

CIS 201 – Web Programming

Course Syllabus and Calendar – Winter 2009

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Brigham Young University Hawaii

1 Overview

The Internet, and especially the World Wide Web, have changed our lives in ways so far reaching and profound that history will rank it with the steam engine and the printing press among influential technologies. This changes everything.

The hardware and operating system on which a program runs is called its platform. The world wide web is the platform for the 21st century. Today we write programs to run on the web so that people everywhere can, through our programs, interact with us.

The Winter 2009 class project is to create a working electronic commerce shopping cart. This will develop and demonstrate your knowledge and proficiency in programming. Along the way we will create a number of smaller web projects. By the end of the course you will be able to design and develop your own web programs.

1.1 General Calendar

Programming skills build one upon another. The early skills will take time to master but will then be used constantly as more advanced skills are added.

Part 1 (five weeks) Review programming, introduce Perl and CGI. This is the same as the CIS 101 course, but at a greater depth.

- Syntax, Semantics, Variables, Calculations.
- Simple Input and Output (print and stdin).
- If/else, Loops, Subroutines.
- Lists of information (arrays).
- Web: html, img, cgi, forms, input.
- Simple Web Project: Hangman.

Part 2 (seven weeks) Regex, Database, Complex

Web Project.

- Regular Expressions. CGI Substitutions.
- Relations and Tuples.
- SQL Create, Show, Insert, Select, Delete, Drop.
- Complex Web Project: Shopping Cart.

1.2 Grading Rubric

Learning: You will write programs in a lab setting. The real learning will take place in that setting. You are encouraged to work with your friends and fellow students, giving and receiving help, in completing the labs.

Group Work: Students can work alone but are encouraged to work together on labs. Most students have been on group projects where some people did more work than others. Those that do all the work get all the learning. Those that freeload learn less. Frequently they also fail the tests.

Testing: You will write brief sections of programs in a test setting. Only trivial learning takes place in that setting. You are generally forbidden to work with your friends and fellow students in completing the tests. Also the tests will be trivial compared to the labs.

To earn a D: Reliably demonstrate programming ability in Perl using I/O, variables, if/else, loops, arrays, subroutines, cgi, and html in creating small working web programs that satisfy explicit requirements. Answer simple questions that demonstrate your understanding of vocabulary words.

To earn a C: Reliably demonstrate programming skill at the D level, but with implicit requirements. That is, I don't spell out everything for you, but you still get the right idea and build the right program.

To earn a B: Reliably demonstrate programming

proficiency at the C level, plus correctly use SQL for persistent data storage.

To earn an A: Reliably demonstrate programming proficiency at the B level, plus build a working term project as directed (specifically, the shopping cart project).

Plus and Minus: The main letter grade indicates your general level of performance. Plus and Minus indicate performance notably stronger or weaker than expected, or perhaps earlier or later than expected.

To me, “reliably demonstrate” means you show me the programs that you developed, possibly with assistance, and you continue to demonstrate the related skills in a test setting as requested. I will gather scores from you performing the required tasks in lab and test settings. I will look at those scores to decide whether you have reliably demonstrated the ability or not.

1.3 Testing

Quizzes: Most days will begin with a brief quiz focused on knowledge and skills recently covered in class. The quiz will generally start at the exact start of class time and last for about five minutes. Immediately after the quiz we will have opening prayer and start the lecture portion of the class.

Exams: At the end of part 1 there will be a midterm exam. At the end of part 2 there will be a final exam. The midterm will be one full class period. The final will be one or two full class periods.

2 Preparation

We assume you have programmed before, and you are familiar with variables, if/else, loops, arrays, and subroutines. Typically you would gain that level of expertise by taking CIS 101 or an equivalent class elsewhere. We do not assume you know Perl yet. Alternately, we assume you can become familiar with everything during the first third of the course when we are doing review and introducing Perl.

3 The Course

- **Course Number:** CIS 201

- **Title:** Web Programming
- **Course Description:** (tba)
- **Textbook:** (recommended) any book on Perl.
- **Start/End:** Jan 7 to Apr 10, 2009
- **Classroom:** GCB 111
- **Class Time:** MWF 2:30 PM – 3:30 PM
- **Website:** <http://colton.byuh.edu/>

3.1 The Instructor

- **Instructor (me):** Don Colton
- **My email:** don@colton.byuh.edu
- **Website:** <http://colton.byuh.edu/>
- **My Office:** GCB 128
- **Office Hour:** MWF 11:00 AM – noon
- **Office Hour:** TTh 9:25 AM – 10:50 AM

4 Standard Statements

All syllabi are encouraged or required to address certain topics. These are generally considered to be common sense, but we find that it is useful to mention them explicitly anyway.

