

Course syllabus: BUAD 3283 E-Commerce Web Development

Spring Semester, 2018

Bemidji State University
Memorial Hall Room 270
Tuesday/Thursday 2:00–3:15 p.m.

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Course Description

WWW environment, browsers, Web 2.0, Ajax Client and programming techniques. Major topics include Web page design, Web-based multimedia/graphics, XHTML, W3C XHTML validation service, CSS AND JavaScript. Create Headings, Links, Images, Special characters, Tables, Lists, Forms, Positioning Elements, Embedded Style Sheets, Text Flow, Box Model, User Style sheet and Drop-Down Menu.

Prerequisites: BUAD 2280 and any computer programming course. (Source: BSU 2015–2016 catalog)

Contact Info

Instructor	Nate Nolting
Office	Paul Bunyan Communications
Phone	218-444-1107 (only in emergencies)
Email	natebsu@gmail.com
Office Hours	30 minutes after class

Requirements

Texts

HTML and CSS: Design and Build Websites 1st Edition

by Jon Duckett

ISBN-10: 1118008189

ISBN-13: 978-1118008188

Publisher: Wiley; 1st edition (November 8, 2011)

Paperback: 490 pages

Codes for this book: <http://www.htmlandcssbook.com/code-samples/>

JavaScript and JQuery: Interactive Front-End Web Development 1st Edition

by Jon Duckett

ISBN-10: 1118531647

ISBN-13: 978-1118531648

Publisher: Wiley; 1st edition (June 30, 2014)

Paperback: 640 pages

Codes for this book: <http://www.javascriptbook.com/press/>

Those above two books can also be bought as a set:

Web Design with HTML, CSS, JavaScript and jQuery Set 1st Edition

by Jon Duckett

ISBN-10: 1118907442

ISBN-13: 978-1118907443

Publisher: Wiley; 1 edition (July 8, 2014)

Note

Additional reading assignments from other publications such as journal/conference papers, white papers, or reports can be assigned by the instructor.

Web Hosting Account

Please sign-up for a free account with any of the free hosting services available on the Internet, for example:

- X10 hosting at: <https://x10hosting.com/>

Note:

Instead of using your BSU email address, use your Gmail or Yahoo email address for signing-up. Some of those free services require you to visit your account at least once a month or so to avoid any suspension due to inactivity.

Source Code

Somewhere to store your source code, whether it's on a flash drive or stored on a cloud platform like Google Drive or Dropbox.

Software

Editor

An editor for writing assignment code, for example, Atom <https://atom.io> or Sublime Text <https://www.sublimetext.com>.

Browser

Web browser with developer tools like Chrome or Firefox.

GIT

GIT SCM and an optional GIT SCM GUI like SourceTree <https://www.sourcetreeapp.com>.

FTP

An FTP client to send files to your hosting account, for example Filezilla <https://filezilla-project.org>.

GitHub

A GitHub account for showing source code for assignments and projects.

Assignments will be posted on <https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development>

You will maintain your own GitHub repository for your assignments.

Slack

A Slack account that will be used for messaging out of class. This will be the best way to ask a question out of class. You will receive a invite link in your syllabus.

Additional Resources

Texts

Electronic Commerce

by Gary P. Schneider

11th Edition

ISBN-10: 1-285-42543-X

ISBN-13: 978-1-285-42543-6

Course Technology @2014

Effortless E-Commerce with PHP and MySQL

by Larry Ullman

ISBN-10: 0-321-94936-6

ISBN-13: 978-0-321-94936-3

The Missing Link: An Introduction to Web Development and Programming

by Michael Mendez

ISBN: 978-0-9897226-5-0

SUNY Fredonia 2014

(OPEN TEXTBOOK available for Free at <http://textbooks.opensuny.org/the-missing-link-an-introduction-to-web-development-and-programming/>)

Websites

- Php <http://www.php.net/>
- Mozilla Developer Network (MDN): <https://developer.mozilla.org/en-US>
- Stack Overflow: <https://stackoverflow.com>
- Reddit: <https://www.reddit.com/user/fordlincolnhg/m/webdev/>

Sandboxes

- CodePen <https://codepen.io/>
- JSFiddle <https://jsfiddle.net/>
- JS Bin <https://jsbin.com/?>

The Department of Business Administration Mission

Educate students through a learning-centered environment.

