SYLLABUS

Department of Human-Centered Computing  
Indiana University School of Informatics and Computing, IUPUI  
NEWM N510  
Web-Database Concepts  

Fall 2013

Section: Class meets in IT 357
Class Meeting Time: Tuesday Evenings from 6:00 pm – 8:40 pm
Instructor: Jay Hardin, M.S.
Office Address:  
Office Phone:  
Office Hours: By appointment
Email Address: Use OnCourse Email

Course Description
This course addresses diverse issues arising when designing World-Wide-Web interface. Basic database concepts will be presented but the course will focus on discussion of interface issues specific to web databases, technologies for linking databases to web servers for delivery, discussion of various web-database applications, case studies, and industry trends.

Course Objectives, Competencies and Outcomes
Upon the successful completion of the course, the student should be able to:
• Explain the client-server structure and its relationship to web based languages and database management systems
• Design, implement, integrate and analyze relational databases within a web-server environment
• Comprehend client-side and server-side programming skills including design, coding, implementation and integration with a relational database
• Evaluate a given web application based on different criteria such as structure, dynamics, security, embedded systems and interactivity

Principles of Graduate and Professional Learning (PGPL)
Learning outcomes are assessed in the following areas:
• Knowledge and skills mastery (K&S)
• Critical thinking and good judgment (CT)
• Effective communication (EC)
• Ethical behavior (EB)
Readings
Required and optional readings will be defined for each session and can be found in the class schedule. The readings consist of web material, teaching slides, and e-book chapters. Additional independent readings may be recommended based on your background in each topic. Database or programming books that are specific about a special version of the system change on a rapid basis. Indeed, web-technology related books have a short half-life. Thus this course is not structured based on a specific book and does not recommend a hardcopy textbook.

Web-based Material: Web-based materials contain the most up-to-date information and are provided by the instructor. The following websites are considered reliable sources of information for each of the topics covered in this course.

<table>
<thead>
<tr>
<th>Topic</th>
<th>HTML, CSS, XML, TCP/IP, PHP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website (1)</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>W3schools.com</td>
</tr>
<tr>
<td>Type</td>
<td>Educational</td>
</tr>
<tr>
<td>Web Links</td>
<td></td>
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<tr>
<td><a href="http://w3schools.com/html/default.asp">http://w3schools.com/html/default.asp</a></td>
<td></td>
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<tr>
<td><a href="http://w3schools.com/css/default.asp">http://w3schools.com/css/default.asp</a></td>
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<td><a href="http://w3schools.com/xml/default.asp">http://w3schools.com/xml/default.asp</a></td>
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<tr>
<td><a href="http://w3schools.com/tcpip/default.asp">http://w3schools.com/tcpip/default.asp</a></td>
<td></td>
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<tr>
<td><a href="http://w3schools.com/php/default.asp">http://w3schools.com/php/default.asp</a></td>
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<table>
<thead>
<tr>
<th>Topic</th>
<th>PHP, MySQL</th>
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<tr>
<td>Website (2)</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>php</td>
</tr>
<tr>
<td>Type</td>
<td>Manual</td>
</tr>
<tr>
<td>Web Links</td>
<td></td>
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<tr>
<td><a href="http://www.php.net/">http://www.php.net/</a></td>
<td></td>
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<thead>
<tr>
<th>Topic</th>
<th>MySQL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website (3)</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>MySQL</td>
</tr>
<tr>
<td>Type</td>
<td>Documentation</td>
</tr>
<tr>
<td>Web Links</td>
<td></td>
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</tbody>
</table>

