## Schedule

A week-by-week breakdown of the material.

## Week 1 (01/05-01/09)

- Day 1
  - History of Javascript<sup>1</sup>
  - Components of a Web Page<sup>2</sup>
  - How to run Javascript<sup>3</sup>
  - Numbers in Javascript<sup>4</sup>
  - Assignment 1<sup>5</sup>
- Day 2
  - Local and Global Variables<sup>6</sup>
  - Basics of Arrays<sup>7</sup>
  - Assignment 2<sup>8</sup>
- Day 3
  - Basics of Objects<sup>9</sup>
  - Strings and Regular Expressions<sup>10</sup>
- Day 4
  - Function basics<sup>11</sup>
  - Assignment 3<sup>12</sup>
  - Basics of Version Control<sup>13</sup>
  - Git basics<sup>14</sup>
  - Review of Git commands<sup>15</sup>

<sup>&</sup>lt;sup>1</sup>notes/history.html

<sup>&</sup>lt;sup>2</sup>notes/page\_components.html

<sup>&</sup>lt;sup>3</sup>notes/how\_to\_run.html

<sup>&</sup>lt;sup>4</sup>notes/numbers.html

<sup>&</sup>lt;sup>5</sup>assignments/1.html

<sup>&</sup>lt;sup>6</sup>notes/local\_vs\_global.html

<sup>&</sup>lt;sup>7</sup>notes/array\_basics.html

<sup>&</sup>lt;sup>8</sup>assignments/2.html

<sup>&</sup>lt;sup>9</sup>notes/object\_basics.html

<sup>&</sup>lt;sup>10</sup>notes/strings\_and\_re.html

<sup>&</sup>lt;sup>11</sup>notes/functions\_basic.html

<sup>&</sup>lt;sup>12</sup>assignments/3.html

<sup>&</sup>lt;sup>13</sup>notes/git\_version\_control.html

<sup>&</sup>lt;sup>14</sup>notes/git\_basics.html

<sup>&</sup>lt;sup>15</sup>notes/git\_commands\_review.html

#### Week 2 (01/12-01/16)

- Day 1
  - GitHub basics<sup>16</sup>
  - Remotes and Branches<sup>17</sup>
  - GitHub Workflow<sup>18</sup>
  - Overall Project Workflow<sup>19</sup>
  - Lab 1: Getting used to the basics<sup>20</sup>
- Day 2
  - Functions as Closures<sup>21</sup>
  - Array Collection methods<sup>22</sup>
  - Assignment 4<sup>23</sup>
  - Functions as a means for creating a scope/context<sup>24</sup>
  - Some tricks using functions<sup>25</sup>
  - Functions created in loops<sup>26</sup>
  - Assignment 5<sup>27</sup>
- Day 3
  - Methods in objects. Using this 28
  - Object creation forms. Prototypes<sup>29</sup>
  - Assignment 6<sup>30</sup>
- Day 4
  - Writing tests<sup>31</sup>
  - Lab 2: Node, Testing<sup>32</sup>

