



## Course Syllabus for CS 325 Database Design Fall 2016

### Basic Course Information:

<b><i>Instructor:</i></b>	Sharon Tuttle	
<b><i>Lecture times and location:</i></b>	Tuesday, Thursday	11:00 am - 12:20 pm FH 125
<b><i>Lab times and locations:</i></b>	Section 11: Wednesday	11:00 am - 12:50 pm BSS 313
	Section 12: Wednesday	3:00 pm - 4:50 pm BSS 313
<b><i>Instructor's office:</i></b>	BSS 322	
<b><i>Instructor's e-mail:</i></b>	st10@humboldt.edu or sharon.tuttle@humboldt.edu or smtuttle@humboldt.edu	
<b><i>Instructor's office phone:</i></b>	(707) 826-3381	
<b><i>Instructor's office hours:</i></b>	Tuesday, Thursday	3:30 pm - 5:00 pm
	Wednesday	5:00 pm - 6:00 pm
	Friday	4:00 pm - 5:00 pm
	or by appointment	
<b><i>Course public web page:</i></b>	follow link from: <a href="http://users.humboldt.edu/smtuttle/">http://users.humboldt.edu/smtuttle/</a>	
	or follow link from course Moodle site	

### Course Description:

From the HSU catalog: Introduction to database design and implementation. Relational model, entity-relationship model and diagrams, converting a model to a schema, elementary Structured Query Language (SQL), normalization.

This course is an introduction to relational database implementation and design; it will enable you to realize the potential of available powerful database management systems (DBMS) software by teaching you how to model and design a database that will serve as a firm foundation for database applications. You will also learn and extensively practice using the fourth-generation language Structured Query Language (SQL), used as a data definition language to create and destroy database tables, as a data manipulation language to maintain and query the data within

database tables, and as a data control language to protect and enhance the integrity of the data within database tables. You will learn the fundamentals of the relational model, entity-relationship modeling, converting an entity-relationship model into a database schema/design, normalization, implementation of a database schema/design, and some fundamentals of transactions and concurrency management.

### **Course Prerequisites:**

[(CS 111 or CS 232 or GSP 318) AND (CS 112 or GSP 270)]

OR

[instructor's consent]

### **Course Objectives:**

After successfully completing this course, students should be able to: \*

- Understand the basic components of a database management system (DBMS), and of a database design/schema.
- Understand a database model, create a database model for at least a simple scenario, and convert a database model into a corresponding database design/schema.
- Understand the concept of normalization, and normalize a given set of relations and functional dependencies to at least Third Normal Form (3NF).
- Use basic SQL fluently for defining, manipulating, and querying database tables, and be able to create, execute, and debug SQL scripts run within an enterprise-level multi-user DBMS.
- Understand the concept of a constraint on a database to increase data integrity; be familiar with entity integrity constraints (implemented using primary keys) and referential integrity constraints (implemented using foreign keys).
- Produce an implemented database project whose final report includes a description of the database' scenario, a database model, a corresponding database design/schema, and technical prose describing how this database prototype can now be used within this scenario.

### **CS Program Learning Outcomes that this course addresses:**

This course addresses departmental learning outcomes of:

- Computational Thinking
- Technical Writing
- Communicating and Collaborating

This course addresses computational thinking using a different paradigm than previous courses (using a fourth-generation language, SQL). It addresses technical writing and communicating at a moderate level via the products of the course project.

### **HSU Learning Outcomes that this course addresses:**

This course explicitly contributes to students' acquisition of skills and knowledge relevant to HSU Learning Outcomes:

HSU graduates will have demonstrated:

- Effective communication through written and oral modes.
- Critical and creative thinking skills in acquiring a broad base of knowledge and applying it to complex issues.

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\* Some of these are adapted from the ACM Computer Science Curriculum 2001, available from link at: <http://www.acm.org/education/curricula-recommendations>

- Competence in a major area of study.

HSU graduates will be prepared to:

- Succeed in their chosen careers.

## Required Course Materials:

- Turning Account License used with TurningPoint RF Response Clicker or ResponseWare
- Links to on-line required readings will be provided.
- Any additional required readings will be made available either on-line, or via resources available through the HSU Library such as the ACM Digital Library and Safari TechBooks Online.

## Course Software:

We primarily will be using an **Oracle implementation of SQL** for this course. Unless noted otherwise, you are expected to use the on-campus `student` Oracle database for course assignments, and exam questions involving SQL will be assumed to use Oracle SQL as well. The software you use for any additional practice is, of course, up to you.