e-Books: A number of e-books are available to the students as a result of the IUPUI Library System's collaboration with 'Safari Online Books'. You will be required to login into the IUPUI system (same username and password as your OnCourse login information) to access the e-books if you login from outside the campus. The following tables include a series of e-Books that are recommended for this course based on different topics that will be covered in the course. There is no need to purchase a hard copy of these books as they are always available online to IUPUI students.
<table>
<thead>
<tr>
<th>Topic</th>
<th>HTML/CSS/XML</th>
</tr>
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</table>
| e-Book (1) | Title: Head First HTML with CSS & XHTML  
Authors: Elisabeth Robson; Eric Freeman  
Safari Link: [http://proquest.safaribooksonline.com/059610197X](http://proquest.safaribooksonline.com/059610197X)  
ISBN: 978-0-596-10197-8 |
| e-Book (2) | Title: HTML & XHTML: The Definitive Guide, 6th Edition  
Authors: Chuck Musciano; Bill Kennedy  
Safari Link: [http://proquest.safaribooksonline.com/0596527322](http://proquest.safaribooksonline.com/0596527322)  
ISBN: 978-0-596-52732-7 |
| e-Book (3) | Title: CSS: The Definitive Guide, 3rd Edition  
Authors: Eric A. Meyer  
Safari Link: [http://proquest.safaribooksonline.com/0596527330](http://proquest.safaribooksonline.com/0596527330)  
ISBN: 978-0-596-52733-4 |

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<thead>
<tr>
<th>Topic</th>
<th>PHP Language / PHP – MySQL Integration</th>
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</table>
| e-Book (1) | Title: PHP Cookbook, 2nd Edition  
Authors: Adam Trachtenberg; David Sklar  
Safari Link: [http://proquest.safaribooksonline.com/0596101015](http://proquest.safaribooksonline.com/0596101015)  
ISBN: 978-0-596-10197-8 |
| e-Book (2) | Title: Programming PHP, 2nd Edition  
Authors: Kevin Tatroe; Rasmus Lerdorf; Peter McIntyre  
Safari Link: [http://proquest.safaribooksonline.com/0596006810](http://proquest.safaribooksonline.com/0596006810)  
| e-Book (3) | Title: PHP in a Nutshell  
Authors: Paul Hudson  
Safari Link: [http://proquest.safaribooksonline.com/0596100671](http://proquest.safaribooksonline.com/0596100671)  
ISBN: 978-0-596-10067-4 |
| e-Book (4) | Title: Learning PHP & MySQL, 2nd Edition  
Authors: Michele E. Davis; Jon A. Phillips  
Safari Link: [http://proquest.safaribooksonline.com/9780596514013](http://proquest.safaribooksonline.com/9780596514013)  

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<thead>
<tr>
<th>Topic</th>
<th>MySQL</th>
</tr>
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</table>
| e-Book (1) | Title: Head First SQL  
Authors: Lynn Beighley  
Safari Link: [http://proquest.safaribooksonline.com/9780596526849](http://proquest.safaribooksonline.com/9780596526849)  
| e-Book (2) | Title: MySQL in a Nutshell, 2nd Edition  
Authors: Russell Dyer  
Safari Link: [http://proquest.safaribooksonline.com/9780596514334](http://proquest.safaribooksonline.com/9780596514334) |
<table>
<thead>
<tr>
<th>Topic</th>
<th>Semantic Web</th>
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<tbody>
<tr>
<td>e-Book</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Practical RDF</td>
</tr>
<tr>
<td>Authors</td>
<td>Shelley Powers</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Topic</th>
<th>Web Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Book</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Web Security, Privacy &amp; Commerce, 2nd Edition</td>
</tr>
<tr>
<td>Authors</td>
<td>Simson Garfinkel; Gene Spafford</td>
</tr>
</tbody>
</table>


**Slides:** Each week a set of slides will be posted online as a short review for the topic of the week. It is highly recommended that students prepare themselves by reviewing the slides before attending the class. Some sessions may include a set of prerecorded slides which include a prerecorded voice-over on the slides. It is highly recommended that you watch these prerecorded presentations before attending the class.

