



IUPUI

**SCHOOL OF INFORMATICS
AND COMPUTING**

DEPARTMENT OF HUMAN-CENTERED COMPUTING
Indiana University-Purdue University
Indianapolis

**NEWM – N510
Web Database Concepts**

**Indiana University School of Informatics and Computing, Indianapolis
Spring 2017**

Class No.: 33209 *Credit Hours:* 3
Time: Wednesdays 6:00–8:40 pm
Location: ICTC (IT) 257, Informatics & Communications Technology Complex
535 West Michigan Street, Indianapolis, IN 46202 [\[map\]](#)
First Class: January 11, 2017
Last Class: May 3, 2017
Website: <https://canvas.iu.edu/>

Instructor: Aqueasha Martin-Hammond, Ph.D.
Assistant Professor, Human-Computer Interaction

Office Hours: By Appointment

Office: IT 585, Informatics & Communications Technology Complex
535 West Michigan Street, Indianapolis, IN 46202 [\[map\]](#)

Phone: (317) 278-7686 (Office)
Email: aqumarti@iupui.edu
Website: <http://www.aqueashamartin.com>

Prerequisites: None

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.

Required Text(s):

None

E-Books (Recommended)

Several relevant e-books are available to students through the IUPUI Library. All e-books require IU login if accessed outside of campus. The following e-books are recommended for this course based on the topics covered.

Title	Author(s)	Link(s)
Head First HTML with CSS	Elisabeth Robson Eric Freeman	http://search.ebscohost.com.proxy.ulib.its.iu.edu/login.aspx?direct=true&db=nlebk&AN=477412&site=ehost-live
PHP 6 and MySQL 6 Bible	Steve Suehring Tim Converse Joyce Park	http://library.books24x7.com.proxy.ulib.its.iu.edu/toc.aspx?bookid=29601

Web Resources

Topic	Website	Link(s)
HTML, CSS, PHP, SQL, XML	w3schools.com	http://www.w3schools.com/html/default.asp http://www.w3schools.com/css/default.asp http://www.w3schools.com/php/default.asp http://www.w3schools.com/sql/default.asp http://www.w3schools.com/xml/default.asp
PHP	php.net	http://php.net/manual/en/getting-started.php
MySQL	dev.mysql.com	https://dev.mysql.com/doc/refman/5.5/en/

Course Objectives and Learning 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 relational databases
- Evaluate a given web application based on different criteria such as structure, dynamics, security, embedded systems, and interactivity

Principles of Graduate and Professional Learning (PGLP)

- Learning outcomes are assessed in the following areas:
- Knowledge and skills mastery (K&S)

- Critical thinking and good judgement (CT)
- Effective communication (EC)
- Ethical behavior (EB)

Expectations, Guidelines, and Policies

Course Communication Policy:

Students are required to post class-related questions (e.g. assignments) to the Questions Discussion board in Canvas. Questions about assignments that are emailed directly to the instructor will not be answered.

For issues, not appropriate to be shared with the rest of the class, email the instructor at aqumarti@iupui.edu.

Attendance:

A basic requirement of this course is that you will participate in all class meetings and conscientiously complete all required course activities and assignments. Class attendance is required for classroom-based courses. It entails being present and attentive for the entire class period. Attendance shall be taken in every class. If you do not sign the attendance sheet while in class, you shall be marked absent. Signing the attendance sheet for another student is prohibited. The instructor is required to submit to the Registrar a record of student attendance, and action shall be taken if the record conveys a trend of absenteeism.

Only the following are acceptable excuses for absences: death in the immediate family (e.g. mother, father, spouse, child, or sibling), hospitalization or serious illness; jury duty; court ordered summons; religious holiday; university/school coordinated athletic or scholastic activities; an unanticipated event that would cause attendance to result in substantial hardship to one's self or immediate family. Absences must be explained with the submission of appropriate documentation to the satisfaction of the instructor, who will decide whether missed work may be made up. Absences that do not satisfy the above criteria are considered unexcused. To protect your privacy, doctor's excuses should exclude the nature of the condition and focus instead on how the condition impacts your attendance and academic performance.