Note that you can access the HSU Oracle `student` database from on- or off-campus using `nrs-projects.humboldt.edu`.

Throughout the semester, you will be making some use of the UNIX operating system. Note that you may access `nrs-projects.humboldt.edu` by using the programs `ssh` (secure shell) and `sftp` (secure ftp); we will walk through how this can be done during an early class lab session. `ssh` and `sftp` are already available in on-campus labs, and you should be able to download one of several versions for free for your outside-lab use.

Campus labs have PuTTY installed to provide a GUI implementation of `ssh` and WinSCP installed to provide a GUI implementation of `sftp`. Also, command-line versions of `ssh` and `sftp` (usable from the Mac OS X Terminal command-line) are installed already as part of Mac OS X.

There is also software from Oracle, **SQL Developer**, which has versions for Windows, Mac OS X, and Linux, and can be downloaded for free from:

<http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html>

You will be expected to be able to develop and run SQL scripts using just `ssh` and `sftp` (that is, independently from SQL Developer), but this software does provide interesting capabilities you might be interested in exploring.

## Clickers:

We will be using Turning Technologies student response clickers or ResponseWare in class. There is significant literature indicating that using clickers may increase student engagement and success in learning.

Students purchase this clicker and a license, or they use this license with the ResponseWare application on a mobile device. You then bring your clicker or mobile device to every class meeting (lectures and labs).

This class will be using Moodle this semester; I will be letting you know how to register so that your clicker answers receive credit.

These clickers will be used for in-class questions, which will be interspersed within class meetings. These will usually be given in a **think-pair-share** fashion, in which you answer a question first individually, and then discuss your answer with another student, discussing why you think your answer is correct; if they gave a different answer, you try to persuade them that yours is the correct answer, and then either of you can change your answer if you wish. The response system will record the overall class response percentages as well as keep track of individual answers.

Typically, you will receive:

- **1.5 points** for a correct answer,
- **0.75 points** for an incorrect answer, and
- **0 points** for no answer,
- but with a **maximum-possible** semester clicker-questions grade of **120**.
- (There may be some no-point questions from time-to-time as well -- such questions will be noted if/when they come up.)

Thus you will be rewarded for regular attendance and participation. If you miss a class session, you miss that day's clicker questions and cannot make them up (except for extraordinary circumstances). However, there will be a sufficient number of questions asked to allow for the possibility of extra credit (up to a **maximum-possible** clicker grade of **120**) or to make up for a day that you are out due to illness (although note that you are still responsible for finding out what you missed on such days).

If you forget your clicker or mobile device for a class meeting, then **up to 5 times** you may still receive some clicker credit, **usually minus a 1.5-point penalty**, by e-mailing me your clicker answers for that day, **by 11:59 pm on that day**, using a Subject: line of: Subject: CS 325 Clicker Answers for <date>. Later e-mails, or e-mails without the proper Subject: line, might not be accepted for credit.

The idea is that the clicker questions will help you to see if you are starting to understand concepts being discussed; sometimes they will also provide review of concepts discussed previously. Clicker questions are typically quite different from exam questions (since clicker questions are typically multiple-choice questions, while exam questions will rarely be multiple-choice). They still enable you to get some immediate feedback regarding whether you are grasping course concepts, whether you need to pay more attention to course discussions and/or readings, etc. They may even help me to know what concepts might need more explanation in-class.

I hope to run tests of the system during the first week's class meetings, and hope to begin asking questions that "count" during the second week's class meetings. Therefore, you must register and purchase your clicker and/or license as soon as possible. If there is an issue with this, contact me immediately.

Finally, please note that use of another CS 325 student's clicker, or having someone else use your clicker in a CS 325 class session, or otherwise having anyone but yourself answering a clicker question on your behalf -- that is, pretending that someone is in class who actually is not -- is considered to be **cheating**, with the same policies applying as would be the case if you turned in someone else's work as your own or permitted someone else to copy your work. Please **ASK ME** if you are not sure what I mean by this.

## Grading Breakdown:

If you are a Computer Science (CS) major, note that you must earn at least a **C-** in CS 325 for this course to count towards your major.