**Course Content and Preliminary Lecture Schedule**
Please note that this is the preliminary lecture schedule. Updates will be posted on OnCourse and info510.com. Due to the lab-based class structure, holidays do affect the schedule of the classes; however holidays do not affect the deadlines or prerecorded slides. Deadlines that occur on a holiday simply are postponed to the next working day. Prerecorded slides will be posted for sessions that fall on holidays; however, often these set of so called ‘holiday-slides’ are considered informational only and do not have a quiz or assignment associated with them.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
</tr>
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</table>
| 1    | Course Organization: Welcome  
|      | Course Organization: Syllabus  
|      | Course Organization: Schedule  
|      | Course Organization: Readings  
|      | Course Organization: Assignments  
|      | Course Organization: Final Project  
|      | Course Organization: Course Website  
|      | Web Intro: Networking Overview  
|      | Web Intro: Web Server  
|      | Web Intro: HTML, PHP, MySQL  
|      | Web Intro: Integration |
| 9    | Semantic Web: Intro  
|      | Semantic Web: Example  
|      | Semantic Web: Solutions  
|      | Semantic Web: RDF  
|      | Semantic Web: OWL  
<p>|      | Semantic Web: Ontology |</p>
<table>
<thead>
<tr>
<th>Page</th>
<th>Web Intro: Final Project / Samples</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td><strong>Database Overview</strong>&lt;br&gt;Relational Databases&lt;br&gt;MYSQL: Installing MySQL&lt;br&gt;MYSQL: Command Line&lt;br&gt;MYSQL: GUI Tools&lt;br&gt;MYSQL: Introduction&lt;br&gt;MYSQL: SELECT Statement&lt;br&gt;MYSQL: WHERE Clause&lt;br&gt;MYSQL: AND &amp; OR&lt;br&gt;MYSQL: IN&lt;br&gt;MYSQL: ORDER BY Clause</td>
</tr>
<tr>
<td>3</td>
<td>MYSQL: INSERT INTO Statement&lt;br&gt;MYSQL: UPDATE/SET Statement&lt;br&gt;MYSQL: DELETE Statement&lt;br&gt;MYSQL: Joining and Keys (Inner Join)&lt;br&gt;MYSQL: LEFT JOIN/ON (Outer Join)&lt;br&gt;MYSQL: GROUP BY &amp; HAVING&lt;br&gt;MYSQL: FUNCTIONS</td>
</tr>
<tr>
<td>4</td>
<td>MYSQL: CREATE DB, Table, and Index&lt;br&gt;MYSQL: TRUNCATE Database, Table&lt;br&gt;MYSQL: DROP Index, Table, and Database&lt;br&gt;MYSQL: ALTER Table&lt;br&gt;MYSQL: SELECT INTO&lt;br&gt;MYSQL: Dumping&lt;br&gt;MYSQL: Administration Tools&lt;br&gt;MYSQL: Mapping&lt;br&gt;MYSQL: Migration Tools&lt;br&gt;MYSQL:</td>
</tr>
<tr>
<td>5</td>
<td>Web Server Overview&lt;br&gt;HTML Editor, FTP Client&lt;br&gt;HTML: Introduction&lt;br&gt;HTML: Elements&lt;br&gt;HTML: Basic Tags&lt;br&gt;HTML: Formatting&lt;br&gt;HTML: Entities&lt;br&gt;HTML: Links (URLS)&lt;br&gt;HTML: Fonts&lt;br&gt;HTML: Colors</td>
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### Teaching Strategies/Methods

We all hope to have a wonderful time during this course. The most important point is that you want to enjoy the course material and also respect the others’ right to enjoy the course by maintaining a suitable class atmosphere during the course. The ultimate aim in this course will be learning how to learn, so you would not be limited to knowing couple of applications that might change periodically.

You will learn by following step-by-step tutorials from textbooks or hands-on assignments in labs, by working on problem-based assignments individually or in groups, by listening to and taking part in lecture-discussions, by helping others and by asking questions. You will learn by doing, by listening, by experimenting, and by thinking critically.

The eBooks and many of the learning materials for the course seek to build competence and skills through hands-on, often step-by-step projects. In other words, they assume you learn best by doing, and that understanding will follow. In addition, the assignments for many of the course modules are cumulative--i.e. you will have trouble doing or understanding module three of PHP if you have not completed and understood modules one and two. For this reason you will learn best by keeping up with the work on a class-by-class, and week-by-week basis.

To access the secure content of the course please login into your OnCourse account at: http://oncourse.iu.edu In order to access the public content of the course please visit http://info510.com (no login is required for the public content).
Evaluation and Assessment
Detailed instructions regarding each assignment will be provided as the course emerges. Attention to the instructions, clarity of expression and presentation, and evidence of critical thinking are important for all assignments.

