

Syllabus for PHP/PostgreSQL Workshop (School of Library & Information Science, S603)

Timothy D. Bowman, PhD student, SLIS @ IUB
tdbowman@indiana.edu

Prerequisites

No prior knowledge of PHP is assumed, as part of the workshop will be dedicated to this goal. Familiarity with HTML, CSS, PERL, and SQL will be helpful, but not necessary. (Completion of S511 and S517 is recommended, but not required.)

Required Text

There will be no required textbooks. All course materials will be available online or IUCAT via the Books 24x7 website at <http://www.libraries.iub.edu/scripts/countResources.php?resourceId=59555> [IU-Bloomington Login Required]

Postgres Database Accounts

If you haven't already requested a Postgres account from SLIS, please email root@slis.indiana.edu along with your name, this course title and semester information, and how long you plan to use the account (at least for this summer).

NOTE: *I will assume everyone has a Postgres account the first day of class.*

Background

PHP is a programming language written for the web; it is easy to learn, free to download, and provides many powerful features for web developers. PHP allows you to build interactive, dynamic, and secure web applications using code similar to JSP (Java Server Pages), ASP (Active Server Pages), Python, and PERL (CGI Programming), to name just a few. PHP, the most commonly used web programming language, is actually developed from Perl and they share many similarities. PHP is popular because it is open source and because it has a substantial community of online users supporting its further development. There are many resources online from which you can discuss, share, and download PHP code and tutorials. There are countless websites using PHP to serve up information, some of the most popular include Yahoo!, FLICKr, Facebook, Wikipedia, Digg, Drupal, Wordpress, and many more.

Any Web professional entering the field today should have a basic understanding of Web 2.0 technology. In the Web 2.0 environment that dominates the Internet today, we often interact with websites using an arsenal of client-side languages such as JavaScript, CSS, HTML, XML, and many others. These client-side languages often need to interact with server-side languages in order to serve up fresh, dynamic content from databases across the web; this is where PHP comes into the picture. PHP is a great foundation from which to build your understanding of Web 2.0.

PHP functions as a web-database integration tool: it generates web-accessible content from information stored in a database. PHP is often used with the MySQL database system; however, it can be configured to work with any database system. SLIS's web server currently uses PostgreSQL, an open source system similar to MySQL. Because SLIS's web server is configured to use PHP with PostgreSQL, it makes sense to offer this PHP workshop using PostgreSQL as the database system.

Course Description

This workshop aims to prepare students to develop and implement dynamic web content; it will be taught as a workshop. Following a brief introduction/review of basic concepts, the participants will focus on technical aspects of coding PHP and SQL. The workshop focuses on the basics of creating dynamic HTML using the tools of PHP and SQL with PostgreSQL. After learning the basics of PHP programming and basic SQL commands that are needed to create and access a database, students will prepare example data and use PHP to present this data dynamically in a webpage of their own design. The homework will build on the day's concepts and will be assigned at the end of each day. A final project will be due the final day of the semester.

Upon completion of the workshop, students should understand: the basics of dynamic web sites, be able to use SQL to connect and retrieve information from a database, and develop coding skills that will allow them to create more advanced websites using AJAX, XML, etc.

Office Hours

I will be available on Thursdays after class for approximately 1 hour and by appointment. Send appointment requests to: tdbowman@indiana.edu

Course:	S603, 10821
Time:	Thursdays, 9am-Noon
Location:	LI 402 (4 th Floor Library, Undergrad Wing)
Credit:	1.5cr
Instructor	Timothy Bowman, Doctoral Student, School of Library and Information Science
Office	1320 East 10th Street, Room 029
Email	tdbowman@indiana.edu

Course Outline

[Summer I: Tuesday, May 11, through Thursday, June 17, 2010]

NOTE: *Students are encouraged to read the first day's readings before the workshop begins.*

WEEK	DATE	TOPICS	ASSIGNMENTS	READINGS
1	5/13	Introduction: PHP 5.0 Basics	Homework 1	Gilmore & Treat – Chapter 1 Mercer – Chapter 2 PHP Manual – Introduction, A Simple Tutorial
2	5/20	PHP Decisions, Loops, Arrays, Variable Types, Functions	Homework 2	Gilmore & Treat – Chapters 4-5 Mercer – Chapters 3-4
3	5/27	Introduction: Database (Postgres) / SQL Basics		Gilmore & Treat – Chapter 30 Mercer – Chapter 9 Taylor – Chapters 1-3 Drake article
4	6/3	Database Tables, Records, and Datatypes PHP File Writing/Retrieving	Homework 3	Gilmore & Treat – Chapter 28 Mercer – Chapter 7 Taylor – Chapter 5
5	6/10	Testing/Debugging	Course Evaluations	Mercer – Chapters 5-6 Vaswani – Article Part One & Two
6	6/17	Student Project Presentations	FINAL PROJECT	

Class Schedule and Format

During the course we will engage in different workshop activities.

- **Lectures:** There will be more traditional lectures where I focus on foundational topics in web programming and database theory.
- **Discussions:** There will be group and class discussions on web programming issues.
- **Lab Work:** There will be time during each class for writing and testing code.