To achieve its mission, the Department of Business Administration has adopted the following broad-based, student learning goal:

- Graduates will be prepared for entry into careers in business and for contributions to their global and local communities.

In addition, the Department of Business Administration has adopted the following program-level student learning outcomes (*starred outcomes are a focus of this course*):

1. ★ Graduates will demonstrate a foundational knowledge in the field of business.
2. ★ Graduates will demonstrate information literacy.
3. ★ Graduates will demonstrate ability to use practical business tools.
4. ★ Graduates will demonstrate professional communication skills.
5. ★ Graduates will demonstrate ability to work effectively as part of a team.
6. ★ Graduates will demonstrate the ability to analyze complex business situations and ethical obligations in a realistic business environment.
7. Graduates will demonstrate ability to analyze complex business situations and ethical obligations in a realistic business environment.

Course Objectives and Learning Outcomes

After completing this course the students are able to do following:

- Explain components for setting-up e-commerce site (DSLO# 1, 2, 5)
- Build a simple web site that organizes information effectively (DSLO# 4, 5)
- Identify an organization for information based on its inherent structure (chronological, alphabetic, etc.) (DSLO# 2)
- Use HTML tags, elements and attributes in developing web sites (DSLO# 2, 3)
- Use cascading style sheets (CSS) to create style standards for a web site (DSLO# 2, 3)
- Create a navigational framework that matches the content and genre of the site (DSLO# 3)
- Explain separation of concerns as it applies to the design and implementation of a web site (DSLO# 2)
- Describe the issues involved in developing a web interface (DSLO# 2, 3)
- Design and implement a web interface (DSLO# 2, 3)
- Compare/contrast graphic media file format characteristics such as color depth, compression and CODEC (DSLO# 2)
- Explain and compare media file formats including lossy vs. lossless compression, color palettes, streaming formats, and CODECs (DSLO# 2)
- Develop Client-side scripts using JavaScript (DSLO# 2, 3)
- Explain how server-side technology such as PHP works (DSLO# 2, 3)

DSLO = Department Student Learning Outcomes

Learning outcomes	Measures
setting-up e-commerce site, building simple web site, designing web interface, and creating navigational framework	Reading chapters, take quizzes, hands-on experience, Discussion, and final exam
Using HTML	Doing projects, and Hands-on experience in the Computer
CSS, JavaScript, PHP, media files	Reading chapters, doing projects in the Computer, discussion, quiz and Final Exam
Issue in developing web sites	Doing projects , quizzes and Final Exam

Grading

Your final grade is based on a straight point calculation: points earned/points offered. However, participation and attendance will be considered, but only if it will help your grade.

Grade	Percentage
A	90% and up
B	80–89%
C	70–79%
D	60–69%
F	59% and below (fail)

Extra Credit

Extra credit may be available throughout the semester. Do not count on extra credit though!

Assigned Reading

There may be multiple readings each week. Readings may consist of chapters from the textbook, companion readings, video viewings, interactive tools within the learning management system, the syllabus, and other items.

Assignments

There will be multiple mini assignments that will be turned in through Github. These assignments will be due 12:01 a.m. on the Tuesday or Thursday the assignment is due unless specified in the Course Assignments.

Midterm and Final

There will be a midterm project that will be due at a date to be assigned by the instructor. The final examination will actually be the completion of the project that you will be working on throughout the entire semester. This means it is **VERY IMPORTANT** to keep up with what is required for the project, and not wait until the last minute to try to do everything. This is your warning.

Note

The professor reserves the right to offer unannounced quizzes and assignments, and/or activities at any time.