# Week 3 (01/19-01/23)

• Day 1

<sup>&</sup>lt;sup>16</sup>notes/github\_basics.html

<sup>&</sup>lt;sup>17</sup>notes/git remotes branches.html

<sup>&</sup>lt;sup>18</sup>notes/github\_workflow.html

<sup>&</sup>lt;sup>19</sup>notes/project workflow.html

<sup>&</sup>lt;sup>20</sup>labs/1.html

<sup>&</sup>lt;sup>21</sup>notes/function\_closures.html

 $<sup>^{22}</sup>$ notes/array\_methods.html

<sup>&</sup>lt;sup>23</sup>assignments/4.html

<sup>&</sup>lt;sup>24</sup>notes/functions\_for\_scope.html

<sup>&</sup>lt;sup>25</sup>notes/function\_tricks.html

<sup>&</sup>lt;sup>26</sup>notes/functions\_in\_loops.html

<sup>&</sup>lt;sup>27</sup>assignments/5.html

<sup>&</sup>lt;sup>28</sup>notes/object\_methods.html

<sup>&</sup>lt;sup>29</sup>notes/object\_creation\_prototypes.html

<sup>&</sup>lt;sup>30</sup>assignments/6.html

<sup>&</sup>lt;sup>31</sup>notes/test\_writing.html

<sup>&</sup>lt;sup>32</sup>labs/2.html

- Function call forms and the value of this 33
- Introduction to the concept of Design Patterns<sup>34</sup>
- Day 2
  - Creation Patterns: Constructor<sup>35</sup>
  - Creation Patterns: Singleton<sup>36</sup>
  - Creation Patterns: Mixins<sup>37</sup>
  - Assignment 7<sup>38</sup>
- Day 3
  - Introduction to the DOM (Document Object Model)<sup>39</sup>
  - Manipulating the DOM tree<sup>40</sup>
  - Assignment 8<sup>41</sup>
- Day 4
  - Data Structures in Javascript<sup>42</sup>
  - Lab 3: Union/Find, Sets<sup>43</sup>

#### Week 4 (01/26-01/30)

- Day 1
  - Introduction to DOM Events<sup>44</sup>
  - Bubbling of Events<sup>45</sup>
  - Assignment 9<sup>46</sup>
- Day 2
  - Timers<sup>47</sup>
  - Function idiom: Throttling<sup>48</sup>
  - Assignment 10<sup>49</sup>

<sup>&</sup>lt;sup>33</sup>notes/function\_calls\_and\_this.html

<sup>&</sup>lt;sup>34</sup>notes/design\_patterns.html

<sup>&</sup>lt;sup>35</sup>notes/pattern\_constructor.html

<sup>&</sup>lt;sup>36</sup>notes/pattern\_singleton.html

<sup>&</sup>lt;sup>37</sup>notes/pattern\_mixin.html

<sup>&</sup>lt;sup>38</sup>assignments/7.html

<sup>&</sup>lt;sup>39</sup>notes/dom\_intro.html

<sup>40</sup>notes/dom\_tree.html

<sup>&</sup>lt;sup>41</sup>assignments/8.html

<sup>&</sup>lt;sup>42</sup>notes/data\_structures.html

<sup>43</sup> labs/3.html

<sup>44</sup>notes/event\_intro.html

<sup>&</sup>lt;sup>45</sup>notes/event\_bubbling.html

<sup>&</sup>lt;sup>46</sup>assignments/9.html

<sup>&</sup>lt;sup>47</sup>notes/event timers.html

<sup>&</sup>lt;sup>48</sup>notes/function\_throttling.html

<sup>&</sup>lt;sup>49</sup>assignments/10.html

- Day 3
  - A custom Event module<sup>50</sup>
- Day 4
  - Lab 4: Starting on a TODOapp<sup>51</sup>

### Week 5 (02/02-02/06)

- Day 1
  - Behavioral Patterns: Observer<sup>52</sup>
  - Behavioral Patterns: Publish/Subscribe<sup>53</sup>
- Day 2
  - Implementation of Publish/Subscribe<sup>54</sup>
  - Behavioral Patterns: Mediator<sup>55</sup>
  - **-** Assignment  $11^{56}$
- Day 3
  - Introduction to jQuery<sup>57</sup>
- Day 4
  - Lab 5: Continued work on TODOapp<sup>58</sup>

### Week 6 (02/09-02/13)

- Day 1
  - Architectural Patterns: Model-View-Controller<sup>59</sup>
- Day 2
  - Implementing a basic MVC<sup>60</sup>
- Day 3

