

Syllabus

INLS 523, Database Systems I, Stephanie W. Haas

Instructor

Stephanie W. Haas
shaas at email dot unc dot edu

Acknowledgements

The design, materials, and implementation of this online version of INLS 523 is the product of a collaborative effort of SILS database instructors: Joan Boone, Rob Capra, Arcot Rajasekar, and myself. Special thanks to Reema Bhattacharya for the Sakai design and technical assistance, and Brian Sturm for coaching and filming the Unit Introductions.

Consult the Schedule Overview and Assignment Overview for additional information. Please note that dates and assignments may change, if circumstances require.

Syllabus Contents

Course Description
Course Outline
Learning Objectives
Policy Statements
Grading Policies
Grade Components
Course Communications
Sakai

Course Description

INLS 523: Database Systems I: Introduction to Databases (3 credits)

Design and implementation of database systems. Semantic modeling, relational database theory, including normalization, query construction, and SQL.

This course will introduce the basic concepts and applications of relational database management systems, including semantic modeling and relational database theory. Topics include: user requirements and specifications, semantic data modeling, the relational model, SQL, normalization and data quality, and emerging technologies.

Course Outline

Introduction and Database Concepts
Entity-Relationship Models
Relational Theory and Concepts
SQL
Good Design
Functional Dependencies and Normalization
Data Quality

Learning Objectives

- Understand the basic concepts of databases, with emphasis on the relational model
- Gain experience with both the theoretical and practical aspects of database design and implementation.
- Develop proficiency with entity-relationship modeling.

- Be able to weigh, discuss, and justify database design decisions.
- Learn how to use SQL to create, manipulate and query databases
- Apply practical techniques for improving database design quality
- Gain an understanding of important ideas for databases in the future

Textbook

There is no required textbook for this course. Readings or links to readings will be included in the Sakai modules. The Tools and Resources document gives information about tools and resources you need for this course. I have suggested chapters from one textbook for those who would like to see additional examples or explanations of concepts and processes: Elmasri, R. & Navathe, S. (2011). *Fundamentals of Database Systems, Sixth Edition*, Addison-Wesley. (See the list of Official Course Documents in Unit 1.) We will use some examples from this textbook in the course.

Policies

Academic Integrity

Chapel Hill has had a student-administered honor system and judicial system for over 100 years. Because academic honesty and the development and nurturing of trust and trustworthiness are important to all of us as individuals, and are encouraged and promoted by the honor system, this is a most significant University tradition. More information is available at <http://studentconduct.unc.edu/honor-system>

The UNC Honor Code is in effect for all work in this course. Section II. B. of the “Instrument of Student Judicial Governance” gives examples of actions that constitute academic dishonesty: <https://studentconduct.unc.edu/sites/studentconduct.unc.edu/files/documents/Instrument.pdf>

Students often ask what is okay to talk about with other students and what is not. There are some specific guidelines for this course.

- I do encourage you to help each other learn the course material – your fellow students can often be a great resource for learning. For example, you could watch one of the videos together, and discuss the material it presents. However, you should not discuss the details of a solution to an ongoing assignment with other students, and should never copy or share answers for an assignment with other students. It is okay to talk about course material with other students, but you should not discuss solutions to pending assignments.
- All work you submit should be your own.
- You may give and receive assistance regarding the use of hardware and software. For example, you may ask or answer a question such as "how do I [fill in the blank] in SQLite?". A question such as "Should I have a separate table to represent cats and their information?" should be addressed to me.
- Individual homework assignments are to be done **individually**. You may consult the course materials, your notes, and even other print or web sources. (Keep in mind, however, that what you find in other sources may not be consistent with what I want you to do.) You may not consult your classmates or other people; all questions should be addressed to me.
- You must sign (check) the honor statement when you submit each assignment. This confirms that you and the work conforms to the Honor Code.

Diversity

In support of the University's diversity goals and the mission of the School of Information and Library Science, SILS embraces diversity as an ethical and societal value. We broadly define diversity to include race, gender, national origin, ethnicity, religion, social class, age, sexual orientation and physical and learning ability.

