CS 547: Programming and Scripting Languages for Web Applications

Date: January 21, 2015
Course Credits: 3 units, 3 hrs / week
Instructor: Steve Price
CS Dept Phone: 4-1700 (note this is a shared phone line)
Prerequisites: None
Classroom: Gateway Center 1st floor conference room.
Office Hours: T TH Immediately before and after class. Online, and by appointment in GMCS 564.
Email: sprice at mail.sdsu.edu , Be sure to put CS 547 in the subject header.
Website: The class will use Blackboard: blackboard.sdsu.edu . Additionally we will use a commercial git provider to turn in coding assignment.

Course Description: Principles and practice of dynamic and scripting and functional languages used in web applications. Basic language concepts, data structures in dynamic languages, code structure, code quality, testing, string manipulation, dynamic web site generation.

Student Learning Outcomes:

1. Students will be able to write software using scripting languages to implement web based applications.
2. Students will be familiar with using software libraries to assist in implementing web based applications.
3. Students will learn how to configure an open source web servers to deploy their applications.
4. Students will be able to work effectively individually to create a software product.
5. Students will be familiar with standard debugging and testing techniques.

After completing the course, students will be able to:

1. Structure programs and scripts written in dynamically typed languages for effective use in ubiquitous platforms
2. Develop quality code in dynamically typed languages (wherein the compiler does not do any checking of types)
3. Produce testing scripts and testing code to be embedded in software systems (such code is run in specific contexts - such as in a web server, or part of a framework - and can not be run standalone), requiring skills not learned elsewhere
4. Engage in rapid prototyping, a paradigm for software development usually using dynamically typed and/or functional languages, which again is a skill not learned elsewhere.

Attendance: Students are expected to be present and punctual for all scheduled classes and tests.

Dropping a Class: The student is responsible for understanding the procedure for dropping a class. If you fail to attend classes but do not follow the procedure for dropping the class, you may receive a failing grade.

Grading : In this class, students will be evaluated according to performance in the following categories: individual projects, midterms, and a final exam. Grading breakdown is as follows:

- 60% Three project in each of the main scripting languages

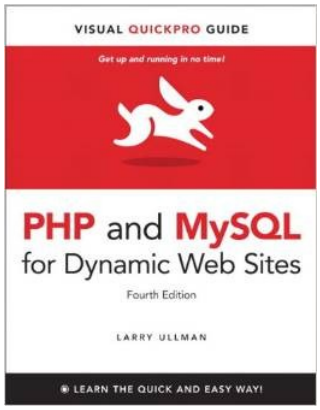
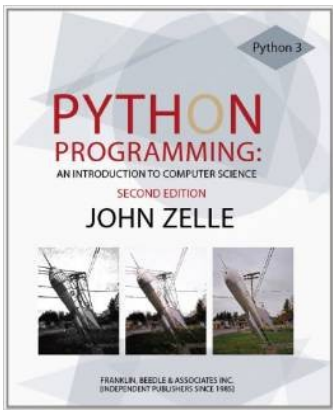
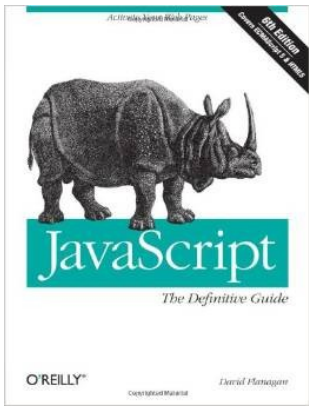
- 30% Three midterms of for each scripting language.
- 10% Final comprehensive exam

Approximate Course Outline:

The course will provide a comprehensive exploration of three popular scripting languages: PHP, Python, and JavaScript. The tools and techniques necessary to implement a functional application will also be covered. An appropriate schedule of the topics covered is listed below. Please note that the content and timing of the material may be adjusted at the discretion of the instructor.

Section	Week	Dates	Topic
PHP	1	1/22	Introduction and Installation XAMP,
	2	1/27 – 1/29	Language syntax, Bootstrap, PHP IDEs
	3	2/3 – 2/5	Data types, operators, statements, syntax
	4	2/10 – 2/12	Pattern Matching, Objects, and Classes
	5	2/17 – 2/19	Testing, Libraries, Pear
	6	2/24 – 2/26	Review, 2/26 Project 1, Mid Term 1
Python	7	3/3 – 3/5	Django, Python Into, PIP
	8	3/10 – 3/12	Data types, operators, statements, syntax
	9	3/17 – 3/19	Pattern Matching, Objects, and Classes
	10	3/24 – 3/26	Review, 2/26 Project 2, Mid Term 2
		3/31 – 4/2	3/31 No Class Spring Break
JavaScript	11	4/7 – 4/9	Javascript Intro, Dev Tools, Node.JS
	12	4/14 – 4/16	Data types, operators, statements, syntax
	13	4/21 – 4/23	Functional Programming, Objects, and Classes
	14	4/28 – 4/30	Testing, Frameworks, and Libraries
	15	5/5 – 5/9	Review, Project 3 and Midterm 3
	Finals	TBD	Final Exam

Books:

	PHP and MySQL for Dynamic Web Sites: Visual QuickPro Guide (4th Edition) Paperback – September 23, 2011 By Larry Ullman (Author) ISBN-13: 978-0321784070 ISBN-10: 0321784073 Edition: 4th
	Python Programming: An Introduction to Computer Science, 2nd Ed. Paperback – Student Edition, May 7, 2010 By John Zelle (Author) ISBN-13: 978-1590282410 ISBN-10: 1590282418 Edition: 2nd
	JavaScript: The Definitive Guide: Activate Your Web Pages (Definitive Guides) Paperback – May 13, 2011 By David Flanagan (Author) ISBN-13: 978-0596805524 ISBN-10: 0596805527

Turning in Work: Instructions on what, when, where, and how to turn in assignments will be posted on the course black board site. It is the students responsibility to understand when and how to turn in the assignments.

Late Coursework: All assignments are due on the date as stated on the blackboard site. There are no late assignments. Any assignments turned in after the due date will not receive any points for grade.

Exams: The date, time, and location of the midterms and final exam will be posted on the blackboard site. Unexcused absences on the day of an exam will result in the student receiving a zero on the exam.

No make up exams will be given for unexcused absences from the exam. If the student has a known prior conflict with the scheduled exam date, the student must submit an email request to the instructor at least three days before the exam. If approved, the student may take the exam at an earlier date and time. If a student misses an exam because of an unforeseen reason, the student may petition the instructor. Only well documented cases of unexcused absence will be considered, rescheduling of the exam is solely at the discretion of the instructor.

Attribution: All work must be done exclusively by the student. No credit will be given if the student is suspected of submitting work that is not his or her own work. If a student submits work that constitutes an act of plagiarism, a zero for the assignment, as appropriate will penalize them.

Special Accommodations:
If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact Student Disability Services at (619) 594-6473. To avoid any delay in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.

Classroom Etiquette: Pagers and cell phones will be turned off or set to vibrate mode during class. Please show courtesy to the class by restricting conversation to in-class topics, and raise your hand to gain attention when asking a question or raising a point of discussion.

Academic Honesty: The college experience is founded on the concepts of honesty and integrity. Dishonesty, cheating, plagiarism, or knowingly furnishing false information to the college are regarded as particularly serious offenses. Cases of dishonesty will be handled by levying certain penalties. However, in flagrant cases, the penalty may be dismissal from the college after proper due process proceedings.