

Course Number: IS421

Course Title: Advanced Web Applications

Section: 101

Date & Time: W: 6:00PM – 9:00PM

Location: MALL PC 40

Credits: 3

Contact Hours: 3 Hours Face-to-Face

Instructor Information:

Name: Keith Williams

Office: 5114 GITC

Phone Number: 551-580-3989

Email (preferred): kwilliam@njit.edu

Office Hours:

Tuesday: 1:00PM – 2:15PM

Wednesday: 3:30-5:30PM

Thursday: 4:00-5:30PM

By Appointment and Contact me through email or slack to let me know you're coming to office hours.

Required Materials

Stauffer, M. (2017). Laravel: up and running: a framework for building modern PHP apps. Sebastopol, CA: O'Reilly.
ISBN: 978-1491936085

Course Description

This course focuses on the design, development, and management of cloud based Information Systems, within the context of startup companies and established organizations. Within the course, we examine business, organizational and technical challenges faced by developers, project managers, and the business development professionals that create web based software products. The course consists of readings, discussions, and a final team project that demonstrates modular design, planned scalability, maintainability, and the creation of a set of organizational processes that supports the continued support and development of the application. Some of the topics covered in the course are: continuous deployment, continuous integration, automated unit testing, modular design, software team management, Agile development, Kanban, customer focused development, and the technologies used to scale cloud application.

Prerequisites: CS118 or 202

Learning Outcomes

1. Students will be able to compare and contrast Agile and Kanban process
2. Students will be able to implement automated software testing using selenium
3. Students will be able to setup a linux based development environment using a virtual machine
4. Students will be able to develop an application using an application framework (Laravel)

Topics Covered

1. Redis, MongoDB, and MySQL within the context of scalable web applications
2. Laravel
3. Software Testing and Quality Assurance
4. Continuous Integration and Deployment
5. Software project team roles
6. Agile and Kanban Development
7. Cloud Computing within the context of hosting a web application
8. Software development tools – Basecamp, Jira, Github

Grading

Homework: 10%

Final Project: 40%

Exams: 40%

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>

TENTATIVE CLASS SCHEDULE

Below are the TOPICS covered in the course.

Week Meetings	Topics	Assignments
1	Introduction of tools we use in this course: Virtual Box Setup and Advanced Linux	<i>Setup Your Virtual Box with SSH and Laravel</i>
2	Introduction to Frameworks and Setting Up Your Development Environment With Laravel	<i>Homework 1</i>
3	Routing and Controllers	<i>Homework 2</i>
4	Front End Components	<i>Homework 3</i>
5	Handling User Data	<i>Exam #1</i>
6	Artisan	<i>Homework 4</i>
7	Database and Eloquent	<i>Homework 5</i>
8	User Authentication	<i>Homework 6</i>
9	Testing	<i>Exam #2</i>
10	Writing Web API	<i>Homework 7</i>
11	File Storage	<i>Homework 8</i>
12	Mail and Notifications	<i>Homework 9</i>
13	Project (Discussion)	<i>Final Project Assigned Due At Final Exam</i>
14	Project (Discussion)	
15	Project (Discussion)	
		<i>Exam 3 - Final</i>