During the course you will also engage in reading selected literature and writing specific code examples. Even though the overall schedule of the course is planned, I will probably re-design it now and then based on how the course progresses.

References

- Drake, J.D. (2002, Jan. 24). *Making the PostgreSQL and PHP connection*. Available online at <http://www.onlamp.com/pub/a/onlamp/2002/01/24/postgresql.html>
- Gilmore, W. J., & Treat, R.H. (2006). *Beginning PHP 5 and PostgreSQL 8: From novice to professional*. Apress. Books24x7. Available online through the [IUB Libraries 24x7 ITPro Bookshelf](#)
- Mercer, D. (2004). *Beginning PHP5*. Wrox Press. Books24x7. Available online through the [IUB Libraries 24x7 ITPro Bookshelf](#)
- The PHP Group. (n.d.). *PHP Manual*. Available online at <http://www.php.net/manual/en/index.php>
- Taylor, A. G. (2006). *SQL for dummies, 6th Edition*. John Wiley & Sons. Books24x7. Available online through the [IUB Libraries 24x7 ITPro Bookshelf](#)
- Vaswani, V. (2005, Jan. 30, A). *PHP 101 (part 12): Bugging out – Part one*. Available online at <http://devzone.zend.com/node/view/id/652>
- Vaswani, V. (2005, Jan. 30, B). *PHP 101 (part 12): Bugging out – Part two*. Available online at <http://devzone.zend.com/node/view/id/652>

ONLINE BOOK CODE RESOURCES:

- <http://www.apress.com/resource/bookfile/2669>
- <http://www.wrox.com/WileyCDA/WroxTitle/productCd-0764557831.descCd-DOWNLOAD.html>

PLEASE NOTE: In addition to the readings for this course, there are over 100 books available online via IU Library's subscription to Books 24x7. If you are having trouble, look through the books on this site and you undoubtedly find resources that will help you.

To Pass, You Must:

- Turn in all of the assignments and the final project and complete any and all presentations. You cannot pass this course without doing all of the assigned work. However, turning in all of the work is not a guarantee that you will pass the course.
- All assignments for this course must be submitted ELECTRONICALLY. Documents submitted in hardcopy will lose 5% of the assignment's grade. Changes made to online web pages after the deadline may not be reflected in your grade for an assignment.
- Grades of "I" (Incomplete) may be assigned in this course after discussion with the instructor, but depending on the circumstances, there will be a penalty applied at the discretion of the instructor.
- All papers and assignments must be submitted by the dates specified in this syllabus. If you cannot submit an assignment or cannot deliver a presentation on the date it is due, it is your responsibility to discuss your situation with the instructor, preferably in advance. Given that your reasons or problems are legitimate and serious, arrangements for the completion of the outstanding work can be made; this will occur at the discretion of the instructor.
- Late policy: -5% of the possible assignment grade for the first day late, -1% for every day thereafter. This will also be applied at the discretion of the instructor.
- Your written, web-based, and oral work will be evaluated according to five criteria, which are thus:
 1. Be clearly written, marked up, and/or presented.
 2. Contain PHP markup that has been done by hand and which conforms, at a minimum, to PHP 5.x.
 3. Demonstrate a degree of insight into the concepts, issues, and trends in both the areas you investigate in the assignments and in the course content.
 4. Demonstrate a degree of originality in your reviews, analyses, and projects.
 5. Display some familiarity with the appropriate current and/or classic literatures where appropriate.

Grading

Homework Assignments:	30%
Attendance/Participation:	10%
Final Project:	60%

The following definitions of letter grades have been defined by student and faculty members of the Curriculum Steering Committee and have been approved by the faculty as an aid in evaluation of academic performance and to assist students by giving them an understanding of the grading standards of the School of Library and Information Science.

A	4.0	Outstanding achievement. Student performance demonstrates full command of the course materials and evinces a high level of originality and/or creativity that far surpasses course expectations.
A-	3.7	Excellent achievement. Student performance demonstrates thorough knowledge of the course materials and exceeds course expectations by completing all requirements in a superior manner.
B+	3.3	Very good work. Student performance demonstrates above-average comprehension of the course materials and exceeds course expectations on all tasks as defined in the course syllabus.
B	3.0	Student performance meets designated course expectations and demonstrates understanding of the course materials at an acceptable level.
B-	2.7	Marginal work. Student performance demonstrates incomplete understanding of course materials.
C+	2.3	Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course materials.
C	2.0	
C-	1.7	Unacceptable work. Coursework performed at this level will not count toward the MLS or MIS degree. For the course to count toward the degree, the student must repeat the course with a passing grade.
D+	1.3	
D	1.0	
D-	0.7	
F	0.0	Failing. Student may continue in program only with permission of the Dean.

NOTE: All policies regarding academic honesty set forth by the School of Library and Information Science will be strictly adhered to. For more information, please refer to the following document:

- School of Library and Information Science. *Academic Honesty at Indiana University: Guidelines and Resources*. Bloomington: Indiana University. Available online at <http://www.slis.indiana.edu/courses/acad-honesty.html>