As an academic community committed to preparing our graduates to be leaders in an increasingly multicultural and global society we strive to:

- Ensure inclusive leadership, policies, and practices;
- Integrate diversity into the curriculum and research;
- Foster a mutually respectful intellectual environment in which diverse opinions are valued;
- Recruit traditionally underrepresented groups of students, faculty and staff; and
- Participate in outreach to underserved groups in the State.

The statement represents a commitment of resources to the development and maintenance of an academic environment that is open, representative, reflective and committed to the concepts of equity and fairness.

Accessibility Resources and Service (ARS)

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: <https://ars.unc.edu> or email ars@unc.edu.

Counseling and Psychological Services (CAPS)

CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more. (*source: Student Safety and Wellness Proposal for EPC, Sep 2018*)

Title IX Resources

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Please contact the Director of Title IX Compliance (Adrienne Allison – Adrienne.allison@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu.

Grading Policies

The following grade scale will be used AS A GUIDELINE (subject to any curve) for undergraduate students:

Grade Range	Definition*
A 90-100%	Mastery of course content at the <u>highest level of attainment</u> that can reasonably be expected of students at a given stage of development. The A grade states clearly that the students have shown such <u>outstanding promise</u> in the aspect of the discipline under study that he/she may be strongly encouraged to continue.
B 80-89.9%	<u>Strong performance</u> demonstrating a high level of attainment for a student at a given stage of development. The B grade states that the student has shown solid promise in the aspect of the discipline under study.
C 70-79.9%	A <u>totally acceptable</u> performance demonstrating an adequate level of attainment for a student at a given stage of development. The C grade states that, while not yet showing unusual promise, the student may continue to study in the discipline with reasonable hope of intellectual development.
D 60-69.9%	A <u>marginal performance</u> in the required exercises demonstrating a minimal passing level of attainment. A student has given no evidence of prospective growth in the discipline; an accumulation of D grades should be taken to mean that the student would be well advised not to continue in the academic field.
F 0-59.9%	For whatever reason, an <u>unacceptable performance</u> . The F grade indicates that the student's performance in the required exercises has revealed almost no understanding of the course content. A grade of F should warrant an advisor's questioning whether the student may suitably register for further study in the discipline before remedial work is undertaken.

*Definitions are from: <http://registrar.unc.edu/academic-services/grades/explanation-of-grading-system/> (underlining is my emphasis)

Plus and minus scores, when given, use the following range:

A	93 and higher
A-	90-92
B+	88-89
B	83-87
B-	80-82
C+	78-79
C	73-77
C-	70-72
D+	68-69
D	63-67
D-	60-62
F	59 and below

The following grade scale will be used AS A GUIDELINE (subject to any curve) for **graduate** students:

Grade Range	Definition
P 80-100%	Pass
F 0-79.9%	Fail

Due Dates

Each assignment has a due date/time, and includes instructions for submission.

Assignments open at the beginning of the Unit. You can start working on an assignment as soon as you have worked through the Unit materials, and you can submit the assignment when you have completed it – you don't have to wait for the due date.

The three Project assignments open at the beginning of the semester, so you can see what the deliverables will be. However, you should learn the material associated with each assignment before starting on them. Recommended start dates are included in the schedule.

You can submit late assignments up to 4 days after the due date, through the Sakai assignment. I will not take off points for a late assignment. After that time, you can submit an assignment as an attachment in an email to me, or by putting it in your Sakai Dropbox. If you must submit your assignment late, please send me an email by the original due date to let me know. Note, however, that if you do submit an assignment after the due date, I may not be able to give you timely feedback on your work. That could delay your work on subsequent assignments.

Pay attention to the due dates! It is your responsibility to plan your time so you can complete each deliverable (tests, assignments, projects) on time. Planning is especially important for the three project deliverables. You have several weeks for each one, but you will also be working on the Unit assignments and preparing for the Unit tests. Don't wait until the last minute to work on the project!

The Sakai Schedule includes activities and dates for each Unit; I will also give you a spreadsheet of assignments and dates for each Unit, for those of you who like spreadsheets!