4.1 Dress and Grooming Standards

The dress and grooming of both men and women should always be modest, neat and clean, consistent with the dignity adherent to representing The Church of Jesus Christ of Latter-day Saints and any of its institutions of higher learning. Modesty and cleanliness are important values that reflect personal dignity and integrity, through which students, staff, and faculty represent the principles and standards of the Church. Members of the BYUH community commit themselves to observe these standards, which reflect the direction given by the Board of Trustees and the Church publication, “For the Strength of Youth.” The Dress and Grooming Standards are as follows:

Men. A clean and neat appearance should be maintained. Shorts must cover the knee. Hair should be clean and neat, avoiding extreme styles or colors, and trimmed above the collar leaving the ear uncovered. Sideburns should not extend below the earlobe. If worn, moustaches should be neatly trimmed and may not extend beyond or below the corners of mouth. Men are expected to be clean shaven and beards are not acceptable. Earrings and other body

piercing are not acceptable. For safety, footwear must be worn in all public places.

Women. A modest, clean and neat appearance should be maintained. Clothing is inappropriate when it is sleeveless, strapless, backless, or revealing, has slits above the knee, or is form fitting. Dresses, skirts, and shorts must cover the knee. Hairstyles should be clean and neat, avoiding extremes in styles and color. Excessive ear piercing and all other body piercing are not appropriate. For safety, footwear must be worn in all public places.

4.2 Accommodating Special Needs

I am personally committed to making this course as easy as possible (but no easier). To this end, I give many quizzes in the testing center without time limits. To fully teach important concepts, I give lab work, but it is not constrained by the amount of time available in class. I publish important assignments on my web site so you do not have to rely on note taking or memory to know what you need to do. I allow an unlimited number of attempts on labs that are graded by GradeBot, and make it available 24 hours a day throughout the semester. I believe that many cases of special needs are already accommodated by these practices.

For in-class examinations (midterms and final exam) I apply a strict time limit and do not allow outside resources. To avoid giving an unfair advantage, I require those who need a special accommodation to establish their rights by working through the BYUH Special Needs Coordinator.

Brigham Young University Hawaii is committed to providing a working and learning atmosphere which reasonably accommodates qualified persons with disabilities. If you have any disability that may impair your ability to complete this course successfully, you are invited to contact the Students With Special Needs Coordinator, Leilani A'una or her successor at 675-3518. Reasonable academic accommodations are made for all students who have qualified documented disabilities.

4.3 Plagiarism

<http://en.wikipedia.org/wiki/Plagiarism> has a wonderful article on plagiarism. Read it if you are not familiar with the term. Essentially, plagiarism is

when you present the intellectual work of other people as though it were your own. This may happen by cut-and-paste from a website, or by group work on homework. In some cases, plagiarism may also create a violation of copyright law. If you borrow wording from someone else, identify the source.

Intentional plagiarism is a form of intellectual theft that violates widely recognized principles of academic integrity as well as the Honor Code. Such plagiarism may subject the student to appropriate disciplinary action administered through the university Honor Code Office, in addition to academic sanctions that may be applied by an instructor.

Inadvertent plagiarism, whereas not in violation of the Honor Code, is nevertheless a form of intellectual carelessness that is unacceptable in the academic community. Plagiarism of any kind is completely contrary to the established practices of higher education, where all members of the university are expected to acknowledge the original intellectual work of others that is included in one's own work.

In this course group work is permitted and encouraged but you are not allowed to turn in work that is beyond your understanding, whether you give proper attribution or not. Make sure you understand what you are submitting and why each line is there.

Faculty are responsible to establish and communicate to students their expectations of behavior with respect to academic honesty and student conduct in the course. Observations and reports of academic dishonesty shall be investigated by the instructor, who will determine and take appropriate action, and report to the Honor Code Office the final disposition of any incident of academic dishonesty by completing an Academic Dishonesty Student Violation Report. If the incident of academic dishonesty involves the violation of a public law, e.g., breaking and entering into an office or stealing an examination, the act should also be reported to University Police. If an affected student disagrees with the determination or action and is unable to resolve the matter to the mutual satisfaction of the student and the instructor, the student may have the matter reviewed through the university's grievance process.

4.4 Sexual Harassment

BYUH's policy against sexual harassment complies with federal Title IX of the Education Amendments of 1972 to protect university students from student-to-student sexual harassment both in and out of the classroom setting. Any incidents of such student-to-student harassment should be reported to either the Director of Human Resources (293-3713) or the Honor Code Office (293-3531). Allegations of sexual harassment are taken seriously. Upon receiving a report of sexual harassment, the Director of Human Resources will take appropriate action to resolve and correct conditions resulting from individual perceptions or from inappropriate behavior.

4.5 Syllabus is Subject to Change

It is possible that I will revise aspects of the course as we go along. Any changes I make are likely to be to your advantage. If any of my changes seems unfair to you, let me know. I will try to correct it.