CMPS 356 - Software Development of Enterprise Applications

Syllabus and Course Admin

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Outline for Today

- Course introduction
- Grading
- Policies

About the Instructor

- **Dr. Abdelkarim Erradi**
  - **Office:** Office 132 Female Engineering Building
  - **Phone:** 4403 4254

Office hours:

- **Tuesday 11am to 11:55am** at my office C07-132
- You can talk to me **after** class if you have issues/questions
- **Best way to contact me is by Email** erradi@qu.edu.qa

Course Goals (1 of 2)

1. Introduce the principles and the technologies to design and develop Web applications
2. Provide students with the opportunity to design, build, test, and deploy enterprise applications using various client-side and server-side Web technologies
3. Employ state-of-the art application frameworks and development tools to build Web applications

Course Goals (2 of 2)

- Gain practical hands on experience with web-based technologies
  - Often, the best way to understand something is to build it yourself
  - Labs Activities/Assignments
  - Project: Substantial implementation project to design and implement a Web Application

  => Put what you learned into use!

=> This is the closest you can get to experience how real world Web applications are designed and built

Why this Course?

- Enterprise Web Applications are **critical applications** that **automate business processes** and **support the organization in achieving its goals**
- There are typically characterized by:
  - A large number of concurrent users. Hence they need to be **scalable**
  - Users often require fast response time
  - Mission critical hence they need to be **secure**, **reliable** and **highly available**

=> This course **equips you with the skills** and best practices needed to design and develop Web applications with the required quality attributes

Topics	Chapter	Weeks
HTML	2	2
CSS & Bootstrap	3, 4 and 5	2
JavaScript	17	1
OOP with JavaScript + JavaScript Unit Testing	18	1
Ansynchronous JavaScript	14	1
Web API with Node.js	15	1
Manipulating DOM using JavaScript	6	1
Data Management using MongoDB	Online readings	1
Single-Page Application (SPA) using **React**	Online readings	2
Securing Web applications: authentication, authorization and confidentiality	Online readings	1
Securing Web applications: OWASP Top 10	Online readings	1
Review & Exams	-	1
Total		**15**

Course Roadmap

Web Client

Request

Response

Web Server

Frontend development

- HTML for page structure
- CSS for styling
- JavaScript for interaction
- UI Components

