the appropriate university administrator.

f. <u>Athletic Competition</u> - Mandatory participation as a student athlete in NCAA-sanctioned competition.

g. <u>Weather Related Events</u> - Dangerous weather conditions in which driving or other means of travel is considered by local authorities to be unsafe.

Additional policies address excused absences for reasons that are not covered in this policy including the following:

a. Military Service: [Excused Absence for Military Service Policy](#).
b. Religious Holy Days: [Religious Holy Days Policy](#).
c. Pregnancy and Related Conditions: [University of Houston System Anti-Discrimination Policy](#).
d. Disability: [University of Houston System Student Academic Adjustments/Auxiliary Aids Policy](#).

- **Interim Undergraduate Grading Policy**
  Due to the unique and unprecedented challenges associated with the COVID-19 pandemic, the University of Houston has implemented an [Interim Undergraduate Grade Policy](#) for undergraduate grades which applies to all undergraduate students in courses offered in all sessions during fall 2020. Under this policy, students have the option of converting final assigned letter grades to S (Satisfactory, applicable to any letter grade from A to D-) or NCR (No Credit Reported COVID-19, applicable to grades of F) on their transcripts. Please visit [FAQs](#) for additional information.

- **Recording of Class**
  Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the [Center for Students with Disabilities](#). If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with *anyone* without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

- **Syllabus Changes**
  Due to the changing nature of the COVID-19 pandemic, please note that the instructor may need to make modifications to the course syllabus and may do so at any time. Notice

of such changes will be announced as quickly as possible through (*specify how students will be notified of changes*).

- **Resources for Online Learning**
  The University of Houston is committed to student success, and provides information to optimize the online learning experience through our [Power-On](#) website. Please visit this website for a comprehensive set of resources, tools, and tips including: obtaining access to the internet, AccessUH, and Blackboard; requesting a laptop through the Laptop Loaner Program; using your smartphone as a webcam; and downloading Microsoft Office 365 at no cost. For questions or assistance contact UHOnline@uh.edu.

- **UH Email**
  Email communications related to this course will be sent to your [Exchange email account](#) which each University of Houston student receives. The Exchange mail server can be accessed via Outlook, which provides a single location for organizing and managing day-to-day information, from email and calendars to contacts and task lists. Exchange email accounts can be accessed by logging into Office 365 with your Cougarnet credentials or through Acccess UH. They can also be configured on [IOS](#) and [Android](#) mobile devices. Additional assistance can be found at the [Get Help](#) page.

- **Webcams**
  Access to a webcam is required for students participating remotely in this course. Webcams must be turned on (*state when webcams are required to be on and the academic basis for requiring them to be on*). (*Example: Webcams must be turned on during exams to ensure the academic integrity of exam administration.*)

- **Honor Code Statement**
  Students may be asked to sign an honor code statement as part of their submission of any graded work including but not limited to projects, quizzes, and exams: "*I understand and agree to abide by the provisions in the (select: [University of Houston Undergraduate Academic Honesty Policy](#), [University of Houston Graduate Academic Honesty Policy](#)). I understand that academic honesty is taken very seriously and, in the cases of violations, penalties may include suspension or expulsion from the University of Houston.*"

- **Academic Honesty**
  It is expected that students will neither participate in nor condone activities such as cheating or plagiarism. You are expected to do your own work on all individual assignments, quizzes, and exams. Students are encouraged to speak to other students about the issues, but do not share answers on individual assignments. Failure to follow this policy may result in zero points for both the receiver and provider (if involved). By placing names on assignments, students are affirming that the contents are their original work. Consulting work done by students in this course in other platforms or in previous years is a violation of academic honesty (https://uh.edu/provost/policies-resources/honesty/). This policy will be vigorously enforced.

- **Additional Ethics Policy**
  By law and regulation, this class will be conducted within the ethical standards of the university at large, which promote tolerance and preclude such activities as plagiarism, cheating, unfair grading, and various forms of harassment. Be aware that organizations and businesses, when practiced effectively, have ethics that go beyond university standards.

