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202109-91086 CS148A QR: Database Design for Web

Syllabus

# **Syllabus**



### CS 148 - Database design for the web

# CS 148 - Introduction to Web Design, 3 credits

Fall 2021 (8/30 to 12/10) - University of Vermont

A - MWF 2:20pm-3:10pm in VOTEY BLDG 209

### **Our Community**

Instructor: Robert (Bob) Erickson

Senior Lecturer Computer Science Department

Office Hours are listed in the course Blackboard space under

Office hours.

Teaching Assistants are avaiable for Friday lab sessions during class time

periods

Technical support: You should contact the Helpline (802-656-2604) for support with technical issues.

#### **About This Course**

### **Description**

Design and implementation of a relational database model using SQL and PHP. Typical project includes creation of e-commerce shopping site though many people are doing other things.

Database Design for the Web is a great course to take. We will learn about how to make our website dynamic by pulling information from a mySQL database. I will introduce some new php coding techniques. The course does rely heavily on the php code from cs 008 where we ended with reading adn writing to a simple datasbase, so be sure to study all the material from cs 008. As part of all my 100 level course you will learn and use git and GitHub for all assignments.

You can expect to work on the computer several hours each day (the actual amount of time will vary from person to person) I would plan on about 8 hours for each module and see how you do. You may spend less or you may spend more

depending on your comfort level.

This is a hands on course, your hands of course since I will not be telling you exactly how to do anything. I will of course give you the information that you need, however brief you may think it is. You will be expected to learn things not specifically covered in class, a large part of the course will be your own research. You should start an assignment as soon as it is given, if I give you 3 weeks to do an assignment, I expect it will take you 3 weeks to do (30 - 50 hours). Part of a 100 level course is allowing you to learn on your own and I am here to help.

# **Learning Objectives**

As you engage in this course throughout this semester, please reflect upon the following objectives that constitute the framework for the course

- Understand SQL statements to create tables
- Understand SQL statements select, insert, delete and update.
- Understand how to join SQL tables together
- Understand the concepts of database design.
- Be able to create and understand an Entity Relationship Diagram.
- Understand normal form
- Utilize PHP to connect to a database.
- Be able to create a database driven web site.
- Be able to use vesion control software.
- Learn how to debug your programs.

### **Required Materials**

**Book:** zyBook: CS 148: Database Design for the Web.

- 1. Sign in or create an account at <u>learn.zybooks.com</u>
- 2. Enter zyBook code: UVMCS148EricksonFall2021
- 3. Subscribe: A subscription is \$68. Students may begin subscribing on Aug 12, 2021 and the cutoff to subscribe is Dec 04, 2021. Subscriptions will last until Jan 01, 2022.
- 4. Students are required to read the chapters and do the Challenge and Participation activities in the text (it is your participation grade) they are due the same day the assignment is due for that chapter. Whatever grade Zybooks gives you is the grade I record. You may work on the exercise till it is perfect.
- 5. The first three chapters are rewview from CS 008. This has worked well with learning version control and a good refreser for most.

**Banned HTML elements:** You may not use div, span or br elements without written permission of the instructor regardless of what the book says or does.

**sFTP Software:** FileZilla (download from <u>uvm</u>)) - used for sending (sftp) files from your laptop to the schools computer web server.

**Browsers:** Mozilla FireFox, Chrome, plus the default browser on your computer.

#### Add to your browser:

1. Web Developer tools for your browser ie: Mozilla Firefox, Chrome, Safari. This is used to view source code and CSS rules on your site (ex. google safari web

developer tools)

2. Color blindness tool:

This chrome extensions works well: <a href="https://chrome.google.com/webstore/detail/lets-get-color-blind/bkdgdianpkfahpkmphgehigalpighjck?hl=en">https://chrome.google.com/webstore/detail/lets-get-color-blind/bkdgdianpkfahpkmphgehigalpighjck?hl=en</a>
This add of firefox works well: <a href="https://addons.mozilla.org/en-US/firefox/addon/let-s-get-color-blind/?utm\_source=addons.mozilla.org/en-US/firefox/addon/let-s-get-color-blind/?utm\_source=addons.mozilla.org/en-US/firefox/utm\_medium=referral&utm\_content=search</a>

Software - Web editing tool that allows you type in your own html, css and php. A few suggestions are:

- 1. <u>Visual Studio Code</u> this is what I will be using in all demos.
- 2. PHP Storm (You need to create a student account)

**Git Software:** <a href="https://git-scm.com/downloads">https://git-scm.com/downloads</a> (add the git bash shell (pc) to work as a terminal (mac)).