Marking will be based on a 100 pointing scale distributed as follow:

<table>
<thead>
<tr>
<th>#</th>
<th>Assignment</th>
<th>Percent</th>
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<tbody>
<tr>
<td>1</td>
<td>Assignments #1 to #5</td>
<td>25</td>
</tr>
<tr>
<td>2</td>
<td>Quizzes #1 to #6 (each 5 points)</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Final Project + Presentation</td>
<td>35</td>
</tr>
<tr>
<td>4</td>
<td>Participation (class discussion and weekly meetings)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
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</tbody>
</table>

Assignments: Assignments will be posted each week on Tuesday at 6pm and expected to be turned in by a week after (next Tuesday) before 6pm. Detailed posting and due dates are available online in the course schedule. Assignments are short programming questions that should be responded individually by students about a given problem or case based on each week’s topic. Assignments should be submitted through the OnCourse website as a Word document (template will be available for download).

Quizzes: A number of online quizzes will be administered throughout the course. Quizzes are multiple-choice and will cover topics reviewed in previous classes. Neither a Mid-term, nor a Final-exam, is considered for this course.

Final Project: The main project consists of the following parts: (a) Design and creation of a relational database within MySQL. (b) Design and creation of several web based forms with HTML/PHP technology to query the available database and show the end results. (c) A short report about phase 1 and 2 which includes the schema of the MySQL database and the HTML/PHP code. (d) Finally students should submit the final project (MySQL dump + HTML/PHP code + Report) directly to OnCourse. All phases (a to b) should be finished before the ‘Project due date’ defined on the course website. More details about the final project will be posted on info510.com.

Participation: Participation includes punctuality, regular attendance, proactive discussions in the class, helping other students in-and-out of the class, and reading the material before the class. The instructor will determine the participation level for each student on an individual basis at the end of the semester.
Grading Principles and Policies
Students should review all grading forms that will be used by the instructor to grade projects, presentations, papers, and other assignments. If students want to see their grades at any time during the semester, they should contact the instructor by phone or email.

Attendance
Attendance is required. The University regulations state: “Students are expected to be present for every meeting of the classes in which they are enrolled.” IUPUI faculty are required to submit to the office of the Register a record of student attendance through the semester, on which they will take action if the record conveys a trend of absenteeism. As a result, attendance will be taken in all classes. An Attendance sheet will be passed out in class for each student to sign their name. If you do not sign your name while in class you will be marked absent. The instructor is not expected to remember who attended when, so signing the sheet while in class is important. Signing the attendance sheet for another student is absolutely prohibited. Any student found doing so will be in violation of university policies on ethics and/or conduct.

Criteria to evaluate assignments, discussions and final group project
Exceptional quality (not quantity) - (90-100)
- Evident that individual has completed all reading assignments
- Demonstrates applied level of understanding through personal reflections
- Answer is well-developed and logically reasoned
- Provides original insights or responses; extends comments of others
- Supports and leads others in discussion; respects others and their ideas

Superior quality (not quantity) - (75-90)
- Evident that individual has completed all reading assignments
- Demonstrates applied level of understanding through personal reflections
- Answer is provided; logic may not be clear
• Provides original insights or responses
• Makes connections to what others say; respects others and their ideas

Satisfactory quality and quantity - (60-75)
• Evident that individual has completed all reading assignments
• Primarily consists of summary or paraphrasing of readings
• Answer is not fully developed; logic is not clear
• Contribution is primarily a response to others; minimal originality
• Is respectful of others and their ideas

Does not meet expectations - (30-60)
• Not clear that individual has completed reading assignments
• Only consists of summary or paraphrasing of readings
• Minimal effort put into answer
• Is not respectful of others and their ideas

Assignment not completed (0)

Late work
Assignments are due by 6pm each Tuesday based on the class schedule.
• Late papers will be penalized 10% per day (20% for a weekend).
• Assignments more than five days late will not be accepted.
• Missing assignments will receive a mark of zero.

