Web Advanced: JavaScript Spring 2015

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PGTE 5505 – Section A (Thursday 7:00pm - 9:40pm)
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Classroom: E 6 16th St. room 1202 Parsons The New School for Design School of Art, Media and Technology

Instructor: Apon Palanuwech (palaa159@newschool.edu)

Off-class Support (by appointment): Gabriel Gianordoli (giang063@newschool.edu)

Period: 15 Weeks

Course Description:

Over the the past 10 years, the internet is a huge birthplace for applications–from online services to social media channels, useless to artsy. Among influences that catalyze and trigger the possibility is JavaScript, a young powerful programming language for web and beyond. This course serves as a gateway to modern JavaScript, delving into it simplicity and complexity. The class will together investigate both client-side and server-side (Node.js) programming as a crucial part of design process of making lively data-driven applications that live in different platforms. By learning these, students will be able to employ the knowledge to create self-initiated projects, or at least having a better understanding of how data is handled. Students will incorporate visual design, user experience design, interaction design and programming to bring idea to life. The outcome of the course focuses on practical experience, students should be able to design, build and deploy JavaScript applications. They should also be able to handpick different components and work stacks or frameworks that will quicken a process of code implementation. Web Advanced JavaScript aims to produce creative front-end developers, technologists, artists and entrepreneurs with adequate understanding in web development.

Course Prerequisites/Dependencies:

PGTE 5505 is open to all graduate-level students in the School of Art, Media & Technology, otherwise by permission. The course prefers students with web design and/or coding background and is ideal for students who already enrolled lower-level web classes and/or Bootcamp.

Overview:

Welcome to Web Advanced: JavaScript. In this class I will show you the state of the arts of the internet. We will dive deep into the core communication of the web and the colossal internet using JavaScript as our vessel. Always keep in mind this is an advanced class, that being said

you must have at least intermediate web coding skills, and, but not limited to, bash scripting, operating raspberry pi and physical computing, C++, python, mysql, or ruby. You'll be utilising heavily of logical thinking, user testing, (almost) free cloud services, your talent and creativity – bring out whatever you have to archieve high quality projects.

The class is geared towards creating practical web application with emphasis on bridging server-side and client-side applications, but as well is open to all sorts of poetic and art oriented.Class graduates are expected to be able to think, ideate, design, select the optimum stack and architecture, and execute projects professionally.

The class starts with iterating basic JS statements, demystifying data-types, class, built-in functions and nuances among other interpretive programming languages. We will learn how to write proper JS that allows the code to be maintainable, readable and efficient.

By the nature of design/tech class, syllabus modification is normal later in the semester. Please note that this syllabus is being treated as guideline. Nothing is set in stone.

Required tools:

- Google Chrome v32+ or s Chrome Canary (We will not use other internet browsers unless needed).
- Sublime Text 2 with package manager installed. Refer to: https://sublime.wbond.net/installation#st2
- Prepros, a nice, free preprocessing. Refer to: http://alphapixels.com/prepros/
- Node.js environment. Refer to: http://nodejs.org/
- Terminal

Suggested readings:

Note that these readings are not absolutely required. The more you read, a better brain you have. List ordered in progressive level.

- JavaScript for Cats | http://jsforcats.com/
- Eloquent JavaScript | http://eloquentjavascript.net/
- JavaScript: the Good Parts | just google for it
- Programming JavaScript Applications | http://chimera.labs.oreilly.com/books/1234000000262/index.html
- AngularJS in 50 examples | https://www.youtube.com/watch?v=TRrL5j3MIvo
- JS Patterns | http://shichuan.github.io/javascript-patterns/
- Another JS Design Patterns | http://it-ebooks.info/book/724/
- Delivering Goods | https://www.youtube.com/watch?v=R8W_6xWphtw
- https://developers.google.com/web/fundamentals/look-and-feel/animations/css-vs-javascript

Resources: (Libraries, Frameworks, etc, etc)