Missing class reduces your grade through the following grade reduction policy: **You are allowed 2 unexcused absences.** Each additional absence, unless excused, results in a 5% reduction in your final course grade. More than four absences result in an F in the course. Missing class may also reduce your grade by eliminating opportunities for class participation. For all absences, the student is responsible for all covered materials and assignments.

Incomplete:

The instructor may at her discretion assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would result in unjust hardship to you. All unfinished work must be

completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year. <http://registrar.iupui.edu/incomp.html>

Deliverables:

You are responsible for completing each deliverable (e.g. assignment) by its deadline and submitting it by the specified method. Deadlines will be announced in class and posted to Canvas. Should you miss a class, you are still responsible for completing the deliverable and for finding out what was covered in class, including any new or modified deliverable.

Late Work:

Assignments are due at the beginning to the class period unless otherwise indicated by the instructor. **Late assignments will not be accepted without prior approval or except in cases of unforeseen emergency.** If students are unable to fully complete an assignment by the deadline, they are strongly encouraged to submit their assignment in its current state for partial credit consideration.

Grade Change Policy:

When grades are posted to Canvas, you have 7 days to meet with the instructor about grade changes. After 7 days, the grade will not be changed.

Grading Information

1. Assignments (0-5)	30 %
2. Quizzes (0-3)	20%
3. Project Proposal	5%
4. Final Project	35%
Presentation & Demo	5%
Report	10%
Website & MySQL database	20%
5. Class Participation	10%
Total	100%

Explanation of Grade Components and Expectations

The goal of this course is for students to learn how apply problem solving skills in order to solve real world problems. Therefore, one aim of this course is for students to learn how to learn so that they can adapt their skills as required. This course will be hands on. Students will learn by following tutorials, participating in hands-on class activities, working on problem-based assignments, taking part in lecture and discussion, and helping others. The course includes a variety of grade components which are explained below.

- 1. Assignments:** Assignments will be posted to Canvas the day they are assigned in class. During the class the instructor will discuss in detail the assignment and submission

requirements. Students will be provided with time in class to ask questions. All assignments should be submitted to Canvas following the instructions provided. All assignments due dates are listed on the syllabus and will be announced in class as a reminder.

2. **Quizzes:** Quizzes will be administered throughout the course during the class session time. Quizzes will cover topics reviewed in previous classes. This course does not include a midterm or final exam.
3. **Project Proposal:** This course will require students to complete a final project. In preparation for the final project, students will be required to submit a project proposal to obtain feedback on their project idea.
4. **Final Project:** The final project includes three parts:
 - a. **Website & MySQL database**
Students will be required to:
 - design and implement a MySQL database
 - design and implement a website using HTML and PHP to query the MySQL database
 - b. **Presentation & Demo**
Students will create a short presentation about their website and demo their website in class.
 - c. **Report**
Students will write a short report detailing their website's functionality, the motivation behind the website, the database design (schema) and the HTML/PHP code.

All deliverables including the database, website code, report, and presentation materials should be uploaded to the appropriate assignment on Canvas.

5. **Class Participation:** Class participation will be based on the evaluation of the following activities:
 - a. Students are expected to come to class prepared with an understanding of any reading assignments that support the lecture and to engage in purposeful discussion related to the reading materials
 - b. Proactive participation in class discussion, quality of questions posed during discussion, and participation in class activities

Weekly Schedule

* Readings for each topic covered will be posted to Canvas

Date	Topics Covered	Assignment Due
WK: 1 Jan. 11	Syllabus Review Course Overview Introductions Web Intro	
WK: 2 Jan. 18	HTML Basics Introduction, Editors, Elements, Basic Tags,	Assignment #0: Setup and Test the Development Environment