Authorized Absences

You have the choice whether to show up to class or not. That being said, attendance and participation will only help your grade. The instructor reserves the right to change the schedule of reading/or due date for assignments, so being in class is important.

Late work

Not accepted unless you have prior approval. Anything turned in after the due date will receive a failing grade.

Accommodations

Upon request, this document can be made available in alternative formats. If you have a documented disability and need accommodations for this course, please contact the Disability Services Office in 201 Sanford Hall; phone: (218) 755-3883; email DisabilityServices@bemidjistate.edu. Minnesota Relay Service is available at 1-800-627-3529.

Academic integrity and general conduct

You are responsible to read and abide by the rules contained within the student handbook: <http://www.bemidjistate.edu/students/handbook/>. Any form of academic dishonesty (e.g., cheating, plagiarism, and misrepresentation), inappropriate behavioral conduct, or general disruptive conduct will not be tolerated and will be dealt with in accordance with University Policy.

Course Schedule

This course schedule is tentative and subject to change. **ALL** assignments are due no later than 12:01 a.m. on the date listed unless otherwise noted.

January 9th

Get Syllabus and have a good week!!!

Assignment

1. Download and install software and decide where you will store your source code.
 2. Setup your own GitHub Account and let me know what your repository will be.
 - Watch the syllabus repository at <https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development> to receive notifications of changes.
 3. Signup for the Slack channel with the link in Requirement section.
 4. Get your web hosting account setup and let me know what the url is.
-

January 11th

No Class

January 16th

Discussion

- Review syllabus, go over any issues with the setup from last week.
- How the web works
 - Domain Name System (DNS) https://en.wikipedia.org/wiki/Domain_Name_System
 - Transport Layer Security (TLS) https://en.wikipedia.org/wiki/Transport_Layer_Security

- **Elements of an E-Commerce web application.**
 - Payment Gateway for handling transactions
https://en.wikipedia.org/wiki/Payment_gateway
 - TLS for transferring data
 - Handling sensitive data
 - Sanitize in, encode out <https://security.stackexchange.com/a/95330>
- **How a web page is created**
 - HTML <https://en.wikipedia.org/wiki/HTML>
 - Body for page structure and display
 - Head for page instructions
 - CSS for styling
 - Javascript for interactions and DOM manipulations
 - Includes such as images and other media

Notes

See [course assignment/course notes 03 January 16.md](#) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course notes 03 January 16.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20notes%2003%20January%2016.md))

Assignment

See [course assignment/course assignment 03 January 16.md](#) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 03 January 16.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2003%20January%2016.md))

January 18th

Discussion

- Files for a web site
- Structural / Semantic tags
- tables, lists, and links

Notes

See [course assignment/course notes 04 January 18.md](#) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course notes 04 January 18.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20notes%2004%20January%2018.md))

Assignment

See [course assignment/course assignment 04 January 18.md](#) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 04 January 18.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2004%20January%2018.md))

January 23rd

Discussion

- Source Control

Notes:

See [course_assignment/course_notes_05_January_23.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_notes_05_January_23.md) (https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_notes_05_January_23.md)

Assignment:

See [course_assignment/course_assignment_05_January_23.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_05_January_23.md) (https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_05_January_23.md)

January 25th

Discussion

- Web images

Notes

See [course_notes/course_notes_06_January_25.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_notes/course_notes_06_January_25.md) (https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_notes/course_notes_06_January_25.md)

Assignment:

See [course_assignment/course_assignment_06_January_25.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_06_January_25.md) (https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_06_January_25.md)

January 30th

Discussion

- Tables
 - Used for tabular data
 - Consists of rows and columns
 - Tables have a head
 - thead tag wrapping a tr with th columns
 - Tables have a body

