Course Number: IS683

Course Title: Open Source Web Development

Credits: 3

Contact Hours: 3 Hours Face-to-Face

Instructor Information
Name: Keith Williams
Office: Office: 4107 GITC
Phone Number: 973-596-5842
Email (preferred): kwilliam@njit.edu
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Office Hours:
Monday: 11:30AM – 12:30PM
Tuesday: 4:30PM – 5:30PM
Thursday: 11:30AM – 12:30PM
Thursday: 4:30PM – 5:30PM

Course Materials


Lynda.Com Account (Video Lessons) – Register using supplied email

<table>
<thead>
<tr>
<th>Course Names</th>
<th>Hours</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundations of Programming: Fundamentals</td>
<td>04h 47m</td>
<td>22 Sep 2011</td>
</tr>
<tr>
<td>HTML Essential Training (2012)</td>
<td>05h 34m</td>
<td>11 Sep 2012</td>
</tr>
<tr>
<td>MVC Frameworks for Building PHP Web Apps</td>
<td>03h 35m</td>
<td>29 Feb 2012</td>
</tr>
<tr>
<td>Object-Oriented Programming with PHP</td>
<td>01h 47m</td>
<td>26 Sep 2012</td>
</tr>
<tr>
<td>Ruby on Rails 3 Essential Training</td>
<td>12h 09m</td>
<td>21 Oct 2010</td>
</tr>
</tbody>
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Catalog Description

Students will gain experience in open source web development through an intensive hands-on project, applying real-world problem-solving skills to meeting information systems requirements. Students will learn Web development principles, as well as professionally relevant skills including industry standards, conventions, and procedures within large-scale programming projects. Also covered are the communication tools, technologies, and practices that individuals use to coordinate and collaborate within the open source software development community.

Prerequisites: Prior programming experience
Learning Outcomes

1. Students will be able to work in a team to develop a web application
   **ABET Program Outcome: D**
2. Students will be able to design a web application that integrates client and server side
   programming techniques. **ABET Program Outcome: C**
3. Students will be able to communicate to a client the choice of technology and estimate the costs
   of designing, developing, implementing, and supporting a web application. **ABET Program Outcome: F**
4. Students will be able to create a website using HTML and CSS. **ABET Program Outcome: I**
5. Students will be able to create a web application using a server side language **ABET Program Outcome: I**
6. Students will be able to implement a client side feature for a website using JavaScript. **ABET Program Outcome: I**
7. Students will be able make a web page easier to find by applying technical knowledge of how
   search engines rank pages **ABET Program Outcome: A**

ABET Program Outcomes

(A) An ability to apply knowledge of computing and mathematics appropriate to the discipline
(B) An ability to analyze a problem, and identify and define the computing requirements
    appropriate to its solution
(C) An ability to design, implement, and evaluate a computer-based system, process,
    component, or program to meet desired needs
(D) An ability to function effectively on teams to accomplish a common goal
(F) An ability to communicate effectively with a range of audiences
(I) An ability to use current techniques, skills, and tools necessary for computing practice.

Topics Covered

1. History of the Internet
2. Internet technologies and processes: SFTP/FTP/HTTP/SSH/DNS
3. HTML / CSS Syntax and Techniques
4. CSS Based Layouts
5. JavaScript programming
6. Ruby and/or PHP development
7. PHP MVC Frameworks
8. Design Patterns
9. Software licensing for software libraries and frameworks
10. Web Analytics: Bounce Rate, Visitors, Page Views, Etc...
11. Website wireframe and mockup creation
12. Information architecture for website navigation
Grading

Homework: 30%
Final Project: 20%
Exams: 20%
Final Exam: 20%
Group Participation: 10%

Attendance

Attendance will be taken for each class meeting. You are permitted one unexcused absence for the class; however, each subsequent absence will result in a 6 percent reduction in your final grade.

Academic Integrity Policy

My expectation is that each person will complete original work for this course and will not copy from fellow students or tutorials online. It is OK to refer to tutorials online; however, you will be considered in violation of the NJIT honor code by submitting work found online. Any violations of the honor code will be referred to the Dean of Students for investigation and possible disciplinary action.

For more information about the NJIT honor code, you should refer to this document:

http://www.njit.edu/academics/pdf/academic-integrity-code.pdf