

WEB 3430: FULL STACK JAVASCRIPT DEVELOPMENT

3 CREDIT HOURS - FALL 2020 - ONLINE

COURSE SYLLABUS

INSTRUCTOR

Abdulmalek Al-Gahmi, PhD

CONTACT INFORMATION

Office: CAE 166 (**Phone:** 801-626-7915)

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OFFICE HOURS (ONLINE VIA THE ZOOM LINK BELOW)

Mon/Wed: 4:00pm - 5:00pm

Tue/Thu: 10:30am - 12:30pm

Zoom URL: <https://weber.zoom.us/j/95044844491>

CO-REQUISITES

WEB 3200: Dynamic Languages for Web Development

COURSE DESCRIPTION

Modern web development increasingly involves using end-to-end JavaScript-based technologies such as MongoDB, Express.js, Angular, React, Vue.js, Node.js, etc. This course introduces development techniques that capitalize on the strengths of every layer in this JavaScript-based full-stack.

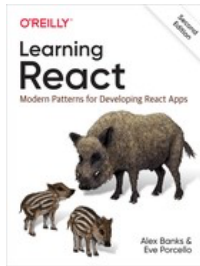
LEARNING OBJECTIVES

At the conclusion of this class, the students will be able to:

- Differentiate between front-end and back-end web development;
- List the pros and cons of Single Page Applications (SPA's);
- Distinguish between public-facing and private pages;
- Create and manage a NoSQL database using MongoDB;
- Build a secure full-stack web application using only JavaScript;
- Design and consume a REST API; and
- Deploy a JavaScript-based full-stack application.

LEARNING RESOURCES

TEXTBOOKS



Learning React

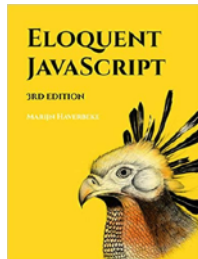
Edition: 2nd

By: Alex Banks, Eve Porcello

Pub. Date: June 2020

ISBN: 9781492051725

Available for free in [Safari Books Online](#) via the library



Eloquent JavaScript

Edition: 3rd

By: Marijn Haverbeke

Available for free in <http://eloquentjavascript.net>

CANVAS

Canvas is where course modules, assignments, grades, and announcements will reside. It can be accessed from <https://canvas.weber.edu>. For Canvas-related technical support, please click the HELP link in the top right corner of your screen. You can also call WSU Online at (801) 626-6499 or email wsuonline@weber.edu.

PLURALSIGHT

A channel of relevant video-based Pluralsight tutorial courses has been created and will be used to supplement the learning materials of this course. Invitations to Pluralsight will be send out during the first week of the course.

RECOMMENDED DEVELOPMENT ENVIRONMENT

This course uses the following software applications to set up a simple development environment that exposes students to essential tools/skills like GitHub, and the command-line.

- Text editor: [Visual Studio Code](#)
- JavaScript: [Node.js](#)
- Git: XCode Command-line Tools (MacOS) or [Git for Windows](#) (Windows)

ONLINE RESOURCES

- Software/Frameworks (the MERN stack)
 - M: [MongoDB Community](#)
 - E: [Express](#)

- R: [React](#)
- N: [Node.js](#)
- [Emmet Cheat Sheet](#)
- [GitHub](#) and [Git Cheat Sheet](#)

LEARNING ACTIVITIES

READINGS (LEARNING)

Weekly reading assignments will be posted to Canvas. Students are highly recommended to read the assigned materials ahead of time.

PRACTICE ACTIVITIES (PRIMARILY LEARNING)

There will be 10 practice activities in which students are asked to submit the code they wrote as they follow along with the lectures. These activities are worth 10% of the final grade.

ASSIGNMENTS (LEARNING AND ASSESSMENT)

There will be 6 programming assignments accounting for 45% of the final grade. Up to 10% of the submitted assignments' grades will be towards making sure that the code is easily readable, clearly documented, and properly indented. All assignments are GitHub assignments and come with starter code.

PROJECT (LEARNING AND ASSESSMENT)

There will be a project worth 30% of the final grade where students put everything they learned in this class together by creating a fully functional full-stack web application of their choosing.

EXAM (ASSESSMENT ONLY)

There will be one exam accounting for 15% of the final grade testing your JavaScript skills.

GRADING

SCALE

The final grade will be calculated based on the following scale with the passing grade being C or above.

A: 100 – 94	A-: <94 – 90	
B+: <90 – 87	B: <87 – 84	B-: <84 – 80
C+: <80 – 77	C: <77 – 74	C-: <74 – 70
D+: <70 – 67	D: <67 – 64	D-: <64 – 60
E: <60		

DISTRIBUTION

The final grade is broken down as:

10% Activities

45% Assignments

30% Project

15% Exam

POLICIES/STATEMENTS

EXTRA CREDIT

No extra credit is available beyond what is already specified above.

LATE POLICY

Quizzes and final project cannot be made up unless arrangements are made to take them ahead of time. Late assignments will be accepted with a 10% penalty per day up to 5 days to provide for unforeseen circumstances.

FACE-COVERING POLICY

All individuals (faculty, staff, students and visitors) are required to wear face coverings when indoors on university property with limited exceptions. More extensive information is available at <https://www.weber.edu/coronavirus/face-coverings.html>.