Git Hub Account: <a href="https://education.github.com/">https://education.github.com/</a>

**mySQL account:** Request a mySQL username and password, if you dont have one from cs008.

**Web Site:** After getting your mysql account you can create new databases here: <a href="https://webdb.uvm.edu/account/">https://webdb.uvm.edu/account/</a>

Web Site: PHP MyAdmin

### **Helpful Resources**

Web Site: Common SQL Queries

Web Site: W3 Schools HTML5, CSS, PHP and MySQL tutorials

**PHP Tool:** Online PHP page to run php code.

**Tool:** W3 HTML 5 Validator

Tool: W3 CSS Validator

### **Course Expectations**

You will be expected to download programs and install them on your home computer (or use the computer lab on campus). All assignments will be checked via the WWW so you will need to sFTP your files.

The texts and websites are there for you to read, do so, there is no way I can provide that much detail in lecture notes.

- 1. Allergies: I am allergic to most aftershave and perfumes, lotions with coconut oils, vaping oils and cigarette smoke. Please refrain from applying or using these products before class and when visiting me during my office hours.
- 2. Do your own work, you cannot copy from anyone, including the "internet". You may type any code the book or I give you. Code from previous classes including this one is not allowed.
- 3. No computer or phone use allowed in class except when working on class exercises. Phone use is never allowed.

- 4. No leaving in the middle of class.
- 5. If you are not sure about something, ask me. You can ask anonymously in Blackboard.

# **Class Philosophy**

This class is a community. Each person in our community has the same objective: to learn. This class is designed to have you learn in community with your peers. When you're a member of a community, you can rely upon others for help and support when you need it, but you must also be willing to step up and contribute regularly, as well! Don't be afraid of making mistakes all of us do and all of us will. It's important to ask questions and share mistakes. Let's work together to make this term great for everyone! You will get out of this class what you put into it.

Advice (my 2 cents :)

# **Communication Policy**

Asking questions in class is a key component of this class as a way for everyone to benefit from the question and answers. All questions should be asked in blackboard. I will respond to your inquiries within 24 hours Mon-Fri.

MS Teams chat should only be used while in a meeting. Do not use chat any other time.

Getting help from a Teaching Assistant or me is often the quickest way to find your mistakes.

Email should only be used communication with me but not for assignment questions. I will respond to your inquiries within 24 hours Mon-Fri. If I do not reply in this time frame, please assume I did not receive your email and contact me again. Please follow these rules:

- 1. **Do not send us attachments**, your files should be posted online.
- 2. Subject: CS 148 (section): your reason:
  - Attendance
  - Grade
- 3. Message: please keep your message short
  - o clear
  - o to the point
  - try not to ramble and at the same time try not to leave any information out
  - It is always helpful if you have submitted the assignment and provide a url link to your website
- 4. Messages will be returned to you unanswered if you fail to have the correct subject.
- 5. For a question about your lab grade be sure to copy the grader comments only for the items you are contesting with an explanation about why you are correct. Always include a the url link to your file.

I would like to question my grade for lab 1: https://netid.w3.uvm.edu/cs148/te: I was marked incorrect for:

- In the test-page.php add at least one h1 element the content is up to y But I have the h1 element. Can you please double check this. Thank you for your time, I really appreciate it.

### **Grading Policy**

Participation based on Book (Participation, Challenge activities) and Classroom activities.	10 %
Homework	30 %
Project	30 %
Exams	30 %
Total	100 %%

Grades are posted in Blackboard. If you have an issue with your grade you must present your case to the Lead Grader (look under Office hours in blackboard) within two weeks (cc your instructor) of grades being released. To see how we grade I prepared a video <a href="How we grade">How we grade</a> for you (same as cs 008).

Since Finals bring out personality changes to even the most pleasant individuals, I will not review grades with a student starting a week before finals and including finals week, please resolve all issues before that time.