Your semester grade will be determined by the percentage of points that you earn, **subject to some minimum requirements**. Here are the grade percentages, followed by those minimum requirements:

<b>Homework assignments:</b>	20.0%	
<b>Lab exercises:</b>	10.0%	
<b>Clicker questions:</b>	10.0%	
<b>Exams:</b>	<b>Exam 1:</b>	12.5%
	<b>Exam 2:</b>	12.5%
	<b>Final Exam:</b>	15.0%
<b>Project:</b>	20.0%	Tuesday, December 13, <b>10:20</b> am-12:10 pm, FH 125

## Grade Requirements:

- To earn a grade of **C- or better** in this course, the following four requirements must **all** be met:
  1. your overall semester average must **equal or exceed 70%** - this is to show a reasonable level of overall

mastery of the course material.

2. the **average** of your Exam 1, Exam 2, and Final Exam grades must **equal or exceed 60%** - this is to show that you understand at least a minimal reasonable level of the most important course concepts.
  3. the **average** of your Homework assignments must **equal or exceed 60%** - because SQL literacy is an important component of this course, but SQL acumen is not tested as effectively on exams, this is to show at least a minimal level of SQL competence and experience in addition to course concept mastery. Also, past experience has shown that students who do not put a solid effort into the course homework assignments do not do well on the course exams.
  4. your Project grade must **equal or exceed 60%** - because, in a lot of ways, the project is tying together many of the most important aspects of this course, including some that cannot be tested as effectively on exams. If you have not met this requirement, you have not truly shown minimal competence in this course's material.
- If **all four** requirements above are **not** met, then your semester grade will be **either D+ or the letter grade computed according to the mapping given below, whichever is lower.**
    - (That is, if a student had an overall semester average of 74% but a Homeworks average of 55%, that student would receive a **D+** for their semester grade; if a student had a Homeworks average of 61% and an Exams average of 71%, but an overall semester average of 65%. then that student would receive a **D** for their semester grade. You are expected to ASK ME if this aspect of the grading policy is not clear to you.)
  - Including the four requirements noted above, your semester grade will be computed according to the mapping given below:

Overall Percentage (based on Exams the given weights)	Average	Homework Average	Project Grade	Letter Grade
>= 93	>= 60	>= 60	>= 60	A
>= 90 and < 93	>= 60	>= 60	>= 60	A-
>= 87 and < 90	>= 60	>= 60	>= 60	B+
>= 83 and < 87	>= 60	>= 60	>= 60	B
>= 80 and < 83	>= 60	>= 60	>= 60	B-
>= 77 and < 80	>= 60	>= 60	>= 60	C+
>= 73 and < 77	>= 60	>= 60	>= 60	C
>= 70 and < 73	>= 60	>= 60	>= 60	C-
>= 70	< 60	any	any	D+
>= 70	any	< 60	any	D+
>= 70	any	any	< 60	D+
>= 67 and < 70	any	any	any	D+
>= 60 and < 67	any	any	any	D
< 60	any	any	any	F

### **Final Exam:**

Again, the Final Exam for this course is scheduled for **Tuesday, December 13, 10:20 am - 12:10 pm**, in **FH 125** (unless I announce otherwise). Note this time and date **BEFORE** making your end-of-semester travel plans.

**Additional Grading-Related Policies:**

- Clicker questions will be given during most lectures and labs; graded lab exercises will be given during most lab sessions.
  - The **two lowest lab exercise grades** will be dropped from your grade.
  - Between the ample quantity of clicker questions and the dropped lab exercise grades, then, you can be absent several times from non-exam lecture or lab sessions without direct penalty, for whatever reason (although you are, of course, still responsible for the material covered on those days, and it is **your responsibility** to determine what that material is).
- Note: **NO** homework grades are dropped; **ALL** homework grades count toward your homework average. Every homework includes important practice of course fundamentals.

**Course Expectations:**

First: remember the general rule of thumb for college-level courses:

*To be successful in a course, you should plan to spend at least 3 hours outside of class for each 1 hour of college course credit. That implies an estimate of **at least 12 hours a week spent outside of class for this 4-credit course.***

However, you should be aware that:

