Tentative Syllabus

SPRING 2018

NEWM-N 413

ADVANCED WEB (3 CR)
Section Number: 25518/25581

Class Time: 12:00P-2:40P   Thursdays
Classroom: IT 357
Credit Hours: 3

Instructor:
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School of Informatics and Computing (SOIC)
Indiana University-Purdue University Indianapolis

Course Description

The Advanced Web course will explore web application development using MySQL, PHP, Javascript/jQuery, CSS3 and HTML5. Students will be introduced to MySQL databases using the phpMyAdmin interface, and will use PHP to create server-side interfaces between the database and browser-based web pages. Javascript, CSS3, and jQuery will be used to create AJAX-style communication between the server and the browser. Students will plan and complete a series of demonstration projects, and various related topics will be presented in class. A student project will allow students to design and develop a web application of their own design.

Course Outcomes

During the course of N413 Advanced Web class, the students are expected to acquire the following course outcomes:

- An introductory-level understanding of database design and development, using MySQL.
- A beginning-level understanding of PHP scripting, including general PHP scripting techniques, use of variables and data structures, database connections, database queries, utilizing database query return information, formatting database return information as

HTML or other data-exchange formats (such as XML and JSON), using GET and POST data sent from a web browser, and basic security techniques.

- Practical experience with integrating PHP scripting into HTML web development.
- Intermediate-level understanding of using JavaScript and jQuery to communicate with a server to capture user input data, update web page content, and manipulate CSS style properties.
- Practical experience with designing CSS style sheets for use with a dynamic web application.
- Familiarity with responsive web design techniques, which will work on a wide range of devices and screen sizes.
- Practical experience with developing a project specification, defining the features, timeline, and scope of the project.

Tentative Schedule

- **Jan 11 Week 1 INTRODUCTION**
  - The Full Stack: MySQL/PHP/HTML System Architecture.
  - MAMP/phpMyAdmin Demo.
  - Designing a web app.
  - The SELECT query
  - Drawing a list from the database to the browser
  - Assignment Project 1. Listings
- **Jan 18 Week 2 POST/GET/REQUEST**
  - Assignment 1 Due. Review Submissions.
  - Sending form data from the browser to the database
  - Bootstrap basics
  - Receiving $_GET/$_POST/$_REQUEST variables in PHP.
  - The INSERT query
  - Assignment Project 2. Contacts
- **Jan 25 Week 3 ACCOUNTS & LOG-INS**
  - Assignment 2 Due. Review Submissions.
  - PHP Sessions
  - Creating a Log-in
  - Assignment Project 3. n413 Simple Log-in
- **Feb 1 Week 4 AJAX**
  - Assignment 3 Due. Review Submissions.
  - jQuery basics
  - Bootstrap Modals
  - jQuery.post() and AJAX
  - Assignment Project 4. n413 Advanced Log-in

- **Feb 8 Week 5 MODEL-VIEW-CONTROLLER**
  - Assignment 4 Due. Review Submissions.
  - Personal Project Proposals Due. Discuss proposals.
  - Model-View-Controller techniques
  - Code Igniter
  - Code Igniter set-up
  - Assignment Project 5. n413 Basic Code Igniter
- **Feb 15 Week 6 DATA ATTRIBUTES**
  - Assignment 5 Due. Review Submissions.
  - Using data attributes
  - jQuery/Bootstrap plugins
  - Typeaheads, tooltips, and popovers
  - Assignment Project 6. Data attributes project
- **Feb 22 Week 7 PROJECT PROTOTYPES**
  - Assignment 6 Due. Review Submissions.
  - Personal Project Prototype Due. Review Submissions.
  - Discuss Personal Project Requirements/Specification Document
- **Mar 1 Week 8 PROJECT DOCUMENTATION**
  - Personal Project Requirements/Specification Document Due.
  - Review/Discuss project documents
  - Discuss Research Topic proposals
- **Mar 8 Week 9 RESEARCH TOPIC PROPOSALS**
  - Research Topic proposals Due. Review proposals, assign dates.
  - Topic TBA
- **Mar 15 SPRING BREAK**
- **Mar 22 PROJECT REVIEW**
  - Project Review
  - Research Presentations
- **Mar 29 PROJECT REVIEW**
  - Project Review
  - Research Presentations
- **Apr 5 PROJECT REVIEW**
  - Project Review
  - Research Presentations
- **Apr 12 USER TESTING**
  - User Testing Session
  - Research Presentations
- **Apr 19 PROJECT REVIEW**
  - Project Review
  - Research Presentations
- **Apr 26 FINAL PROJECT PRESENTATION**
  - Present Final Projects, submit all outstanding work
- **May 3 FINAL EXAM WEEK**
  - No Class Meeting

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, 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.

Principles of Undergraduate Learning (PUL)

Each class should be able to assess learning outcomes in the following areas:

- Core communication: written, oral and visual skills
- Core communication: quantitative skills
- Core communication: information resources skills
- Critical thinking
- Integration and application of knowledge
- Intellectual depth, breadth, and adaptiveness
- Understanding society and culture
- Values and ethics

Required Text

- There is no required text for the course, but there are a few recommended books that will be helpful to students encountering these topics for the first time:

Learning PHP and MySQL by Davis & Phillips, O'Reilly Press.

PHP and MySQL Web Development by Welling & Thomson, Sams Publishing.

Responsive Web Site Design by Ben Frain, Packt Publishing.