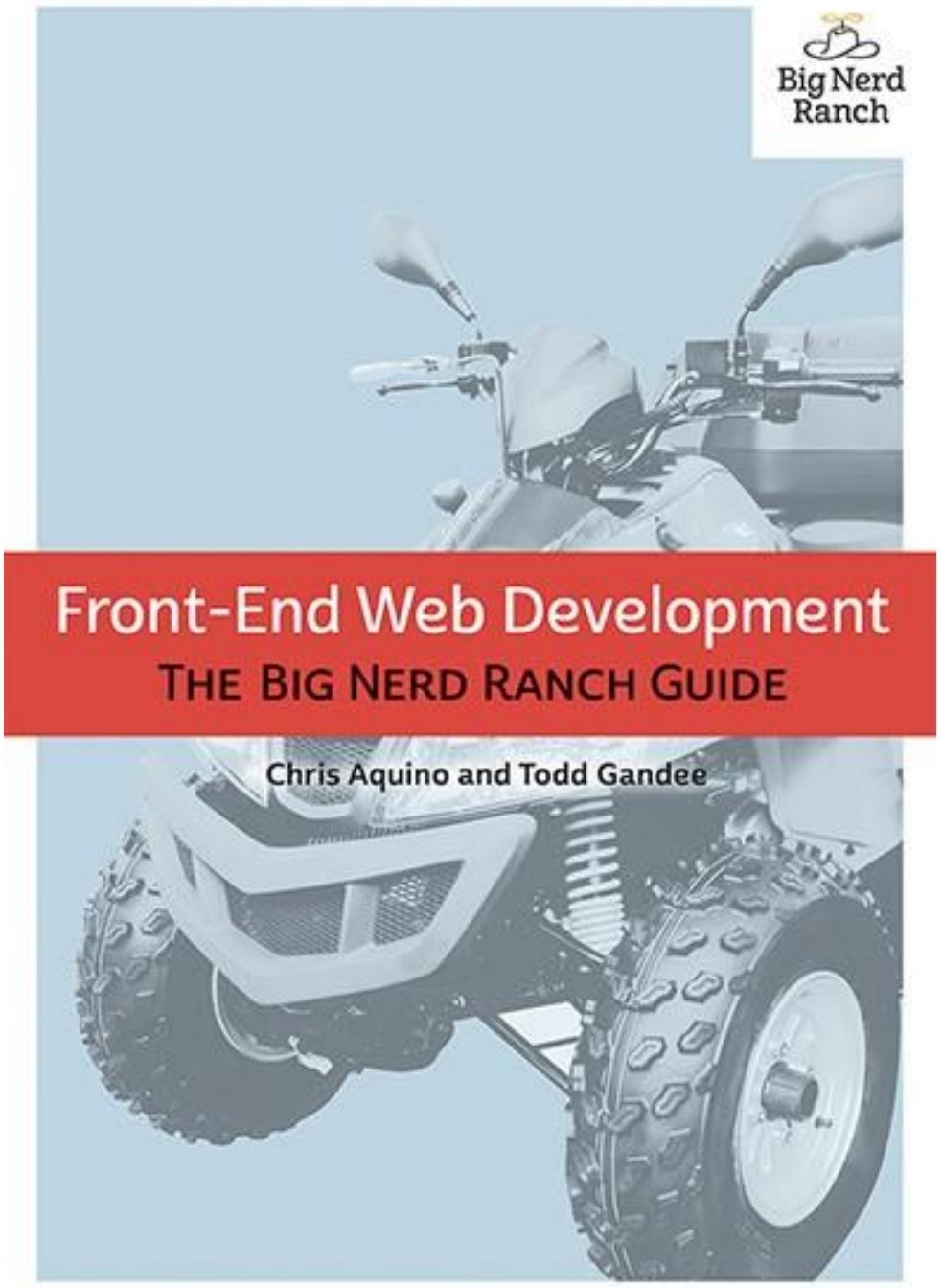
Backend development

- Web API
- Data Management

Recommended Textbook

Chris Aquino and Todd Gandee

Front-End Web Development: The Big Nerd Ranch Guide, 1st Edition, 2016



Plenty of online resources will be providing

Your Grade is Based on:

Lab activities/ assignments	30%	Individual Lab activities/ assignments
Project	30%	2 Phases (group of 3 students): - UI and Web API design and implementation (15%) - Single Page Application (SPA) using React (15%)
Midterm exam	20%	Theory (8%) & Lab Practical (12%)* After the mid-spring break
Final exam	20%	Theory (8%) - Consult University exam timetable Lab Practical during last Lab (12%)*

***Students who get less then 50 marks out of 100 in the Practical Midterm/Final we get their project's grade reduced to half of the group grade**

How to succeed in this course….

- Do your weekly assigned readings
- **Read the slides before you come to the class**
- **Exercise a lot – study as many examples as possible**

  - Understand and enhance the examples I provide as well as the ones in the textbook and the ones in the provided resources
- **Attend and participate in class**
  - **Many of the exam questions are from the class explanation**
- Do all the assignments and project **yourself.** Actively contribute to your project.
- Seek help when needed and ask questions (and do it EARLY): During Lectures/Labs & Come to office hours

We learn swimming by swimming and we learn design and programming by practicing it!

Software we will use

- Visual Studio Code https://code.visualstudio.com/
- GitHub
- Node.js
- MongoDB

- For modeling we will use **Visual Paradigm**

https://ap.visual-paradigm.com/qatar-university/license.jsp

- Other tools will be communicated to you as we go

GitHub will be used to deliver content, assignments an projects

Check https://github.com/cmps356s20/cmps356-content

regularly!

Lecture slides, Demos and Assignments are there!

Communications will be by email

Important Notes

- Attendance… QU attendance policies will be enforced
  - Do not miss classes/labs
- **Start your assignments early!!!**
- This is a senior-level course and students are expected to learn independently as much as needed in order to complete the course requirements
  - Do not expect me to find/fix your code bugs
  - Do not expect me to find and fix your technical issues
  - I can only give you high level suggestions and guidance

No ‘Free Riding’ allowed

- ‘free riders’ (who do not contribute much) => not acceptable and not fair for hardworking students
  - You must actively contribute to your project and do your ultimate best to deliver the best possible results
  - Otherwise you will be asked to do the project alone

Plagiarism / Cheating

- “Getting an unfair academic advantage"
  - Using other people's work as your own
  - Not doing your assignments yourself
- All the code you submit has to be your own
    - Only exception: Code I have provided or explicitly authorized
    - **NO** code you have found on the web. **NO** sharing with others.
- **Do your homework and project yourself**
  - Do NOT copy from each other or from the Internet - **I will know it!**
  - You can be picked-up randomly to explain your implementation
  - Cheating will be treated very seriously
- Penalties START with a zero on the assignment, failing the course! and other disciplinary actions as per QU policy

Communication

- Post your technical questions to Piazza

- When emailing me you must add – **CMPS 356** to the beginning of the email title

e.g., CMPS 356 – Request for a meeting

- For **guidance** on technical issues come to office hours NOT by email

To do before next class

- Email me your team members (StudentID and Student Name)
- Install the required software (see the email I have sent you)
- Register for GitHub and Piazza
- Prepare any questions you might have

I wish you a fruitful and enjoyable journey!