- This is a junior-level CS major course; it has an accordingly-rigorous workload.
- You can only learn SQL (and database modeling, and database design, etc.) by practicing them. Practicing as much as possible helps!
  - This can include playing around with in-class examples, experimenting to see if something you are curious about really works like you think, doing further research on topics of interest, and so on.
- As you likely know by this point, programming courses can be notorious time eaters. Occasionally, a problem with a SQL script will take large amounts of time to locate and fix (especially if you don't ask for help!).
  - Starting **early** enough so that you have time to ask me questions when you run into problems can help with this!
  - Why spend 4 hours struggling with a frustrating roadblock the night before the assignment is due, when you can spend 10 minutes composing an e-mail early in the week, work on other problems while waiting for the answer, and then get a reply that makes everything clearer as soon as you read it?
- I cannot emphasize this enough: you need to start project parts early, to start homework assignments as soon as they are made available, to submit homework parts throughout the week, and to ask questions as you have them!
  - This is not a course that you can work on just one day a week, nor is it a course that you can take a week off from and expect to do well.
- The course will intensify as the semester progresses -- as you are able to do more, you will be expected to do more. Also, later concepts are built upon earlier concepts. If you ask me as soon as you realize that some concept is not clear to you, that can help keep you from falling behind.
- Homework and project deadlines will **not** be extended because you waited too late to start or because you did not allocate enough time before the deadline to work on them; likewise, they will typically **not** be extended because of hardware or network failure. (Admittedly, campus failures might affect deadlines. But don't assume so until you have heard from me definitively.) You need to keep backups of your files at all times, and need to plan your schedule to be able to work on on-campus computers as necessary.
- If you have not completed an assignment by the deadline, **your best choice is to submit whatever you have managed to do by then**, as partial credit is your friend, (if that assignment is a homework:) to carefully study the posted example solution as soon as it is available, to ask me about anything there that is still unclear, and to get a good **early** start on the next assignment.

**A successful student in this class will:**

- Attend every lecture and lab, clicker at the ready.
- Participate in class (discussing clicker answers with other students, asking questions, paying attention, taking notes, being an attentive partner when pair-programming in lab).
- Complete reading assignments in a timely fashion.
- Practice and "play around" with posted examples.
- Ask specific questions -- in class, in lab, in office-hours, and in e-mail.
- Read through each homework assignment as soon as it is posted.
- Start working on each homework early in the week, and on each project milestone early in its stage.
- E-mail the instructor with specific homework-related questions starting early in the week both to clarify what a question is asking for and when hitting roadblocks (being sure to include **BOTH** the code involved **AND** any error messages or descriptions of bizarre behavior).
  - (likewise for project milestones, although earlier milestones will involve concepts rather than code)
- Always submit SOMETHING for an assignment, even if it is not complete.
  - (I believe in partial credit on homeworks, believing that if you have at least started working on a problem, the posted example solution will be more helpful/understandable than if you have not.)
  - (With regard to project milestones, I believe in partial credit because of the importance of getting **started** on pieces of long-term projects!)
- Compare their homework solutions to posted example solutions when they become available.
- Study with others for exams, and practice explaining concepts to one another.
- Attempt every exam problem, and carefully study over exams when they are returned.
- Practice SQL, database modeling, database design, etc. as much as possible.

**Academic Honesty:**

Students are responsible for knowing policy regarding academic honesty. For more information, visit:

<http://www2.humboldt.edu/studentrights/academic-honesty>

Observe that among the actions that are unacceptable are submitting another's program, code, or file as your own and failing to quote material (that includes algorithms, project, code, and comments, too!) taken from another person's work. (Note that copying another student's comments is also unacceptable.)

All course work is to be the work of each student, **individually**, **unless** it is **explicitly** stated otherwise at the beginning of that course work's description. Except for explicit exceptions, this is **not** a group or team programming course. When group work is explicitly permitted, the names of all students involved must be included on the work submitted. (For example, when you use **pair programming** in lab, the lab exercise will specify that, and then each pair-programmed file turned in will include both of the names of the students who worked on it as a pair.)

(**Important aside:** pair programming specifically means that two people sit at one computer, with one typing while the other says what to type. Both people are actively involved in the programming process. Pair-programming is **not** two people working at two computers, each doing different parts of the work individually. Pair-programming is also not one person doing all the work while the other does nothing or does something else. If pair-programming is ever explicitly permitted, then you are expected to actually pair-program any files you do not complete on your own.)

(If an assignment does explicitly specify that it is acceptable to pair program or work in groups, make sure that you don't get into the situation where you are merely watching someone else learn.)

For homework assignments (that are not explicitly specified as permitting pair-programming), students may discuss

general approaches **as long as no one involved in the discussion is writing anything down or typing anything during such discussions**. Students may also help one another in determining causes of program bugs, or in determining the meaning of compiler error messages. However, in general, students may not work together to complete homework assignments, one student should not instruct another in how to write the code for a homework assignment, and **any type of copying or modifying of another person's computer files, OR of providing computer files to another, related to homework assignments is definitely over the line, and never justified**. This applies to copying of documentation and comments as well as to copying of program code.

