MMP 350: Advanced Web Design

Spring 2017
Monday and Wednesday
7:30pm - 9:10pm
Fiterman 1006

Professor Brian MacMillan
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Office: None
Office Hours: None, but I always arrive early for class so will be available to meet with students then. I am also available to skype. My skype name is brian.macmillan.801.

Course Description

This course gives students the tools to build standards-compliant dynamic web sites. Students will incorporate client-side and server-side scripting with advanced CSS to create intuitive and interactive web interfaces. Learning will take placed in the context of a content management system, WordPress. Contemporary web development processes and platforms will be explored. A foundational knowledge of programming concepts, HTML, CSS and design for the web is required for this course.

Students will write HTML, CSS JavaScript and PHP using the Sublime Text editor. They will use image editing programs, for example Photoshop or GIMP, to create graphics for web sites. They will each require their own WordPress blog, to which they must be able to FTP files.

Course site: github.com/brianmacmillan/teaching/mmp350

Attendance

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a four-hour class. In that class, you would be allowed 5 hours of absence (not 5 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

In MMP350 all students are entitled to miss one class, with no reason, provided they inform the Instructor, by email, prior to class. All subsequent absences will result in a 2 per cent penalty against the final grade, up to 10%, unless excused by the Professor. Documentation, for example a doctor's note, made be required.

Grading

10% | Attendance and participation
10% | Presentation on website or technology
15% | In-class assignments and quizzes
30% | Midterm Portfolio
35% | Final Project

Grades on assignments will be reduced by 10% if handed in late. In exceptional circumstances the Instructor may allow students to resubmit work or retake tests.

Textbook: Smashing WordPress: Beyond the Blog, 4th edition
Author: Thord Daniel Hedengren
Publisher: Wiley, John & Sons, Incorporated
ISBN 978-1118600757; 1118600754
*The text book is not required

Course Work

1. Presentations and Assignments

Presentations and assignments will be used to provide students with a broader understanding of Internet development.

a. Critique of a web page OR a presentation on an Internet related technology. Value: 10% of final grade

Critiques and presentations will follow the model demonstrated in class by the Instructor. Grading guidelines for presentations are outlined the document Grading Guidelines for Presentations to be discussed in class.

b. 3 in-class tasks. *Pass or fail*. 5 marks each for 15% total grade. Students will have to successfully perform three tasks that demonstrate to the Instructor a fundamental understanding of important course material. The demonstrations will take place in the class work periods.

Tasks

1. create a git repository and use it (5% pass or fail)

2. access a database from php (5% pass or fail)

3. dynamically alter the DOM using JavaScript (5% pass or fail)

Each of these tasks will be demonstrated in class. Students will then be given functioning examples that they will have to setup in their own environment, and modify. *The goal of these tasks is to ensure that all students complete the class with core skills.* Students will be allowed to repeat these tasks twice, for credit, should their first attempts be unsuccessful.

2. Midterm Project, value 30%

One pedagogical goal of the class is to introduce students to the idea of a project life-cycle, from conception to implementation. The midterm project will focus on the first parts of the project life cycle. It will require the following:

1. A one or two sentence project description. 5 out of 30 marks

2. A design template for a cellphone, laptop, desktop and 4k interfaces. This template can use a drawing tool like Photoshop or Indesign, a prototyping site like moqups.com 5 out of 30 marks.

3. A features table that compares your project idea with at least one similar web page. A drawing, table or paragraph that explains the context of your idea. If your idea is unique, then you should focus on the latter task. 5 out of 25 marks.

4. A functioning wire-frame design that uses HTML, Foundation and SASS or comparable technologies, such as Bootstrap. 15 out of 30 marks

> 5 marks for responsive design. Will the design work on multiple platforms? Does its sensibly change content according to platform?
>
> 5 marks for stability. How does the design handle different browsers? Does the design handle errors
>
> 5 marks for look and feel. Are too many fonts used? Too many colors? Is there an overriding design idea?

3. Final Project (35% of total)

The bulk of the class will be spent working toward a final term project, a Wordpress blog that employs a custom theme designed by the student.

The students will be required to email the Professor a WordPress theme template files by the Sunday before the last week of term. The final project should be a zipped archive with all of your PHP and SASS files, as well as any image assets that are used for the theme.

Grading

1. Visual Design (10 marks out of 35)

- Overall Impression: does the visual design fit the concept for this theme? This is about the atmosphere and feel of the site. Much of this is conveyed by fonts, colors, images and graphic embellishments (icons, shadows, borders etc).
- Parts of the page are clearly visible: header, nav, content, footer etc. and the relative importance.
- This includes support for responsive or mobile design.

2. Content (10 marks out of 35)

- Is the content of your site appropriate for the WordPress theme you have created?

- How representative is your content of the assets you expect to showcase on your site.
- Note that grades will *not* be given for extensive content. The goal is to present *interesting*, *relevant* and *representative* content.

3. Template Files (10 marks out of 35) - These are the WordPress files we have been working on this semester. For the theme to work correctly all of these files must be included.

- index.php: default page. Required of all themes
- 404.php : Shows if a page or post is now found. the only one where you don't need a content- because there is no loop
- search.php: shows the search results
- archive.php: shows list of category/tag/date/author posts
- single.php: shows a single post
- page.php: single page (like about or bio)
- home.php: can be used for blog.
- header.php: Includes doctype, opening html, head and opening body tags, navigation
- footer.php: Includes footer and closing body and html tags.
- sidebar.php and functions.php
- favicon.png and screenshot.png

Theme Functionality (5 marks out of 30)

- Menus (Navigation)
- Featured Images
- Widget Areas (at least one)

Description of a Typical Class

The typical class will have the following components:

1. A brief introductory lecture or demonstration.

2. A student presentation

3. Setup of environment for in-class work

Break

Instructor guided in-class work related either to a project or to a programming example.

In the interests of pacing, and accommodating special requests, this class template will not be followed for all classes, just most.

Learning Objectives

Design

- Design for content, specific and general
- Understanding of typographic hierarchy
- Layout
- Styles
- WordPress classes and elements

Coding

- The Document Object Model
- HTML for document structure
- CSS for style
- Javascript for dynamic pages
- PHP for database management
- Using javascript with PHP
- Using Sublime text editor and WordPress interface

Administration

- Using WordPress database and authoring tools

Iteration

- Process of receiving feedback and adapting designs

Deployment

- Deliver public facing website for final with content, media, code

Responsive design

- Designing for multiple platforms

Outline of Topics

- Overview, from project planning to software design patterns
- Content Management Systems
- The Document Object Model
- Interactivity through client-side scripting
- Dynamic web pages through server-side scripting
- Web site theme creation including:

- o   Wireframing and prototyping
- o   Responsive design
- o   SASS and advanced CSS concepts
- Widgets, plugins and 3rd party functionality
- Github / version control

*Topics and schedule are subject to change throughout semester