Core Competencies

The students who take this course should have acquired certain level of competency in their expertise areas. Through this course, the student will enhance the following competencies:

- communication skills
- project planning/management skills
- critical and creative thinking skills

Equipment/Supplies

Server account: SOIC will provide an account on the "web4" server for all participants in the course. It is encouraged and recommended that participants set up their own web hosting accounts, since the process is a valuable learning experience, and it will provide a permanent home for the projects you build during the class. SOIC "web4" accounts only exist during the semester students are in the class, and the projects built during class will be deleted at the start of the following school term.

Attendance

Attendance is vital to your success in this class. You are required to be present in class to learn new knowledge, participate in discussions, and to present your ideas and your project. University regulations state: "Students are expected to be present for every meeting of the classes which they are enrolled." There are reasons for missing class: illness, accidents, or death/serious illness in the family, etc. **For whatever reason, you are allowed to be absent for up to two times. If you are absent three or more times, the attendance score for your grade will be reduced.** An absence as a result of school shutdown is not counted as an absence.

Attendance will be taken at the end of each class. Every unjustified absence will cost you a point of your attendance grade. Justifications include your illness, taking care of one of your family members, natural disasters. If you have any other situations that you believe are justified for your being absent, you need to talk to one of the instructors. If you miss a class, you should get notes from a classmate.

Participation

Class participation is defined as intelligently and thoughtfully articulating ideas in discussions, respectfully listening to other's points of view, asking relevant questions, neither being too dominant nor too passive in the discussions, and wholeheartedly participating in presentations and exercises.

You will not get any participation credit for simply being present.

You are expected to:

1. be fully prepared to actively participate in discussions regarding the topic of the day,
2. contribute your ideas and answer questions in class regarding your project and other students' projects,
3. and spend time with other students to provide conceptual and technological help that you are capable of within your expertise areas.

It is hoped that the class will provide a friendly environment for students helping other students. Here is why you should be actively helpful to other students who may need help:

1. Students who help other students learn more by assisting others.
2. Students who assist others help the instructor, and this is noted in the participation score.
3. Students who share their knowledge contribute to the overall value of the course to all participants, including the instructor.

Assignments

All assignments are individual assignments. All your assignments should be turned in as instructed by the specified deadlines. Simply meeting the requirements of an assignment or simply working hard does not earn you an A or 100%. Meeting minimum requirements is a passing grade, which is a C. Additional effort coupled with outstanding performance earns a high grade. The grading criteria are listed in the assignment sheets.

Projects

A series of projects will be developed for the class, designed to provide practical experience and supported by topics discussed in class. Each project will be given a point value. Projects will be discussed in class during the weeks they are in progress.   You should be prepared to share your degree of progress, design solutions, and problems with the current class project. **This requires that you bring to class any hard drives, laptops, etc., needed to display your work.**

Presentations

Each student will present completed projects to the class on days specified in this syllabus. Students are expected to demonstrate a positive and healthy attitude at all times and a willingness to accept criticism as part of the ongoing creative production process.

Each student will produce a presentation on a **research topic**. The student and the instructor will agree on the topic and the presentation date.   The presentation will be designed to educate the class about the topic, and will contain in-depth explanations, demonstrations, and/or tutorials.

Personal Project

Each student will **design a project**, which uses the concepts discussed in the course. The student will develop a proposal, which must be approved by the instructor. On approval, the student will develop a prototype and a requirements/specifications document, which will define the project in detail.   The project will be developed during the semester, with weekly progress reports delivered in class. Students are expected to discuss their progress, including successes and failures during weekly class discussions. **Projects that are not discussed in class (i.e., projects that are seen for the first time near the end of the semester) may be penalized.**

Grading

All the assignments have their own grading criteria stated in the assignment definition on Canvas.

Point values for course components:

Attendance/Participation (7/3)	10 points
Assignment Projects (5 pts. each)	30 points
Research Topic Presentation	20 points
Personal Project Prototype	5 points
Personal Project Specification Documents	5 points
Personal Project	30 points

All project files (and supporting source files, where necessary) **must be compiled on a CD or DVD** and submitted for final grade evaluation.

Grading scale is as follows:

98.0-100	A+
93-97	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
0-59	F

Late Work

All assignments are due on the date and time specified. This is especially important when presentations are part of the class schedule, and points may be deducted from your score. Late writing assignments will lose points.

Incomplete

A grade of Incomplete (I) will only be given if you have extenuating circumstances that prevent you from completing the class. This includes severe illness/hospitalization. That's about it. If you simply "get behind" in the class, you will not be given an "I." If you get behind, you should drop the class if it is still possible for you to drop. If, for example, you get busy with work and don't have time to devote to the class, you should drop. That is not an extenuating circumstance.

Academic Misconduct

All students in New Media/Informatics should aspire to high standards of academic honesty. This class encourages cooperation and the exchange of ideas. However, students are expected to do their own work.

If you are found to have cheated or plagiarized in any assignment, quiz, or final exam, you will get an "F" for the course grade. If you help another student cheat or plagiarize, your course grade will be "F," too. If you are not sure whether what you are going to do will be regarded as academic dishonesty, you'd better ask me first. All cheating and plagiarism cases will be reported to the Dean of Students.

All students are responsible for reading the code of student rights, Responsibilities, and Conduct of IUPUI.

http://www.iupui.edu/code/

Flexibility

I believe the semester plan is realistic and the objectives are attainable. Nonetheless, I reserve the right to adjust the course content, assignments, etc., based on the class's needs or ability to maintain pace.

Special needs

If you have a learning disability, a physical disadvantage, or other special needs, please talk to me about it during the first or second week of the semester. I want to work with you to accommodate your situation and help you succeed in this course.

Policy regarding children attending

"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."

"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]*