- tbody tag wrapping a tr with td columns
- Space can be added to table with cellpadding and cellspacing table attributes.
 - Cell and row spacing only recognizes padding for CSS
 - Table columns will collapse to the widest length
 - display: table in css can be used to center objects because of collapse.
- **Forms**
 - Used for sending data between pages and domains with the action attribute.
 - can send requests over either GET or POST protocols with the method attribute.
 - Various input types to capture user inputs: text, textarea, list select, radio, checkbox, etc.
 - New input types added to HTML5 to target devices tel, email, date, url, search etc.
 - Inputs grouped inside a fieldset structural tag.
 - Inputs pair with a label tag for titling input.
- **Other HTML elements**
 - Comments, represented by <!-- a comment -->
 - HTML5 brings in several structural elements that describe the page: header, footer, sidebar, article, nav, etc.
 - iframes can be used to include content from other pages
 - YouTube embed code uses iframe to load in embeddable videos.
- **Other HTML attributes**
 - id attribute used to identify elements on a page
 - Must be unique.
 - used for targeting a specific element in JS
 - class attribute
 - Used to add style classes to elements
 - Also used for grouping elements together

Notes

See [course notes/course notes 07 January 30.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2007%20January%2030.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 07 January 30.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2007%20January%2030.md))

Assignment:

See [course assignment/course assignment 07 January 30.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2007%20January%2030.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 07 January 30.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2007%20January%2030.md))

February 1st

Discussion

Intro to PHP

- [Wikipedia entry \(https://en.wikipedia.org/wiki/PHP\)](https://en.wikipedia.org/wiki/PHP)
- Created in 1995 by [Rasmus Lerdorf \(https://en.wikipedia.org/wiki/Rasmus_Lerdorf\)](https://en.wikipedia.org/wiki/Rasmus_Lerdorf) as *Personal Home Page* (PHP).
- By PHP 3 renamed to *PHP: Hypertext Preprocessor* (PHP)
- As of January 2013, PHP was used in more than 240 million websites (39% of those sampled) and was installed on 2.1 million web servers. [ref \(https://en.wikipedia.org/wiki/PHP#cite_note-183\)](https://en.wikipedia.org/wiki/PHP#cite_note-183)
 - Examples include Yahoo, Facebook, Wikipedia, Flickr, WordPress, SourceForge and MailChimp [ref \(https://www.octalsoftware.com/blog/top-10-successful-websites-developed-php\)](https://www.octalsoftware.com/blog/top-10-successful-websites-developed-php)
 - https://en.wikipedia.org/wiki/Programming_languages_used_in_most_popular_websites
- Most popular server side language on shared hosting accounts, like <https://x10hosting.com/>
 - Usually bundled in a [LAMP \(https://en.wikipedia.org/wiki/LAMP_\(software_bundle\)\)](https://en.wikipedia.org/wiki/LAMP_(software_bundle)) stack (Linux, Apache, MySQL, and PHP)
 - Windows [WAMP \(http://www.wampserver.com/en/\)](http://www.wampserver.com/en/) and Mac [MAMP \(https://www.mamp.info/en/\)](https://www.mamp.info/en/) alternatives to run php locally
- Resources for PHP
 - [php.net \(http://www.php.net/manual/en/\)](http://www.php.net/manual/en/)
 - [r/PHP on Reddit \(https://www.reddit.com/r/PHP/\)](https://www.reddit.com/r/PHP/)
 - [r/PHPHelp on Reddit \(https://www.reddit.com/r/PHPhelp/\)](https://www.reddit.com/r/PHPhelp/)
 - [The New Boston's Youtube Playlist \(http://www.youtube.com/course?list=EC442FA2C127377F07\)](http://www.youtube.com/course?list=EC442FA2C127377F07)
 - [PHP Academy PHP Basics Playlist \(https://www.youtube.com/watch?v=XKWqdp17BFo&list=PLfdiltiRHWjTPiFDRdTOPtSyYfz3iLW\)](https://www.youtube.com/watch?v=XKWqdp17BFo&list=PLfdiltiRHWjTPiFDRdTOPtSyYfz3iLW)
 - [PHP: The Right Way \(http://www.phptherightway.com/\)](http://www.phptherightway.com/)
- Editor / IDE
 - [PhpStorm \(https://www.jetbrains.com/phpstorm/\)](https://www.jetbrains.com/phpstorm/)
 - You can get a free license for PhpStorm with your student email address!
 - [Atom \(https://atom.io/\)](https://atom.io/) with the [IDE-PHP package \(https://atom.io/packages/ide-php\)](https://atom.io/packages/ide-php)
 - [Netbeans \(https://netbeans.org/downloads/index.html\)](https://netbeans.org/downloads/index.html) (download the PHP version)
 - [SublimeText \(https://www.sublimetext.com/\)](https://www.sublimetext.com/) with the [PHP Completions package Kit \(https://packagecontrol.io/packages/PHP%20Completions%20Kit\)](https://packagecontrol.io/packages/PHP%20Completions%20Kit)