Note that it is **your** responsibility to ensure that course assignment files are read-protected. If you are careless about this, and someone else copies your work, you will share the penalty. (In particular, be very careful about leaving work on shared network drives in campus labs, or in UNIX/Linux directories that are not read-protected.)

Learning takes hard work; when students turn in others' work as their own, it is a slap in the face to those seriously interested in learning. Not turning in an assignment results in no credit for that assignment, of course, but that is an honest grade. Work that violates the course honesty policy deserves a lower grade than that, and therefore the course policy is that work violating this policy will receive **negative** credit. A person providing a file for copying receives the same **negative** credit as the copier. Repeat offenses will be handled according to University policies.

### ***Asking Questions/Getting Help:***

- Sending questions by e-mail can be a very effective way to ask for help.
  - Include CS 325 along with the subject of your e-mail in the `Subject:` line of any class-related e-mail that you send me. This will help your e-mail be more recognizable as a class-related message, and will make it less likely that I will accidentally overlook it.
  - ALSO include a descriptive subject along with the CS 325 in that `Subject:` line -- this also increases the chances that I will notice and reply to your question more promptly. (In particular, do not just reply to a class e-mail message I have sent previously, and do not simply leave the `Subject:` line blank!)
  - That said, if I have not replied to your e-mail within 24 hours, please re-send it, just in case I did overlook it somehow.
  - You are expected to sign each e-mail you send me with your name -- sometimes the sender's identity is not obvious from one's e-mail address, especially for an off-campus e-mail address.
  - Also, DON'T INCLUDE the word "password" in your e-mails to me -- `pwd` is a handy abbreviation to use instead -- because, due to phishing scams, HSU's spam filtering does not seem to like e-mails with that word in it! (Odd, but this was definitely the case in Spring 2010...)
- I try to check my e-mail (`st10@humboldt.edu` or `sharon.tuttle@humboldt.edu` or `smtuttle@humboldt.edu`) about once a day on weekdays, and about once over each weekend. This is another reason to start assignments early, so that you have time to receive a reply to any questions that might arise.
- You are encouraged to ask me questions in class, in office hours, and by e-mail. The most successful students are those who are not afraid to ask questions early and often (I will gently let you know if you are overdoing it), who do the assigned reading, who attend lecture and lab regularly, who start homeworks and project milestones promptly after they are made available from the course web page, and who practice course concepts as much as possible.
  - It is better to ask a question sooner than later -- for example, it is better to send an e-mail with a specific question as soon as you think of it than it is to wait a day or two until the next class meeting or office hour. If you wait to ask such questions, you may not have time to complete the assignment.
  - It is perfectly reasonable if you send me a question and then end up finding out the answer yourself before you receive my answer; likewise, it is not a problem if you end up sending me several questions in separate e-mails (as you work on different parts of a homework while awaiting earlier answers).



- That said, I am expecting that you will ask **specific** questions – overly vague or broad questions are problematic.
  - (For example, an example of a specific question is, "When I try to run the query: (paste in the query), I receive the following error message: (paste in the error message) Can you point me in the right direction about what is wrong?" An example of an overly vague or broad question is: "Here's my SQL script. Is it right?")