These are ethics that are aimed at creating collegiality. The goal is to make customers, employees, managers, vendors, contractors, etc., feel happy and satisfied and not just "tolerated!" This class therefore will follow similar business ethics as well as university regulations.

Cheating includes any action where you take credit for work on any assignment or exam that you did not do yourself. Likewise, if you allow another student to copy your work, you are complicit in cheating and equally guilty. It is your responsibility to ensure your work does not fall into the wrong hands (i.e. do not "forget" to delete your assignment from a shared computer). Plagiarism is also cheating! If you include any material obtained elsewhere in your assignment, you must reference the original work. Plagiarism is not just when you "copy and paste" but is also when you take ideas from another place without referencing the original source. If in doubt, cite your source.

- **UH and Bauer Policies on Academic Dishonesty and Misconduct**
  High ethical standards are critical to the integrity of any institution and bear directly on the ultimate value of conferred degrees in the business community. All UH students are expected to contribute to an atmosphere of the highest possible ethical standards. Maintaining such an atmosphere requires that all academic dishonesty be recognized and addressed.
  http://www.uh.edu/provost/academic-affairs/policy-guidelines/honesty-policy/
  The Bauer Code of Ethics and Professional Conduct (Bauer Code) is designed to reflect the values held by the C. T. Bauer College of Business faculty and students. Just as professionals in medicine, law, and accounting operate within ethical principles designed to maintain a high standard of behavior within each profession, business professionals also should be guided by a set of principles specific to the business community consisting of managers, executives, and business employees. Therefore, the Bauer Code reflects principles we believe should govern a student's behavior while a Bauer College major. Ultimately, Bauer's reputation depends on the actions of its students and graduates. It is our hope that each Bauer College graduate applies these principles within his or her professional and personal lives both during and after college.
  http://www.bauer.uh.edu/business-ethics/bauer-code-of-ethics.php

- **Hardware / Software**
  Assignments will be completed digitally and submitted via Blackboard. In order to complete some of the assignments and SQL project, you will need access to a computer running a modern version of Windows or MacOS.

- **Requests for Accommodation**
  If you anticipate issues related to the format or requirements of this course, please contact me to discuss ways to ensure your full participation in the course. The C. T. Bauer College of Business would like to help students who have disabilities achieve their highest potential. To this end, in order to receive academic accommodations, students must register with the Center for Students with Disabilities (CSD) (telephone 713-743-5400), and present approved accommodation documentation to their instructors in a timely manner.

- **Expected Behavior**
  Students are expected to learn the course material per the posted schedule and actively participate in class discussion in Discord. The students are encouraged to attend the regular

office hours held by the TA. When having questions, the students are expected to reach out to the TA or the instructor in Discord. If needed, the students can also email the TA to make an appointment for Zoom sessions.

A Word of Advice:

Your professor's professional goal is for students to learn and succeed in this course! Accordingly, I will do whatever I can to be available to answer questions, to explain concepts in alternative ways, and to revisit prior material. I will also endeavor to make this class interesting and useful for you! The following advice might help you succeed in the course:

- **Stay connected with the class on Discord:** Staying connected with the class and ask questions whenever you have questions about the course on Discord. Unless you are already proficient in all the topics covered in this class, your chance of success will drop dramatically if you are disconnected with the class. Probability of success will drop in all cases if you miss one or more assignment.
- **Complete your assignments on time:** Go through all materials, slides and videos, posted on Blackboard. Assignments and exams will focus on many aspects of the assigned readings and videos. You will be questioned on all materials in the exams. You should complete learning the relevant course materials before attempting the assignments. It is your responsibility to budget your time, from learning the course materials to completing the corresponding assignments.

Helpful Information

COVID-19 Updates: https://uh.edu/covid-19/
Coogs Care: https://www.uh.edu/dsaes/coogscare/
Laptop Checkout Requests: https://www.uh.edu/infotech/about/planning/off-campus/index.php#do-you-need-a-laptop
Health FAQs: https://uh.edu/covid-19/faq/health-wellness-prevention-faqs/
Student Health Center: https://uh.edu/class/english/lcc/current-students/student-health-center/index.php