Notes:

See [course notes/course notes 08 February 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_notes/course_notes_08_February_01.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_notes/course_notes_08 February 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_notes/course_notes_08_February_01.md))

Assignment:

See [course assignment/course assignment 08 February 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_08_February_01.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_08 February 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_08_February_01.md))

February 6th

Discussion

Review Request methods

Intro to PHP Sessions

- [What is a PHP Session? \(http://php.net/manual/en/session.examples.basic.php\)](http://php.net/manual/en/session.examples.basic.php)
 - Sessions are a simple way to store data for individual users against a unique session ID. [ref \(http://php.net/manual/en/session.examples.basic.php\)](http://php.net/manual/en/session.examples.basic.php)
 - Started up with the `session_start()` function.
 - A cookie is written to users browser cookies with the session id tied to the user session.
 - No output headers can be sent before `session_start()` or the Warning: `session_start(): Cannot send xyz - headers already sent` will be thrown.
 - Unlike requests like GET and POST Sessions give a mechanism to have access to user variables over multiple pages.
 - Gives access to variables set to the `$_SESSION` global on next request
 - Sessions normally shutdown automatically when PHP is finished executing a script, but can be manually shutdown using the `session_write_close()` function. [ref \(http://php.net/manual/en/session.examples.basic.php\)](http://php.net/manual/en/session.examples.basic.php)
- Why would we need session for E-Commerce Web Development?
 - Adding items to a customers shopping carts
 - Saving a customer login to store account
 - Personalizing a customer's experience on a site (logged in customer vs guest)
- Special security concerns with sessions
 - [Cross-Site Request Forgery \(CSRF\) \(https://www.owasp.org/index.php/Cross-Site_Request_Forgery_\(CSRF\)\)](https://www.owasp.org/index.php/Cross-Site_Request_Forgery_(CSRF))
 - [Session hijacking \(https://en.wikipedia.org/wiki/Session_hijacking\)](https://en.wikipedia.org/wiki/Session_hijacking)
- Example / "How to" Links

- <https://stackoverflow.com/questions/5926677/session-handling-for-an-e-commerce-website>
- <https://www.tutorialrepublic.com/php-tutorial/php-sessions.php>
- <https://www.eduonix.com/blog/web-programming-tutorials/learn-working-with-sessions-in-php/>

Notes:

See [course notes/course notes 09 February 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2009%20February%2006.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 09 February 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2009%20February%2006.md))

Assignment:

See [course assignment/course assignment 09 February 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2009%20February%2006.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 09 February 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2009%20February%2006.md))

February 8th

Cascading Style Sheets (CSS)

[What is CSS \(https://developer.mozilla.org/en-US/docs/Web/CSS\)](https://developer.mozilla.org/en-US/docs/Web/CSS)

- Instructions to a browser on how to "paint" the output HTML to the screen
- Can be included in three ways: linked to a .css file defined in the head tag inside a style tag, or inlined on a element with a style attribute.
 - Styles in the head override styles in a linked .css file, styles inlined in a style attribute will override styles in the head and linked styles.
 - Linked or head styles are accessed through the class attribute on any html element.
- A css file can be a .php file if the header header("Content-type: text/css; charset: UTF-8"); is added to the ,php file. [ref \(https://css-tricks.com/css-variables-with-php/\)](https://css-tricks.com/css-variables-with-php/)