### **Additional Coursework-Related Policies:**

- You should not expect to be able to finish course assignments during the lab sessions -- although you may *occasionally* get some lab time to work on course assignments, typical lab sessions will include a lab exercise that is to be completed in lab. Even when you finish the lab exercise early, it will still be the case that, like any college-level course, you should expect to put in a significant amount of time outside of scheduled class meetings (lectures and labs) doing the assigned reading, working on course assignments, and practicing concepts discussed.
- Each assignment must be submitted as is specified on its handout to be accepted for credit. This may vary for different assignments. Often, parts of assignments will be submitted using a special tool on nrs-projects.
  - That said, if for some reason you cannot properly submit some parts of an assignment as specified by the deadline, e-mail those parts **before** the deadline and **then** submit them properly as soon as you are able. (The e-mailed parts will show that you completed those parts by the deadline even though they were officially submitted later.)
  - Scripts that do not run using the HSU Oracle `student` database will not receive credit; remember that it is your responsibility to verify that your scripts run on the HSU Oracle `student` database before submitting them, regardless of where you developed them.
- Each assignment will be clearly marked with one or more due dates (a single assignment could have multiple parts with multiple due dates).
  - **In general, no assignments will be accepted late. If you wish to receive any credit for an assignment, then you must turn in whatever you have done, even if it is incomplete, by the deadline. Partial credit is usually preferable to no credit.** Note that "the computer/network/etc. going down" is no excuse --- if you leave an assignment for the last minute and there are technical problems, you still must turn in whatever you have by the deadline. As with any work done on computer, make frequent back-ups of your files!  
(If there are unusual/extenuating circumstances such that you think there should be an exception to the above for you for a particular assignment piece, you must e-mail or see me as soon as possible explaining why. Note that you help your case if you can show that you have been working on the assignment throughout the week -- and not just at the last minute -- by having submitted parts of that assignment **throughout** the week.)
  - You may submit **multiple versions** of assignment files before the deadline; I will grade the latest pre-deadline submission unless you inform me otherwise. This is to encourage you to turn assignment parts in early (since you will know that you can always turn in an improved version if further inspiration strikes). You also don't have to worry about forgetting to submit something that has already been submitted!
  - If for any reason you cannot submit course work using the submission tool on nrs-projects (or as specified by the assignment), e-mail me your work files as attachments **before** the deadline, and **then** submit the files using the submission tool (or other specified means) as soon as you are able.  
(The e-mailed files will establish that this work was done by the deadline even though they were officially submitted later.)
- The nrs-projects tool that you will be using to submit some assignments results in a file that serves as your "receipt" for having submitted items. You are expected to retain these "receipt" files at least until a grade has been posted to the course Moodle site for that assignment. If there is a system glitch or other hardware/software/network problem, you may be asked to make me a copy of one or more receipt files; if you do

not have them, then you will not receive credit for the files involved. These receipt files are for your protection!

- It is nearly impossible to write unambiguous specifications. If you have questions about "what she means", get them resolved very early in the development cycle by **asking**.
- There is more to SQL scripts than simply whether they run or not...
  - Part of your grade will be determined by how well your work meets the written requirements. Work that you turn in is expected to meet handout specifications precisely; when one eventually works within a team on large projects, following the specifications precisely is vital, and can mean the difference between a working product and one that just sits there.
  - Note that work may be graded on **style** as well as on whether it runs properly and whether it precisely meets the homework specifications and requirements. Discussions on style will be ongoing throughout the semester.
- Some course work may be graded simply based on whether it has been attempted (the instructor's decision is final as to whether this is the case) -- other course work may be graded for correctness, style, and whether it meets specifications. You will not know in advance which will be the case.

### ***Incompletes:***

Incompletes are rarely given and only in the case of a true emergency. They certainly are not appropriate for students who find they have fallen behind on assignments, missed a test, or taken on too much academic, work, or family responsibilities. For these situations, dropping the course would be appropriate ( **if** that is still possible according to the University policies for dropping courses).

### ***Additional Course Policies:***

- You are expected to read this syllabus and be prepared to verify in a required Moodle activity that you have received it, have read it, and understand its contents.
- Exam dates are given in the course schedule below. Make-up exams are only possible by special prior arrangement or because of a valid medical excuse.
- You should monitor your e-mail for course-related messages. The University provides a means for you to specify your preferred e-mail address, so if you wish to receive e-mail into an account other than the one HSU provides, change your preferred e-mail address in both HSU's Account Settings and Moodle accordingly. Course-related messages from me will include CS 325 in the Subject: line.
- You are expected to check the public course web page and the course Moodle site regularly -- course handouts, homework assignments, examples from lectures and labs, and possibly more will be posted to the public course web page, and grades will be posted to the course Moodle site. You are expected to monitor your posted grades and let me know about any discrepancies.
- When reading assignments are given, you are expected to prepare (read and study) assigned readings before class and to participate in class discussions. Projected examples will be utilized frequently during discussion. You should understand that there may be material in the reading that will not be discussed in lecture/lab, and material in the lectures/labs that may not be found in the reading. You are responsible for both.
- Regular attendance at lecture and lab sessions is expected. If you should happen to miss a lecture or a lab, then you are responsible for finding out what you missed. "I wasn't there that time" is never an acceptable excuse. Lecture and lab notes are not posted, although many of the projected examples will be made available on the public course web site. Clicker questions and graded lab exercises missed **cannot** be made up later (except for extraordinary circumstances).
- As previously mentioned, during lab sessions, there may be lab exercises due during that lab session. Once a lab's lab exercise is complete, the remaining lab time should be used to continue work on the current course homework or project milestone, to practice course concepts, and/or to ask questions about course-related topics.

**Campus policies:**

The following URL leads to useful links regarding HSU policies, procedures, and resources:

<http://www2.humboldt.edu/academicprograms/syllabus-addendum-campus-resources-policies>

The following are just a few of the links available from this site.

