REGIS UNIVERSITY

COLLEGE OF COMPUTER & INFORMATION SCIENCES

Syllabus

Course Number: MSSE 663

Course Title: Web Frameworks

Course Description:

Covers the most popular JavaScript frameworks, including jQuery, AngularJS, and Google Maps. Students learn how to use these frameworks to do DOM manipulation, AJAX, single page applications, and the display/manipulation of maps.

Prerequisite Courses:

MSSE 661

Course Outcomes:

Upon completion of this course, learners should be able to:
1. Demonstrate your understanding of web-server development through the design, installation and configuration of a node.js web-server.
2. Illustrate your understanding of JavaScript Libraries and frameworks through the design and delivery of a web application (i.e., Auction Site).
3. Design modules and simple applications which utilize node.js package management, pakage.json and JSON server to handle asyync requests.
4. Utilize routing and dependency injection in the design and development of web-applications.
5. Utilize data-bindings and reactive programming component communications in web-applications.
6. Design and build web-applications that incorporate REST and middle-ware frameworks.
7. Build web-applications that integrate MySQL and Mongo Databases.
8. Implement template-driven HTML forms that interact with web-servers via HTTP and websocket protocols.
9. Design, develop and deploy Node.js applications on production servers in UNIX/LINUIX and Windows environments.
10. Build, test and deploy framework-specific JavaScript (i.e., Angular) applications.
11. Use Jquery to manipulate the Document Object Model (DOM) as demonstrated in use case development.
12. Utilize Jquery design patterns through the design of use cases and develop of web-application dashboards.

Course Materials:

Required Texts:

- Fain, Y., & Moiseev, A. (2016). *Angular 2 Development with TypeScript (1 edition)*. Shelter Island, NY: Manning Publications.

- Greasidis, T. (2016). *JQuery Design Patterns*. Packt Publishing Ltd.

- Wandschneider, M. (2016). *Learning Node. js: a hands-on guide to building Web applications in JavaScript*. Addison-Wesley Professional.

Recommended Texts:

- Demaree, D. (2016). *Git for Humans*. A Book Apart.

Technology Tools:

Minimum Technology Requirements: http://www.regis.edu/CPS/CPS-Student-Portal/College-for-Professional-Studies/Academic-Resources/Online-Learning/System-Requirements.aspx

NetBeans IDE (HTML5 & PHP edition)
Webstorm from Jetbrains
Balsamiq
MySQL Community Edition
MySQL Workbench

Pre-Assignment:

Linux nano-course preferred, installation of webserver, begin first week readings.

Course Assignments and Activities:

	Topics	Readings	Activities Assignments and Associated Points
1	Introduction to node.js, JavaScript library and frameworks (i.e., Angular JS).	(Fain & Moiseev, 2017) Chs. 1, 2 (Wandschneider, 2017) Chs. 1, 2, 3	• Demonstrations & Exercises ▪ Install webserver *(5%)* • Reflection and Review questions *(~1%)*

2	Introduction to Async tasks, buffers and streams with JSON server, npm, and template.	(Fain & Moiseev, 2017) Chs. 3, 4
		
		(Wandschneider, 2017) Chs. 4, 5, 6
			• Demonstrations & Exercises
			  ◦ Build and/or Modify (B a/o M) Node
			   ▪ *Small photo album app – Part 1 (10%)*
			  ◦ Build and/or *Modify (Angular)*
			   ▪ Auction Site – Part 1 *(10%)*
			• Reflection and Review questions *(~1%)*

3	Data-bindings, reactive programming, REST and middleware frameworks and database integration.	(Fain & Moiseev, 2017)
		Chs. 5, 6
		
		(Wandschneider, 2017)
		Chs. 7, 8, 9
			• Demonstrations & Exercises
			  ◦ Build and/or Modify (B a/o M) Node
			   ▪ *Small photo album app – Part 2 (10%)*
			  ◦ Build and/or *Modify (Angular)*
			   ▪ Auction Site – Part 2 *(10%)*
			• Reflection and Review questions *(~1%)*

4	Template-driven design and deployment to UNIX, LINUX and Windows environments.	(Fain & Moiseev, 2017)
		Chs. 7, 8
		
		(Wandschneider, 2017)
		Chs. 10, 11, 12, 13
			• Demonstrations & Exercises
			  ◦ Build and/or Modify (B a/o M) Node
			   ▪ *Small photo album app – Part 3 (10%)*
			  ◦ Build and/or *Modify (Angular)*
			   ▪ Auction Site – Part 3 *(10%)*
			• Reflection and Review questions *(~1%)*

5	Framework-specific build, test and deployment.	(Fain & Moiseev, 2017)
		Chs. 9, 10
			• Demonstrations & Exercises
			  ◦ Build and/or *Modify (Angular)*
			   ▪ *Auction Site – Part 4 (10%)*
			• Reflection and Review questions *(~1%)*

6	JQuery design patterns	(Greasidis, 2016) Chs. 1, 2, 3	• Demonstrations & Exercises ◦ *Dashboard Demo – Part 1 (5%)* • Reflection and Review questions *(~1%)*
7	JQuery design patterns	(Greasidis, 2016) Chs. 4, 5, 6, 7	• Demonstrations & Exercises ◦ *Dashboard Demo – Part 2 (5%)* • Reflection and Review questions *(~1%)*
8	Web-framework Integration and Delivery	(Greasidis, 2016) Chs. 8, 9, 10	• Final Presentation *(5%)* • Reflection and Review questions *(~1%)*

Summary of Assignments and Percentage Weight:

Assignments	Weighted Percentage
Demonstrations & Exercises	15%
Build and/or Modify Assignments	75%
Reflection and Review Questions	10%
Total	**100%**

CC&IS Grading Scale

Letter Grade	Percentage	Grade Point
A	93 to 100	4.00
A–	90 to less than 93	3.67
B+	87 to less than 90	3.33
B	83 to less than 87	3.00
B–	80 to less than 83	2.67
C+	77 to less than 80	2.33
C	73 to less than 77	2.00
C–	70 to less than 73	1.67
D+	67 to less than 70	1.33
D	63 to less than 67	1.00
D-	60 to less than 63	.67
F	Less than 60	0

Additional information about grading can be found in the latest edition of the University Catalog, available at http://www.regis.edu/Academics/Course%20Catalog.aspx.

CC&IS Policies and Procedures

Each of the following CC&IS Policies & Procedures is incorporated here by reference. Students are expected to review this information each term, and agree to the policies and procedures as identified here and specified in the latest edition of the University Catalog, available at http://www.regis.edu/Academics/Course%20Catalog.aspx or at the link provided.

- The CC&IS Academic Integrity Policy.

- The Student Honor Code and Student Standards of Conduct.

- Incomplete Grade Policy, Pass / No Pass Grades, Grade Reports.

- The Information Privacy policy and FERPA. For more information regarding FERPA, visit the U.S. Department of Education.

- The HIPPA policies for protected health information. The complete Regis University HIPAA Privacy & Security policy can be found here: http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx.

- The Human Subjects Institutional Review Board (IRB) procedures. More information about the IRB and its processes can be found here: http://regis.edu/Academics/Academic-Grants/Proposals/Regis-Information/IRB.aspx.

The CC&IS Policies & Procedures Syllabus Addendum summarizes additional important policies including, Diversity, Equal Access, Disability Services, and Attendance & Participation that apply to every course offered by the College of Computer & Information Sciences at Regis HYPERLINK "https://in2.regis.edu/sites/ccis/policies/Repository/CCIS Syllabus