- How do I write .md (Markdown) document
- jQuery, the most popular JS library yet?
- Zepto, a lightweight jQuery
- You might not need jQuery
- Twitter Bootstrap
- PureCSS
- Skeleton, a super lean css framework
- Underscore.js, a JS util
- Lo-Dash, the new underscore
- MV* Framwork Comparison
- Angular.js
- Phonegap, native apps done with web
- Ionic, a mobile-like ui framework
- Handlebars.js
- SnapSVG
- D3.js
- Three.js
- Timbre.js
- Buzz.js
- Node.js
- Parse
- MongoDB
- Bento
- Github Cheat sheet
- TweenMax Animation engine

Useful Node.js Modules

- Express Web Framework
- Socket.io
- Phantom-node
- node-mailer
- node-twitter
- Passport.js
- Async
- Kaiseki
- Graphicsmagick
- node-OpenCV
- node-canvas

Course Outlines:

Week	Topic	Prep	Assignment(s)	Remark(s)
01.29	Course overview. Node.js Basics. http, util, fs, request, sync, async, basic API connection and json.		Review JS: Basic and AirBnB Style Guideline and JS Patterns.	
02.12	Node.js + RESTful API with Express framework.		Create a simple API.	
02.05	Setup tools of the trade. Intro to AWS EC2 – install Node.js, Nodemon, Forever, Pm2, Samba. Basic Unix commands		Rebuilding EC2 3 times or until you're familiar with. From last week, create a web interface that query data from your friend's API.	Apon is traveling this week.
02.19	Node.js + RESTful API with Express framework. Part 2: Firebase		Record data from external API on Firebase and create Restful API.	
02.26	Building Single Page Web App Part 1	Angular	TBD	
03.05	Building Single Page Web App Part 2	Angular	TBD	
03.12	Social Media API	Facebook API	TBD	
03.19	Midterm Presentation		TBD	
03.26	Spring Break			
04.02	Node.js and socket.io Part 1	Socket.io	TBD	
04.09	Node.js and socket.io Part 2	Socket.io	TBD	
04.16	Ionic.js, A framework for Native app Part 1	Cordova + IonicJS	TBD	
04.23	Ionic.js, A framework for Native app Part 2	Cordova + IonicJS	TBD	
04.30	Final Project Workshop		TBD	

05.07	Final Project Workshop		TBD	
05.14	Final Project Presentation.	Invite guest critiques	Proper slide presentation format	

Final Grade Calculation:

- Participation/Attendance 20%
- Mini Assignments(Total) 30%
- Midterm Project 25%
- Final Project 25%

Grade Standards:

Undergraduate

A [4.0; 96–100%] Work of exceptional quality, which often goes beyond the stated goals of the course.

A- [3.7; 91 –95%] Work of very high quality.

B+ [3.3; 86–90%] Work of high quality that indicates substantially higher than average abilities.

B [3.0; 81–85%] Very good work that satisfies the goals of the course.

B- [2.7; 76–80%] Good work.

C+ [2.3; 71–75%] Above-average work.

C [2.0; 66–70%] Average work that indicates an understanding of the course material; passable.

C- [1.7; 61–65%] Passing work but below good academic standing.

D [1.0; 46–60%] Below-average work that indicates a student does not fully understand the assignments; Probation level though passing for credit.

F [0.0; 0–45%] Failure, no credit

Graduate

A Work of exceptional quality A- Work of high quality B+ Very good work B Good work; satisfies course requirements Satisfactory completion of a course is considered to be a grade of B or higher. B- Below-average work C+ Less than adequate work C Well below average work C- Poor work; lowest possible passing grade F Failure GM Grade missing for an individual

Grades of D are not used in graduate level courses.

Grade of W

The grade of W may be issued by the Office of the Registrar to a student who officially withdraws from a course within the applicable deadline. There is no academic penalty, but the grade will appear on the student transcript. A grade of W may also be issued by an instructor to a graduate student (except at Parsons and Mannes) who has not completed course requirements nor arranged for an Incomplete.

Grade of WF

The grade of WF is issued by an instructor to a student (all undergraduates and all graduate students) who has not attended or not completed all required work in a course but did not officially withdraw before the withdrawal deadline. It differs from an "F," which would indicate that the student technically completed requirements but that the level of work did not qualify for a passing grade. The WF is equivalent to an F in calculating the grade point average (zero grade points), and no credit is awarded.