***Students with Disabilities:***

Persons who wish to request disability-related accommodations should contact the **Student Disability Resource Center** in the Learning Commons, Lower Library, **826-4678 (voice)** or **826-5392 (TDD)**. You can reach the Student Disability Resource Center's web site at:

<http://www2.humboldt.edu/disability/welcome>

Please note that some accommodations may take up to several weeks to arrange. If you are eligible for such accommodations, please contact me as soon as possible to discuss them.

***Add/Drop Policy:***

Students are responsible for knowing the University policy, procedures, and schedule for dropping or adding classes. You can find these on the web at:

<http://pine.humboldt.edu/registrar/students/regulations/schedadjust.html>

You can find the University policies for repeating classes at:

<http://pine.humboldt.edu/registrar/students/regulations/repeat.html>

**NOTE THAT THE ADD/DROP DEADLINE IS:**

**\*\*\*\*\* SEPTEMBER 5, 2016 \*\*\*\*\***

**...WHICH IS THE DEADLINE TO ADD OR DROP CLASSES WITHOUT A SERIOUS AND COMPELLING REASON. And, please note:** it is the **Registrar's Office** that determines what constitutes a "serious and compelling reason".

If you do drop the course, note that it is **your responsibility** to complete and submit the appropriate forms.

***Attendance and disruptive behavior:***

Students are responsible for knowing policy regarding attendance and disruptive behavior:

<https://www2.humboldt.edu/studentrights/attendance-behavior>

- **Late arrival to class:** Please attempt to come to class on time, with your headphones/earbuds/etc. put away and your cell phones/tablets/pads/gadgets/etc. turned off. If you must arrive late or leave early, please do so with the least possible distraction to other students. If your late/early habits become disruptive, you may be asked to leave the class permanently.
- **Class disruption:** University policy requires that instructors eliminate disruptions to the educational process. Distractions such as excess talking, ringing cell phones, working on assignments for other classes, inappropriate or distracting laptop/tablet/smartphone/gadget use, demonstrations of affection, packing of books early, loud music leaking from headphones, chronic late arrivals or early departures, excessive comings and goings or other behaviors that disrupt the class are not acceptable. Students indulging in such behaviors will first be warned before being required to leave the class permanently.

***Emergency Evacuation***

Please review the evacuation plan for the classroom (posted on the orange signs), and review the campus Emergency Preparedness web site at:

[http://www2.humboldt.edu/businessservices/sites/default/files/images/Emergency-Procedures\\_1.pdf](http://www2.humboldt.edu/businessservices/sites/default/files/images/Emergency-Procedures_1.pdf)

...for information on campus Emergency Procedures. During an emergency, information regarding campus conditions can be found at **826-INFO** or:

<http://www.humboldt.edu/emergency>

## **Tentative Course Schedule: (subject to change!)**

### ***Week 1: August 23, 24, 25***

- Reading: course syllabus
- Topics: Intro to course; brainstorming course project scenarios; clicker tests; whirlwind tour of the UNIX needed for this course; how to access the HSU Oracle `student` database; intro to SQL\*Plus and SQL; running SQL scripts and saving script output
- **Homework 1 out**

### ***Week 2: August 30, 31, September 1***

- Reading: posted reading packet: "Database processing and development"
- Topics: Intro to database processing and development; intro to SQL\*Plus and SQL, continued
- **Homework 1 due, Homework 2 out**

### ***Week 3: September 6, 7, 8***

- (Monday, September 5 - Labor Day Holiday) - does not affect CS 325 this semester
- **FYI: NOTE: Last day to drop a course without a W, without a serious and compelling reason, and without it counting toward your 18 semester-units drop limit is Monday, September 5.**
- Reading: posted reading packet: "More database fundamentals"
- Topics: Intro to database processing and development, continued; more database fundamentals; the role of SQL: DML, DDL, and DCL; database security part 1: SQL `grant` command
- **Homework 2 due, Homework 3 out**

### ***Week 4: September 13, 14, 15***

- Reading: posted reading packets: "The relation model and relational operations" and "Writing relational operations in SQL"
- Topics: Intro to the relational model and relational operations; writing relational operations using SQL
- **Homework 3 due, Homework 4 out**

### ***Week 5: September 20, 21, 22***

- Reading: posted reading packets: "Entity-relationship modeling, part 1" and "More where clause options and aggregate functions"
- Topics: Intro to Entity-Relationship modeling; more options for the SQL `select` statement where clause; introduction to SQL aggregate functions
- **Homework 4 due, Homework 5 out**