Requests for Extensions

Life is full of unexpected events – some good, some not so good. If you have a real problem submitting a deliverable on time, please contact me – we can work out a plan. (Just getting a late start on an assignment does not count as a real problem.) If possible, your request for an extension should be made, preferably by email, at least 24 hours prior to the due date. If an emergency arises that prevents you from contacting me in advance, you should do so as soon as possible.

Grade Components

- Discussion contributions, 10% of final grade
- Tests, 30% of final grade
- Assignments, 30% of final grade
- Project, 30% of final grade

The Assignment Overview provides additional information about the work for this course.

Course Communications

Course announcements

Announcements will be posted on Sakai. Announcements may include information about the week's work, or other timely information.

Messages

I may use the message tool to send individual messages to you; I may also copy the message to your email address. You can also use the tool to send a message to me.

Email

Email is the best way to contact me.

Note that while I try to reply to student emails within 48 hours, there are times that it may take me 2-3 days to reply. If you haven't received a response after a few days, you can send a reminder of your email, in case your message got buried. It is important that you get started on assignments early, so there is time for me to respond to any questions you may have. I cannot guarantee that I will be able to answer last-minute questions (e.g., within 2 days of the assignment due date).

Office Hours

As this is an online course, with the potential for students to be anywhere in the world, and/or juggling commitments, I don't have a set time for office hours. If you have a question about the material or an assignment, or want to discuss something with me, I am happy to:

- Respond to an email containing your question. If it would be helpful for me to see your work, you can attach it to your email, or you can put it in your Sakai Dropbox, and let me know it's there.
- Schedule a Zoom meeting or phone call with you. Just send me an email, and we'll make an appointment.
- If you are on campus, schedule a meeting in my office. Again, just send me an email, and we'll make an appointment.

Please don't hesitate to ask for a meeting – I enjoy talking with students, and I want you to succeed in this course!

Sakai

All enrolled students should have access to the UNC Sakai site for this course:

<http://sakai.unc.edu/>

We will use Sakai for almost all course activities.

Course Materials

All materials can be found in Sakai. The course syllabus, schedule, and information about tools and other resources will be there at the beginning of the semester.

Materials for each Unit are located in the **Lesson** for that unit on the Sakai site. You should work through each unit's materials in the order they are listed. Unit materials, including videos and slides, exercises, and discussion topics will be published Tuesday at 8:30 a.m. Once published, they will be available for you to study through the end of the semester.

Discussion Forum

We will use the Sakai discussion forum for discussions about a variety of database-related topics. The Discussion Overview provides additional information about the discussions for this course.

Assignments

All Assignments and Project Deliverables must be submitted using the Sakai Assignments tool. In my experience, Sakai is a reliable method for submitting assignments. It is the responsibility of each student to make sure they have access to Sakai and can submit assignments when they are due.

If for some reason you are unable to submit an assignment to Sakai, as a last resort you may either upload it to your Drop Box (see below) and send me an email to tell me it's there, or you may send it to me as an email attachment.

Drop Box

You each have a Drop Box in Sakai that is accessible only to you and me. You may store work in progress here. If you have a question about an assignment, and it would be helpful for me to see your work, you may store the draft in your drop box, and refer to it in your emailed question. You may also use it to submit late assignments. Remember to let me know if there is something I should look at in your Dropbox!

Tests

Tests will be administered using the Sakai Tests & Quizzes Tool. Each of the tests covers material from 1 major topic area:

- Database Concepts
- Entity-Relationship Models
- Relational Concepts and Mapping
- SQL

Tests will be published Saturday at 8:00 a.m. and must be completed by Tuesday 11:55 p.m. You may take the test at any time during that period, but once you have started, you must complete it in one sitting.

- Tests *generally* take between 20-40 minutes to complete, but of course, the time varies for each person.
- If you know in advance that you have a conflict with the entire test period, please let me know in advance, and we can schedule another time for you.
- If something unexpected prevents you from completing the test once you have started it (e.g., a tech failure), you should get in touch with me as soon as you can, so we can reschedule it.
- It is your responsibility to remember to take the test!

Tests may include questions that Sakai cannot automatically grade (e.g., short answer or essay questions). I will review the tests before releasing test grades and comments, so you will not see your final grade for a test as soon as you submit it.