Grades of Incomplete

The grade of I, or temporary incomplete, may be granted to a student under unusual and extenuating circumstances, such as when the student's academic life is interrupted by a medical or personal emergency. This mark is not given automatically but only upon the student's request and at the discretion of the instructor. A Request for Incomplete form must be completed and signed by student and instructor. The time allowed for completion of the work and removal of the "I" mark will be set by the instructor with the following limitations: [You should include one the following standards, depending on the level of your course].

Undergraduate students: Work must be completed no later than the seventh week of the following fall semester for spring or summer term incompletes and no later than the seventh week of the following spring semester for fall term incompletes. Grades of "I" not revised in the prescribed time will be recorded as a final grade of "WF" by the Office of the Registrar.

Graduate students: Work must be completed no later than one year following the end of the class. Grades of "I" not revised in the prescribed time will be recorded as a final grade of "WF" (for Parsons and Mannes graduate students) or "N" (for all other graduate students) by the Office of the Registrar. The grade of "N" does not affect the GPA but does indicate a permanent incomplete.

Divisional, Program and Class Policies

- **Responsibility** Students are responsible for all assignments, even if they are absent. Late assignments, failure to complete the assignments for class discussion and/or critique, and lack of preparedness for in class discussions, presentations and/or critiques will jeopardize your successful completion of this course.

- **Participation** Class participation is an essential part of class and includes: keeping up with reading, assignments, projects, contributing meaningfully to class discussions, active participation in group work, and coming to class regularly and on time.
- **Attendance** Faculty members may fail any student who is absent for a significant portion of class time. A significant portion of class time is defined as three absences for classes that meet once per week and four absences for classes that meet two or more times per week. During intensive summer sessions a significant portion of class time is defined as two absences. Lateness or early departure from class may also translate into one full absence.
- **Blackboard or Canvas** Use of Blackboard may be an important resource for this class. Students should check it for announcements before coming to class each week.
- **Delays** In rare instances, I may be delayed arriving to class. If I have not arrived by the time class is scheduled to start, you must wait a minimum of thirty minutes for my arrival. In the event that I will miss class entirely, a sign will be posted at the classroom indicating your assignment for the next class meeting.
- **Electronic Devices** Use of electronic devices (phones, tablets, laptops) is permitted when the device is being used in relation to the course's work. All other uses are prohibited in the classroom and devices should be turned off before class starts.
- **Academic Honesty and Integrity** The New School views “academic honesty and integrity” as the duty of every member of an academic community to claim authorship for his or her own work and only for that work, and to recognize the contributions of others accurately and completely. This obligation is fundamental to the integrity of intellectual debate, and creative and academic pursuits. Academic honesty and integrity includes accurate use of quotations, as well as appropriate and explicit citation of sources in instances of paraphrasing and describing ideas, or reporting on research findings or any aspect of the work of others (including that of faculty members and other students). Academic dishonesty results from infractions of this “accurate use”. The standards of academic honesty and integrity, and citation of sources, apply to all forms of academic work, including submissions of drafts of final papers or projects. All members of the University community are expected to conduct themselves in accord with the standards of academic honesty and integrity. Please see the complete policy in the Parsons Catalog. It is the responsibility of students to learn the procedures specific to their discipline for correctly and appropriately differentiating their own work from that of others. Compromising your academic integrity may lead to serious consequences, including (but not limited to) one or more of the following: failure of the assignment, failure of the course, academic warning, disciplinary probation, suspension from the university, or dismissal from the university.
- **Student Disability Services (SDS)** In keeping with the University’s policy of providing equal access for students with disabilities, any student with a disability who needs

academic accommodations is welcome to meet with me privately. All conversations will be kept confidential. Students requesting any accommodations will also need to meet with Jason Luchs in the Office of Student Disability Services, who will conduct an intake, and if appropriate, provide an academic accommodation notification letter to you to bring to me. SDS assists students with disabilities in need of academic and programmatic accommodations as required by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Federal Rehabilitation Act of 1973.
http://www.newschool.edu/studentservices/disability/.