	Formatting, Links, Fonts, Colors, Images, Lists, Tables, Blocks, Styles	
WK: 3 Jan. 25	HTML Basics (Cont'd) Forms, Document Type, Scripts	
WK: 4 Feb. 1	Relational Database Overview MySQL Introduction, Command Line vs. GUI Tools, SELECT, WHERE, AND, OR, IN, DISTINCT, ORDER BY, Constraints, Data Types,	Assignment #1: HTML
WK: 5 Feb. 8	MySQL INSERT INTO, UPDATE/SET, DELETE, JOINS, GROUP BY/HAVING, FUNCTIONS	
WK: 6 Feb. 15	MySQL CREATE DB, TABLE, INDEX, TRUNCATE, DROP, ALTER, SELECT INTO	
WK: 7 Feb. 22	MySQL Other Topics	Assignment #2: MySQL
WK: 8 Mar. 1	PHP Introduction, Syntax, Variables, ECHO/PRINT, Data Types, Basic MySQL Integration	
WK: 9 Mar. 8	PHP Strings, Arrays	Assignment # 3: MySQL & PHP
WK: 11 Mar. 15	** SPRING BREAK - NO CLASS **	
WK: 10 Mar. 22	PHP Operators, Conditions, Loops, Functions	Project Proposal
WK: 12 Mar. 29	PHP Forms, File Handling	
WK: 13 Apr. 5	PHP Cookies, Sessions, Error Handling	Assignment #4: MySQL & PHP
WK: 14 Apr. 12	XML	
WK: 15 Apr. 19	Database Security	Assignment #5: MySQL & PHP
WK: 16 Apr. 26	Project Consultation & Independent Work Week	
WK: 17 May 3	Final Project Report & Presentation	

Grading Scale:

A+	97 – 100	Outstanding achievement, given at the instructor’s discretion
A	93 – 96.99	Excellent achievement
A–	90 – 92.99	Very good performance and quality of work
B+	87 – 89.99	Good performance and quality of work
B	83 – 86.99	Modestly acceptable performance and quality of work
B–	80 – 82.99	Marginal acceptable performance and quality of work
C+	77 – 79.99	Unacceptable work (Course must be repeated for credit)
C	73 – 76.99	Unacceptable work (Course must be repeated for credit)
C–	70 – 72.99	Unacceptable work (Course must be repeated for credit)
D+	67 – 69.99	Unacceptable work (Course must be repeated for credit)
D	63 – 66.99	Unacceptable work (Course must be repeated for credit)
D–	60 – 62.99	Unacceptable work (Course must be repeated for credit)
F	Below 60	Unacceptable work (Course must be repeated for credit)

No credits toward major, minor, or certificate requirements are granted for a grade below B–.

Code of Conduct

All students should aspire to the highest standards of academic integrity. Using another student’s work on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program.

All students are responsible for reading, understanding, and applying the *Code of Student Rights, Responsibilities and Conduct* and in particular the section on academic misconduct. Refer to *The Code > Responsibilities > Academic Misconduct* at <http://www.indiana.edu/~code/>. All students must also successfully complete the Indiana University Department of Education “How to Recognize Plagiarism” Tutorial and Test. <https://www.indiana.edu/~istd> You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else’s words (e.g., following the *Publication Manual of the American Psychological Association*). To detect plagiarism instructors apply a range of methods, including Turnitin.com. <http://www.ulib.iupui.edu/libinfo/turnitin>

Academic misconduct:

1. **Cheating:** Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.
 - a. A student must not use external assistance on any “in-class” or “take-home” examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.
 - b. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the instructor to whom the work is being submitted.

- c. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.
 - d. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student's individual work.
 - e. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
 - f. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
 - g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.
 - h. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.
2. **Fabrication:** A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.
 3. **Plagiarism:** 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.
 - a. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
 - b. A student must give credit to the originality of others and acknowledge indebtedness whenever:
 1. directly quoting another person's actual words, whether oral or written;
 2. using another person's ideas, opinions, or theories;
 3. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
 4. borrowing facts, statistics, or illustrative material; or
 5. offering materials assembled or collected by others in the form of projects or collections without acknowledgment
 4. **Interference:** A student must not steal, change, destroy, or impede another student's work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student's grade or the evaluation of academic performance. Impeding another student's work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.
 5. **Violation of course rules:** A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.
 6. **Facilitating academic dishonesty:** A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another

student to use his or her work or resources to commit an act of misconduct.