<sup>&</sup>lt;sup>50</sup>notes/event\_custom.html

<sup>&</sup>lt;sup>51</sup>labs/4.html

<sup>&</sup>lt;sup>52</sup>notes/pattern\_observer.html

<sup>&</sup>lt;sup>53</sup>notes/pattern\_pubsub.html

<sup>&</sup>lt;sup>54</sup>notes/pubsub\_implementation.html

<sup>&</sup>lt;sup>55</sup>notes/pattern\_mediator.html

<sup>&</sup>lt;sup>56</sup>assignments/11.html

<sup>&</sup>lt;sup>57</sup>notes/jquery\_intro.html

<sup>&</sup>lt;sup>58</sup>labs/5.html

<sup>&</sup>lt;sup>59</sup>notes/pattern\_mvc.html

<sup>60</sup> notes/mvc\_implement.html

- Introduction to Backbone<sup>61</sup>
- Assignment 12<sup>62</sup>
- Day 4
  - Lab 6: Incorporating MVC in TODOapp<sup>63</sup>

#### Week 7 (02/16-02/20)

- Day 1
  - Introduction to XMLHttpRequest<sup>64</sup>
- Day 2
  - Ajax via jQuery<sup>65</sup>
- Day 3
- Day 4
  - Lab 7: Introducing data persistence in TODOapp<sup>66</sup>

### Week 8 (02/23-02/27)

**BREAK** 

# Week 9 (03/02-03/06)

- Day 1
  - Testing with Stubs, Mocks and Spies<sup>67</sup>
- Day 2
  - Module Patterns: Node modules<sup>68</sup>
- Day 3
  - Module Patterns: AMD modules<sup>69</sup>
- Day 4
  - Project proposals

<sup>&</sup>lt;sup>61</sup>notes/backbone.html

<sup>&</sup>lt;sup>62</sup>assignments/12.html

<sup>&</sup>lt;sup>63</sup>labs/6.html

<sup>&</sup>lt;sup>64</sup>notes/xhr\_intro.html

<sup>&</sup>lt;sup>65</sup>notes/xhr\_jquery.html

<sup>66</sup> labs/7.html

<sup>&</sup>lt;sup>67</sup>notes/test\_stubs.html

<sup>&</sup>lt;sup>68</sup>notes/pattern\_module.html

<sup>&</sup>lt;sup>69</sup>notes/pattern\_amd.html

#### Week 10 (03/09-03/13)

- Day 1
  - Project structure<sup>70</sup>
- Day 2
  - Survey of HTML elements<sup>71</sup>
- Day 3
  - Survey of CSS features<sup>72</sup>
- Day 4
  - Lab 8:<sup>73</sup>

### Week 11 (03/16-03/20)

- Day 1
  - Using Templates: Handlebars<sup>74</sup>
- Day 2
  - Deeper look into Javascript objects<sup>75</sup>
- Day 3
  - Structural Patterns: Facade<sup>76</sup>
  - Structural Patterns: Proxy<sup>77</sup>
- Day 4
  - Work on project

## Week 12 (03/23-03/27)

- Day 1
  - Introduction to Promises<sup>78</sup>
- Day 2

<sup>&</sup>lt;sup>70</sup>notes/project.html

<sup>&</sup>lt;sup>71</sup>notes/html\_survey.html

<sup>&</sup>lt;sup>72</sup>notes/css\_survey.html

<sup>&</sup>lt;sup>73</sup>labs/8.html

<sup>&</sup>lt;sup>74</sup>notes/templates.html

<sup>&</sup>lt;sup>75</sup>notes/object\_deeper.html

<sup>&</sup>lt;sup>76</sup>notes/pattern\_facade.html

<sup>77</sup> notes/pattern\_proxy.html

<sup>&</sup>lt;sup>78</sup>notes/promises.html

- More advanced testing
- Day 3
  - More advanced testing
- Day 4
  - First project submission

# Week 13 (03/30-04/03)

- Day 1
- Day 2
- Day 3
- Day 4

# Week 14 (04/06-04/10)

- Day 1
- Day 2
- Day 3
- Day 4