Extensions
Extensions may be granted in the case of exceptional circumstances. You must discuss these circumstances with your instructor at least 24 hours before the assignment is due. (Note: Discussing the situation is not the same as merely informing your instructor.) In order for a late assignment to receive full marks, it must include a note from the instructor confirming the extension date. An instructor note, attached to your assignment, can include a printed copy of an e-mail exchange between instructor and student indicating that an extension has been granted.

Medical reasons for a late assignment must be documented by a doctor’s note. Under normal circumstances (according to university regulations) medical excuses must be presented promptly (within two weeks from the date of the illness).

Backup copies
Please keep an electronic copy and a hard copy of every assignment you submit.

Plagiarism[^1]
Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own.
Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.

(1) A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.

(2) A student must give credit to the originality of others and acknowledge indebtedness whenever:
   • Directly quoting another person’s actual words, whether oral or written
   • Using another person’s ideas, opinions, or theories
   • Paraphrasing the words, ideas, opinions, or theories of others, whether oral or written
   • Borrowing facts, statistics, or illustrative material
   • Offering materials assembled or collected by others in the form of projects or collections without acknowledgment

Please refer to [http://www.psych.iupui.edu/capstone/plagiarism/what_is_it.htm](http://www.psych.iupui.edu/capstone/plagiarism/what_is_it.htm) for some tips about how to avoid plagiarism.

**Equipment needed**

Personal Computer, Internet Connection (preferably high speed)

**Software used**

Online slides are in three different formats: PowerPoint, Acrobat PDF and Flash. Only the Flash version includes sound. Make sure you have the Flash plugin installed on your computer. Assignments and projects should be submitted in Word 2003 (.doc) or 2007 (.docx) document format. Applications used in the class will be available on info510.com.

**University Policies**

**Code of Student Rights, Responsibilities and Conduct**

All students are responsible for reading the Code of Student Rights, Responsibilities and Conduct of IUPUI ([http://www.iupui.edu/code/](http://www.iupui.edu/code/)).

“A student must not violate course rules as contained in a course syllabus, which are rationally related to the content of the course or to the enhancement of the learning process in the course.” [Code of Student Rights, Responsibilities, and Conduct, page 29]

**University Attendance Policy**

Attendance is required. The university regulations state: “Students are expected to be present for every meeting of the classes in which they are enrolled.” IUPUI faculty is required to submit to submit to the office of the Registrar a record of students’ attendance through the semester, on which they will take action if the record conveys a trend of absenteeism. If a student does not participate in the online discussions for the entire week, the student will be considered absent despite the student’s submission of the assignments.
Bringing your children to class
Although not applicable to online classes, it should be stated that “Children are not permitted to attend class with parents, guardians, or childcare providers. This conduct has the effect of unreasonably interfering with an individual's work or academic performance creating an offensive learning environment.”

Academic Dishonesty/Integrity and Plagiarism
Using another student’s work on a project or assignment, cheating on a test, or any other form of dishonesty or plagiarism will result in a grade of zero on that assignment and possibly an “F” in the course, and will be referred to the Dean of Students. All students should aspire to high standards of academic honesty.

Values and Ethics
Profanity or derogatory comments about or towards the instructor or any members of the class will NOT be tolerated. Violating this rule will result in a warning and if the offence continues, administrative action will be taken.

Disabilities Policy
In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to ‘reasonable accommodations’. Please notify the instructor during the first week of class of any accommodations needed for the course. Students with learning disabilities must provide written verification for this policy to be recognized. If you need any special accommodation due to a disability, please contact Adaptive Education Services at 317-274-3241. The office is located at CA 001E.

Statement of Values
The Mission of IUPUI is to provide for its constituents excellence in
• Teaching and Learning
• Research, Scholarship, and Creative Activity
• Civic Engagement

With each of these core activities characterized by
• Collaboration within and across disciplines and with the community
• A commitment to ensuring diversity
• Pursuit of best practices

IUPUI’s mission is derived from and aligned with the principal components – Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices – of Indiana University’s Strategic Directions Charter.

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana’s capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community; both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open
inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

[1] This section is copyrighted by http://www.iupui.edu/code/#page