### ***Week 6: September 27, 28, 29***

- Reading: posted reading packets: "Entity-relationship modeling, part 2" and "Sub-selects, concatenating columns, and projecting literals"

- Topics: Intro to Entity-Relationship modeling, continued; SQL `select` statement sub-selects and correlated queries; concatenating columns, projecting literals
- **Project Model sub-milestone 1 due by beginning of lab on Wednesday, September 28**
- **Homework 5 due, Homework 6 out**

***Week 7: October 4, 5***

- Tuesday, October 4 - Review for Exam 1
- **Project Model sub-milestone 2 due by beginning of class on Wednesday, October 5**
- Wednesday, October 5 - in-lab model draft reviews
- Thursday, October 6 - NO CLASS - instructor out-of-town
- **Homework 6 due**

***Week 8: October 11, 12, 13***

- **Tuesday, October 11: Exam 1**
- Topics (after Exam 1): SQL `select` statement sub-selects and correlated queries, concatenating columns, and projecting literals, continued; database security part 2: using `&` for "interactive" queries and the definition of SQL injection

***Week 9: October 18, 19, 20***

- **FYI: NOTE: Last day to change a registered class' grade option to CREDIT/NO CREDIT is Monday, October 17.**
  - (that said, also note that courses applying to your CS degree requirements must NOT be taken as credit/no credit -- they **must** be graded with a letter grade)
- Reading: posted reading packet: "Normalization" and "Order by, group by, and having"
- Topics: Intro to normalization; more SQL `select` clauses: `order by`, `group by`, and `having`
- **Project Model final milestone due by 11:59 pm on Friday, October 21**
- **Homework 7 out**

***Week 10: October 25, 26, 27***

- Reading: posted reading packets: "Database design, part 1" and "Set-theoretic operations, more on modifying data, intro to sequences"
- Topics: Intro to the basics of database design; SQL `union`, `intersect`, and `minus`; the "full" SQL `select` statement; more on SQL `update` and `delete`; introduction to sequences
- **Homework 7 due, Homework 8 out**

***Week 11: November 1, 2, 3***

- **FYI: NOTE: Last day to drop a course with a W, with an approved serious and compelling reason, and subject to your 18 semester-units drop limit is Monday, October 31.**
- Reading: posted reading packet: "Database design, part 2"
- Topics: intro to the basics of database design, continued; SQL `union`, `intersect`, and `minus`; the "full" SQL `select` statement; more on SQL `update` and `delete`; introduction to SQL\*Loader; introduction to sequences, continued;

- Thursday, November 3: Review for Exam 2
- **Homework 8 due**

**Week 12: November 8, 9, 10**

- (Friday, November 11 - Veterans Day Holiday) - does not affect CS 325 this semester
- **Tuesday, November 8: Exam 2**
- Reading: posted reading packets: "Transaction management, part 1"
- Topics (after Exam 2): continue with SQL `union`, `intersect`, and `minus`; the "full" SQL `select` statement; more on SQL `update` and `delete`; introduction to sequences; intro to transaction management (transactions and concurrency)
- **Project Design milestone due by 11:59 pm on Sunday, November 13**
- **Homework 9 out**

**Week 13: November 15, 16, 17**

- Reading: posted reading packets: "Transaction management, part 2" and "Views; & simple reports, part 1"
- Topics: Intro to transaction management (transactions and concurrency), continued; intro to SQL views; database security part 3: how views and the `grant` command can improve security; creating simple ASCII reports, part 1
- **Homework 9 due; Homework 10 out**

**Fall Break - November 21 - 25****Week 14: November 29, 30, December 1**

- **Project Population milestone due by 11:59 pm on Tuesday, November 29**
- Reading: posted reading packet: "Simple reports, part 2"
- Topics: SQL\*Plus commands for creating simple ASCII reports, part 2; some handy SQL string-, date-, and time-related functions for prettier reports; intro to outer-joins; intro to PL/SQL triggers
- **Homework 10 due; Homework 11 out**

**Week 15: December 6, 7, 8**

- Reading: posted reading packet: "A few words on databases and ethics"
- Topics: Discussion of databases and ethics; review for Final Exam
- **Homework 11 due**
- **Project presentations** to be given during **Lab** on **Wednesday, December 7**
- **Project Final milestone due by 11:59 pm on Friday, December 9**

**Final Exam:**

**TUESDAY, December 13, 10:20 am - 12:10 pm**, in FH 125 (unless I announce otherwise)