Basic CSS Style Declarations

Declaring for an element:

```
p {  
  font-size: 12px;  
  font-family: sans-serif;  
  font-weight: normal;  
}
```

Declaring as a class:

```
.paragraph {
  font-size: 12px;
  font-family: sans-serif;
  font-weight: normal;
  color: #000;
}
```

Declaring as an id:

```
#paragraph {
  font-size: 12px;
  font-family: sans-serif;
  font-weight: normal;
}
```

Note: [Declaring css on an id is very difficult to override.](https://www.freecodecamp.org/challenges/override-class-declarations-by-styling-id-attributes)

(<https://www.freecodecamp.org/challenges/override-class-declarations-by-styling-id-attributes>) It's generally bad practice to apply css to an id unless absolutely necessary.

Declaring as a pseudo class:

```
.paragraph:hover {
  /** Hovering over this element will change its color */
  color: #ccc;
}
```

CSS Stylesheet Hierarchy

Type	Example	Usage
element	p {}	<p>Lorem ipsum...</p>
generic	.paragraph {}	<p class="paragraph">Lorem ipsum...</p>
chained	.paragraph.bold {}	<p class="paragraph bold">Lorem ipsum...</p>
child	.paragraph .img {}	<p class="paragraph">Lorem ipsum </p>
pseudo	.paragraph:hover {}	<p class="paragraph">Lorem ipsum</p>

Notes:

See [course notes/course notes 10 February 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2010%20February%2008.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 10 February 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2010%20February%2008.md))

Assignment:

See [course assignment/course assignment 10 February 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2010%20February%2008.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 10 February 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2010%20February%2008.md))

February 13th

TBA

Notes:

See [course notes/course notes 11 February 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2011%20February%2013.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 11 February 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2011%20February%2013.md))

Assignment:

See [course assignment/course assignment 11 February 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2011%20February%2013.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 11 February 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2011%20February%2013.md))

February 15th

TBA

Notes:

See [course notes/course notes 12 February 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2012%20February%2015.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 12 February 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2012%20February%2015.md))

Assignment:

See [course assignment/course assignment 12 February 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2012%20February%2015.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 12 February 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2012%20February%2015.md))

February 20th

TBA

Notes:

See [course notes/course notes 13 February 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2013%20February%2020.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 13 February 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2013%20February%2020.md))

Assignment:

See [course assignment/course assignment 13 February 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2013%20February%2020.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 13 February 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2013%20February%2020.md))

February 22nd

TBA

Notes:

See [course notes/course notes 14 February 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2014%20February%2022.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 14 February 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2014%20February%2022.md))

Assignment:

See [course assignment/course assignment 14 February 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2014%20February%2022.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 14 February 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2014%20February%2022.md))

February 27th

TBA

Notes:

See [course notes/course notes 15 February 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2015%20February%2027.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 15 February 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2015%20February%2027.md))

Assignment:

See [course assignment/course assignment 15 February 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2015%20February%2027.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 15 February 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2015%20February%2027.md))

March 1st

TBA

Notes:

See [course notes/course notes 16 March 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2016%20March%2001.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 16 March 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2016%20March%2001.md))

Assignment:

See [course assignment/course assignment 16 March 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2016%20March%2001.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 16 March 01.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2016%20March%2001.md))

March 6th

TBA

Notes:

See [course notes/course notes 17 March 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2017%20March%2006.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 17 March 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2017%20March%2006.md))

Assignment:

See [course assignment/course assignment 17 March 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2017%20March%2006.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 17 March 06.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2017%20March%2006.md))

March 8th

TBA

Notes:

See [course notes/course notes 18 March 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2018%20March%2008.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 18 March 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2018%20March%2008.md))

Assignment:

See [course assignment/course assignment 18 March 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2018%20March%2008.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 18 March 08.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2018%20March%2008.md))