Other Policies

1. **Administrative withdrawal:** A basic requirement of this course is that students participate in all class discussions and conscientiously complete all required course activities and/or assignments. If a student is unable to attend, participate in, or complete an assignment on time, it is the student's responsibility to inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and a student who has been administratively withdrawn from a course is ineligible for a tuition refund. Contact the instructor with questions concerning administrative withdrawal.
2. **Civility:** To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in lectures, discussions, group work, and other classroom exercises. Thus, unnecessary disruptions should be avoided, such as ringing cell phones, engagement in private conversations, and other unrelated activities. Cell phones, media players, or any noisy devices should be turned off during a class. Texting, surfing the Internet, and posting to Facebook or Twitter during class are generally not permitted. Laptop use may be permitted if it is used for taking notes or conducting class activities. Students should check with the instructor about permissible devices in class. IUPUI nurtures and promotes "a campus climate that seeks, values, and cultivates diversity in all of its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued" (IUPUI Strategic Initiative 9). IUPUI prohibits "discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or veteran status" (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers or other classroom visitors, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.
3. **Communication:** For classroom-based courses, the instructor or teaching assistant should respond to emails by the end of the next class or, for online courses, within two Indiana University working days, which excludes weekends and holidays. The instructor should provide weekly office hours or accept appointments for face-to-face, telephone, or teleconferenced meetings, and announce periods of extended absence in advance.
4. **Counseling and Psychological Services (CAPS):** Students seeking counseling or other psychological services should contact the CAPS office by phone at 274-2548 or email at capsindy@iupui.edu. For more information visit <http://life.iupui.edu/caps/>.
5. **Course evaluations:** Course evaluations provide vital information for improving the quality of courses and programs. Students are urged to complete one course and instructor evaluation for each section in which they are enrolled at the School of Informatics and Computing with the following three exceptions: (a) The student has withdrawn from the course; (b) fewer than five students are enrolled in the section (in which case maintaining anonymity is difficult); and (c) the section is a laboratory that must be taken with a course having a different section number. Course evaluations are completed at <https://soic.iupui.edu/app/course-eval/>. Course

evaluations are typically open from the eleventh week. Course evaluations are anonymous, which means that no one can view the name of the student completing the evaluation. In addition, no one can view the evaluation itself until after the instructor has submitted the final grades for the course. In small sections, demographic information should be left blank, if it could be used to identify the student.

6. **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 accommodations needed for the course. Students requiring accommodations because of a disability must register with Adaptive Educational Services (AES) and complete the appropriate AES-issued before receiving accommodations. The AES office is located at UC 100, Taylor Hall (Email: aes@iupui.edu, Tel. 317 274-3241). Visit <http://aes.iupui.edu> for more information.
7. **Email:** Indiana University uses your IU email account as an official means of communication, and students should check it daily for pertinent information. Although you may have your IU email forwarded to an outside email account, please email faculty and staff from your IU email account.
8. **Emergency preparedness:** Safety on campus is everyone's responsibility. Know what to do in an emergency so that you can protect yourself and others. For specific information, visit the emergency management website. <http://protect.iu.edu/emergency>
9. **IUPUI course policies:** A number of campus policies governing IUPUI courses may be found at the following link: http://registrar.iupui.edu/course_policies.html
10. **No class attendance without official enrollment.** Only those who are officially enrolled in this course may attend class unless they are enrolled as an auditor or making up an Incomplete by prior arrangement with the instructor. This policy does not apply to those assisting a student with a documented disability, serving in an instructional role, or administrative personnel. <http://registrar.iupui.edu/official-enrollment-class-attendance.html> Children may *not* attend class with their parents, guardians, or childcare providers.
11. **Right to revise: The instructor reserves the right to make changes to this syllabus as necessary and, in such an event, will notify students of the changes immediately.**
12. **Student advocate:** The Student Advocate provides assistance to students with personal, financial, and academic issues. The Student Advocate Office is located in the Campus Center, Suite 350. The Student Advocate may also be contacted by phone at 317 274-4431 or by email at studvoc@iupui.edu. For more information visit <http://studentaffairs.iupui.edu/advocate>.

Mission Statement

The Mission of IUPUI is to provide for its constituents' excellence in

- Teaching and Learning;
- Research, Scholarship, and Creative Activity; and
- Civic Engagement.

With each of these core activities characterized by

- Collaboration within and across disciplines and with the community;

- A commitment to ensuring diversity; and
- 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.

Statement of Values

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.