### **Submit Assignments**

All assignments must be **submitted** and **posted** to get graded. All assignments are due by noon on the date listed on the calendar. It used to be midnight the day before but I wanted to give you extra time in case something happened. The process is simple:

- 1. POSTED: FTP your files to your uvm account in the correct folder.
- 2. SUBMITTED: In Blackboard
  - 1. Click on the assignment name (not directions).
  - 2. Include the url in the text section to go directly to the assignment. If the code below makes sense you can make the <u>text submission</u> a link

```
<a href="//lcarrera.w3.uvm.edu/cs148/" target="_blank">//lcarrera.w3.uvm.edu/cs148/</a>
```

- 3. Click on submit.
- 4. **Do not email us the file.** Just be sure you have it posted.

# **Anticipated Course Schedule**

The following course schedule is anticipated, but some adjustments may be made as the course progresses.

Many assignments build on each other which means you cannot "skip" an assignment but instead must do every assignment.

- 1. Getting started with Git, PHP Review
- 2. Review PHP and Database.
- 3. Review Relational Databases and SQL
- 4. Introduction to Databases
- 5. Relational Databases

- 6. Database Design
- 7. Structured Query Language
- 8. Management
- 9. Final project web site
- 10. Final Exam

#### **Course Policies**

### **Participation**

All classes will begin promptly and students are expected to be on time.

You are required to do the challenge and participation activities in each chapter as part of your participation grade. Each chapter is due the same day the assignment is due for that chapter.

Book activities, classroom activities all make up your participation grade.

I will take attendance in every class for my records. Attendance is not part of your grade.

#### **Exams**

All makeup exams will be held during finals week.

Online Sections are required to take exams through an online service. There is a fee for this.

## **Late Policy:**

You will be allowed one late submission all semester, at 10% off, and must be submitted within one week after the due date. You must contact your instructor BEFORE the assignment is due (graders cannot grade without permission from the instructor). Be sure to include the day (by noon) that you will have the assignment submitted by. Failure to notify the instructor will result in an additional 10% deduction. No late assignment will be accepted after the last day of classes. The final project cannot be submitted late.

#### **Class Etiquette:**

Be on Time. Leaving in the middle of class for any reason is **rude** and unacceptable. If you must leave early please ask first.

#### **Electronic Devices:**

**No Cell phones, laptops or other electronic devices** allowed (except in the online class:). They need to be turned off during class. If your phone rings (or vibrates loud enough for me to hear it) you will lose your participation points for the day. If it happens during an exam time, all points up to that time. This also includes checking to see who calls you, texting your friends, or checking email (cell or laptop) during class time.

### **ADMIN folder:**

You will notice that along with a hosting account, you have a folder created with the course number. In this folder is an ADMIN folder which has two files

admin.php table-view.php

The purpose of these files is to provide myself and the TA's for the course, access to view your files. Otherwise we have no way to see your php code and table struture which makes it very hard for us to grade and help you. It only allows us access to what is in the course folder. We cannot access anything above the course folder. Both files only allow us to see your files and data. We cannot edit or delete anything. This folder is required for us to be able to grade your work so do not delete it. If you do delete it you are required to contact me asap to help you get it back. If you have any questions be sure to ask.

**admin.php** allows us to see the actual contents of your files (php code gets executed on the server but this file allows us to see your php code).

**table-view.php** acts like a simple version of phpmyadmin with reader only permission.

Both of these files are also a handy way for you to see what you have on the server. The url for you would be:

http://lcarrera.w3.uvm.edu/cs008/ADMIN/admin.php

http://lcarrera.w3.uvm.edu/cs008/ADMIN/table-view.php

In addition you will need to edit line 5 in table-view.php with your database reader password which you will get when you create your database. After you recieve your final grade you can remove our access to your database by deleting the password.

# **Important UVM Policies**

#### Student Learning Accommodations:

In keeping with University policy, any student with a documented disability interested in utilizing ADA accommodations should contact Student Accessibility Services (SAS), the office of Disability Services on campus for students. SAS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations, which are communicated to faculty in an accommodation letter. All students are strongly recommended to discuss with their faculty the accommodations they plan to use in each course. Faculty who receive Letters of Accommodation with Disability Related Flexible accommodations will need to fill out the Disability Related Flexibility Agreement. Any questions from faculty or students on the agreement should be directed to the SAS specialist who is indicated on the letter.

