

**Course Number:** IS421

**Course Title:** Advanced Web Applications

**Section:** 101

**Date & Time:** T: 6:00PM – 9:05PM

**Credits:** 3

**Contact Hours:** 3 Hours Face-to-Face

**Instructor Information**

**Name:** Keith Williams

**Office:** Office: 4107 GITC

**Email (preferred):** [kwilliam@njit.edu](mailto:kwilliam@njit.edu)

**Office Hours:**

Tuesday: 5:00PM – 5:55PM GITC 4107

Please make an appointment and other hours can be arranged, if you need assistance.

**Required Materials**

Kniberg, H., & Skarin, M. (2010). *Kanban and Scrum: Making the most of both*. S.l.: C4Media.

**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 compare agile development the waterfall methodology
3. Students will be able to explain the importance of software testing
4. Students will be able to implement a continuous integration process
5. Students will be able to implement a continuous deployment process
6. Students will be able to create a software development team role plan

**Topics Covered**

1. Redis, MongoDB, and MySQL within the context of scalable web applications
2. Node.js – JavaScript server side programming or PHP may be substituted
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: 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>