March 13th

TBA

Notes:

See [course notes/course notes 19 March 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2019%20March%2013.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 19 March 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2019%20March%2013.md))

Assignment:

See [course assignment/course assignment 19 March 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2019%20March%2013.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 19 March 13.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2019%20March%2013.md))

March 15th

TBA

Notes:

See [course notes/course notes 20 March 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2020%20March%2015.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 20 March 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2020%20March%2015.md))

Assignment:

See [course assignment/course assignment 20 March 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2020%20March%2015.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 20 March 15.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2020%20March%2015.md))

March 20th

TBA

Notes:

See [course notes/course notes 21 March 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2021%20March%2020.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 21 March 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2021%20March%2020.md))

Assignment:

See [course assignment/course assignment 21 March 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2021%20March%2020.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 21 March 20.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2021%20March%2020.md))

March 22nd

TBA

Notes:

See [course notes/course notes 22 March 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2022%20March%2022.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 22 March 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2022%20March%2022.md))

Assignment:

See [course assignment/course assignment 22 March 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2022%20March%2022.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 22 March 22.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2022%20March%2022.md))

March 27th

TBA

Notes:

See [course notes/course notes 23 March 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2023%20March%2027.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 23 March 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2023%20March%2027.md))

Assignment:

See [course assignment/course assignment 23 March 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2023%20March%2027.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 23 March 27.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2023%20March%2027.md))

March 29th

TBA

Notes:

See [course notes/course notes 24 March 29.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2024%20March%2029.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 24 March 29.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2024%20March%2029.md))

Assignment:

See [course assignment/course assignment 24 March 29.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2024%20March%2029.md)
([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 24 March 29.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2024%20March%2029.md))

April 3rd

TBA

Notes:

See [course notes/course notes 25 April 03.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2025%20April%2003.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 25 April 03.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2025%20April%2003.md))

Assignment:

See [course assignment/course assignment 25 April 03.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2025%20April%2003.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 25 April 03.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2025%20April%2003.md))

April 5th

TBA

Notes:

See [course notes/course notes 26 April 05.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2026%20April%2005.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 26 April 05.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2026%20April%2005.md))

Assignment:

See [course assignment/course assignment 26 April 05.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2026%20April%2005.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 26 April 05.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2026%20April%2005.md))

April 10th

TBA

Notes:

See [course notes/course notes 27 April 10.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2027%20April%2010.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 27 April 10.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2027%20April%2010.md))

Assignment:

See [course assignment/course assignment 27 April 10.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2027%20April%2010.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 27 April 10.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2027%20April%2010.md))

April 12th

TBA

Notes:

See [course notes/course notes 28 April 12.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2028%20April%2012.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 28 April 12.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2028%20April%2012.md))

Assignment:

See [course assignment/course assignment 28 April 12.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2028%20April%2012.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 28 April 12.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2028%20April%2012.md))

April 17th

TBA

Notes:

See [course notes/course notes 29 April 17.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2029%20April%2017.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 29 April 17.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2029%20April%2017.md))

Assignment:

See [course assignment/course assignment 29 April 17.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2029%20April%2017.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 29 April 17.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2029%20April%2017.md))

April 19th

TBA

Notes:

See [course notes/course notes 30 April 19.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2030%20April%2019.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 30 April 19.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2030%20April%2019.md))

Assignment:

See [course assignment/course assignment 30 April 19.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2030%20April%2019.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course assignment/course assignment 30 April 19.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20assignment/course%20assignment%2030%20April%2019.md))

April 24th

TBA

Notes:

See [course notes/course notes 31 April 24.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2031%20April%2024.md) ([https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course notes/course notes 31 April 24.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course%20notes/course%20notes%2031%20April%2024.md))

Assignment:

See [course_assignment/course_assignment_31_April_24.md](https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_31_April_24.md) (https://github.com/natenolting/BUAD-3283-E-Commerce-Web-Development/blob/spring2018/course_assignment/course_assignment_31_April_24.md)