Contact SAS: A170 Living/Learning Center; 802-656-7753 access@uvm.edu www.uvm.edu/access

### **Religious Holidays:**

Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to

make up work within a mutually agreed-upon time. <a href="https://www.uvm.edu/registrar/religious-holidays">https://www.uvm.edu/registrar/religious-holidays</a>

### **Academic Integrity:**

The policy addresses plagiarism, fabrication, collusion, and cheating. <a href="https://www.uvm.edu/policies/student/acadintegrity.pdf">https://www.uvm.edu/policies/student/acadintegrity.pdf</a>

In addition to the university policy on Academic Integrity, Your assignments will be electronically compared to everyone else's. If you assist someone in cheating you are guilty as well (this year or next). You must type and format your assignments yourself, starting an assignment or copying and pasting, from someone else's assignment is a case of academic dishonesty and will be treated as such. Each work submitted must be your own work, no collaboration is allowed.

Using code from a previous semester is considered academic dishonesty.

Coping an Exam in any shape or form including but not limited to photo-coping, picture taking, writing down or verbally dictating questions and or answers is considered academic dishonesty and will be treated as such.

The only external programming code you are allowed to use are the examples I give you. Any other external code (ie found from a google search etc) is considered academic dishonesty and will be treated as such. If you feel the need to use free code or shareware code please consult with your instructor PRIOR to using it.

### **Grade Appeals:**

If you would like to contest a grade, please follow the procedures outlined in this policy: <a href="https://www.uvm.edu/policies/student/gradeappeals.pdf">www.uvm.edu/policies/student/gradeappeals.pdf</a>

### **Grading:**

For information on grading and GPA calculation, go to <a href="https://www.uvm.edu/registrar/grades">https://www.uvm.edu/registrar/grades</a>

#### Code of Student Conduct:

http://www.uvm.edu/policies/student/studentcode.pdf

#### **FERPA Rights Disclosure:**

The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974. <a href="http://catalogue.uvm.edu/undergraduate/academicinfo/ferparightsdisclosure/">http://catalogue.uvm.edu/undergraduate/academicinfo/ferparightsdisclosure/</a>

### **Promoting Health & Safety:**

The University of Vermont's number one priority is to support a healthy and safe community:

Center for Health and Wellbeing:

https://www.uvm.edu/health

Counseling & Psychiatry Services (CAPS)

Phone: (802) 656-3340

C.A.R.E. If you are concerned about a UVM community member or are concerned about a specific event, we encourage you to contact the Dean of Students Office (802-656-3380). If you would like to remain anonymous, you can report your concerns online by visiting the Dean of Students website at <a href="https://www.uvm.edu/studentaffairs">https://www.uvm.edu/studentaffairs</a>

Food Insecurity The UVM Center for Health & Wellbeing provides several on- and off-campus resources for students struggling with food insecurity: <a href="https://www.uvm.edu/health/food-insecurity-uvm">https://www.uvm.edu/health/food-insecurity-uvm</a>

### **Final Exam Policy:**

The University final exam policy outlines expectations during final exams and explains timing and process of examination period. <a href="https://www.uvm.edu/registrar/final-exams">https://www.uvm.edu/registrar/final-exams</a>

#### **Alcohol and Cannabis Statement:**

Statement on Alcohol and Cannabis in the Academic Environment As a faculty member, I want you to get the most you can out of this course. You play a crucial role in your education and in your readiness to learn and fully engage with the course material. It is important to note that alcohol and cannabis have no place in an academic environment. They can seriously impair your ability to learn and retain information not only in the moment you may be using, but up to 48 hours or more afterwards. In addition, alcohol and cannabis can:

- Cause issues with attention, memory and concentration
- Negatively impact the quality of how information is processed and ultimately stored
- Affect sleep patterns, which interferes with long-term memory formation

It is my expectation that you will do everything you can to optimize your learning and to fully participate in this course.

#### **Athletic-Academic Conflicts**

In order to be excused from classes, student athletes should submit appropriate documentation to the Professor in advance of all scheduling conflicts within the first two weeks of class. Those missing class are expected to submit make-up assignments within a reasonable time period.

#### **Syllabus & Course Changes**

This syllabus is subject to change with verbal and/or electronic notice. The University of Vermont reserves the right to make changes in the course offerings, mode of delivery, degree requirements, charges, regulations, and procedures contained herein as educational, financial, and health, safety, and welfare considerations require, or as necessary to be compliant with governmental, accreditation, or public health directives.

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