STUDENT ACKNOWLEDGMENT OF CORONAVIRUS MITIGATION PROTOCOLS

I understand the reasons for social distancing, good personal hygiene, and requirement for face coverings in all indoor and some outdoor spaces, staying home if I am sick, and other rules as further outlined at [weber.edu/coronavirus](https://www.weber.edu/coronavirus). I will contribute to the health and safety of the Weber State community by following the mitigation protocols required on campus that reflect the university's core value of respect for other people. I understand the risk of exposure to COVID-19 and that no one can guarantee there will be no transmission of communicable diseases. I understand that I must follow mitigation protocols and use common sense and wise judgment to help protect the health of myself and others. I understand that Weber State University will make appropriate accommodations when warranted as well as enforce rules according to existing policies (See PPM 6-22, Student Code, PPM 3-34, Americans with Disabilities Act & Section 504 Request for Accommodation). Violation of these requirements may result in removal from the classroom (or other spaces) or lead to disciplinary action under the Student Code.

ACCOMMODATIONS FOR SICK STUDENTS

Students who are sick or need to be in quarantine for an extended period must stay at home and not attend in-person classes. Reasonable accommodations may be provided to these students upon request.

TECHNOLOGY REQUIREMENTS

Students of this class will need access to laptops or desktops that are connected to the Internet. These laptops/desktops must have the necessary built-in microphones, headphones and/or speakers to allow for virtual meetings. Webcams are recommended but optional. Please visit [laptop and hotspot checkouts](#) if you need help securing a laptop. These machines need to also to run the recommended development environment above.

ALLOCATED TIME

You should anticipate spending two to three hours of study per week for each credit hour of a university course. Computer and programming classes typically require time in the upper range. An online class is not easier; it is harder. You have to do more reading and learning on your own.

TIPS FOR SUCCESS

- One cannot learn a new software and/or a programming language by just reading textbooks or watching videos; practice is critical when learning. So write as many programs as you can.
- The most effective way to get a C or above in this class is to stay current with the course topics and submit assignments on time. Your grades will be based on the degree to which you fulfilled the requirements of this course and not on you needing to get a C or above.

INCOMPLETE GRADES

An "Incomplete" may be given only when the student, having satisfactorily completed approximately 80% of the required work, is unable to complete the classwork for a legitimate reason (such as illness or accident) and can reasonably finish on his/her own.

COURSE FEES

Course fees are designed to cover the costs of lab equipment maintenance and replacement including desktop and server computer systems and software; consumable materials and supplies; and support for lab aides, student tutors, and online instructional resources.

ACADEMIC DISHONESTY

Students are expected to maintain academic ethics and integrity in regards to performing their own work. The WSU Student Code specifically prohibits the following activities:

- a. Cheating, which includes but is not limited to the following examples:
 - i) Copying from another student's test;

- ii) Using materials during a test not authorized by the person giving the test;
 - iii) Collaborating with any other person during a test without authorization;
 - iv) Knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of any test without authorization of the appropriate University official;
 - v) Bribing any other person to obtain any test;
 - vi) Soliciting or receiving unauthorized information about any test;
 - vii) Substituting for another student or permitting any other person to substitute for oneself to take a test;
 - viii) Knowingly obtaining academic credit for work that is not one's own regardless of the source of the work;
 - ix) Knowingly involved in arranging fraudulent academic credit or false transcripts.
- b. Plagiarism, which is the unacknowledged (uncited) use of any other person's or group's ideas or work. This includes purchased or borrowed papers;
 - c. Collusion, which is the unauthorized collaboration with another person in preparing work offered for credit;
 - d. Falsification, which is the intentional and unauthorized altering or inventing of any information or citation in an academic exercise, activity, or record-keeping process;
 - e. Giving, selling, or receiving unauthorized course or test information;
 - f. Using any unauthorized resource or aid in the preparation or completion of any course work, exercise, or activity;
 - g. Infringing on the copyright law of the United States which prohibits the making of reproductions of copyrighted material except under certain specified conditions.

School of Computing policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor, will result in:

1. an automatic failing grade for the class and
2. a report to the Dean of Students that will include the student's name and a description of the student's dishonest conduct.

ACCOMMODATIONS FOR DISABILITIES

Any student requiring accommodations or services due to a disability must contact Disability Services in Room 181 of the Student Services Center (or Room 256 at the Davis Campus). Disability Services can also arrange to provide course materials (including this syllabus) in alternative formats upon request. You can also call

801-626-6413 (Ogden) or 801-395-3442 (Davis) or visit <http://www.weber.edu/ssd> for more details.

DISCLAIMER

The instructor reserves the right to make changes to this syllabus, as he sees fit, anytime during this class.

SCHEDULE

The following is a tentative high-level weekly schedule of this class; it is subject to change at any time. Always refer to Canvas for more details and due dates.

#	Week of	Topic	Activity	Assignment
1	Aug 24	Introduction; NPM; JavaScript Review	#1	
2	Aug 31	React	#2	#1
3	Sep 7		#3	
4	Sep 14		#4	#2
5	Sep 21		#5	
6	Sep 28		#6	#3
7	Oct 5		MongoDB/Mongoose	
8	Oct 12	#7		#4
9	Oct 19	Node.js and Express (Server-rendered pages)	#8	
10	Oct 26		#9	#5
11	Nov 2	Building a REST API	#10	
12	Nov 9	Sessions and user authentication		#6
13	Nov 16	Putting it all together		
14	Nov 23	Project		
15	Nov 30	Project		
16	Dec 7	Exam		