# CPSC 2030 – Web Development II

**Project: [100 marks]**

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| **Objectives** |
| * Create a dynamic website using PHP, a MySQL Database, CSS, and JavaScript |
| **Preparation** |
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| **What to do** |

Your task is to create a dynamic website using PHP, a MySQL Database, CSS, and JavaScript, that is based on a topic of your choice. Choose a topic that interests you and that you will enjoy working with for four weeks. (However, the project idea should not be the same as a project you've previously done in another course.)

You have two options to choose from for this project:

* **Option A: Dynamic PHP Website from Scratch**
* **Option B: Dynamic WordPress Site with Custom Theme**

**Option A: Dynamic PHP Website from Scratch**

For this option, you will write all code from scratch and design your own database. Your application should be designed in a way that is easy to update and maintain, with the logic, presentation and data components relatively distinct from one another.

Your site should include the following:

* Dynamic content that is stored in and fetched from the database;
* At least three pages;
* At least one form, with validation (client-side and server-side. Feel free to use a JavaScript plugin, but implement your own PHP validation);
* Some way for the user to update records in the database or add new records to the database;

**Option B: Dynamic WordPress Site with Custom Theme**

For this option, you will create a new WordPress site and create your own custom WordPress theme. Regardless of the title of your site, your WordPress folder should be called **2022-firstname-lastname**. Styles, scripts, and other site-wide configuration should be implemented in **functions.php**.

Your site should have the following:

* A posts page that displays all recent posts;
* At least two other pages, not including the posts page;
* At least one registered menu;
* At least four distinct PHP templates;
* At least one custom query.

**Other Requirements for both Options A and B:**

* At least one element that uses CSS transitions, and at least one @keyframes animation. Try to find a way to use these features to enhance the functionality of the website; the animation should feel necessary.
* A layout that uses CSS Grid or Flexbox.
* Some kind of JavaScript functionality. This could be a keyboard-accessible menu, collapsible content, an image slider, etc.

**Both Options A and B:**

The following instructions apply to both options.

**Documentation:**

One of the pages on your site should be called **Documentation**, and should include the following:

* instructions for how to use your site, in addition to a list of features that you would like to contribute to your grade. If there's something you've implemented that you're proud of, mention it here, and include a link to that part of the site. (Remember that you can use IDs and fragment identifiers to link to specific HTML elements on a page.) A good practice would be to go through the checklist at the end of this document and make sure you address every point.
* Screenshots of your HTML and CSS validation results for every page on the site. Use the following validators:
  + <https://validator.w3.org/>
  + <https://jigsaw.w3.org/css-validator/>
  + Please note that misrepresenting the validity of your code is considered academic misconduct. Even if your code has validation errors, include the screenshots anyway!
* References for images and other media, plugins (if you use them), and any code that was written by someone else or heavily inspired by some other source. You must include a link to the exact source.

**General Grading Criteria:**

* **Responsive, mobile-first design:** Your site should respond to any kind of viewport, from a small mobile phone to a large desktop screen.
* **Tested and free from errors:** Your HTML and CSS should validate. You should try out your site in a few different browsers and a few different devices. Consider asking your friends to test it.
* **Accessibility features:** You should have features such as alt text on images, sufficient text/background contrast, labels on forms, screen-reader text for icon links, semantic tags such as <nav>, <header>, etc.
* **Well-designed:** It should be easy to use your page. Navigation should be easy to figure out, text should be easy to read, and one shouldn't have to hunt around for what they're looking for. Use a sensible organization that makes it easy to accomplish tasks with minimal difficulty. A few other things:
  + Text should be attractive and easy to read:
    - Lines of text should be between 45 and 75 characters long.
    - Titles and headings should be easy to differentiate from paragraph text.
    - The fonts should be appropriate to the subject matter, and simple fonts should be used for paragraph text.
    - Most text (except for headings, perhaps) should be left-aligned.
    - Make sure there is adequate contrast between text and backgrounds.
  + Colors should be attractive; use a complimentary, triadic, or monochromatic color scheme.
  + Elements should be aligned, and related elements should be grouped together.

**Content:**

You are **not** required to create original content for this site, although you may choose to do so anyway. Feel free to use text from Wikipedia or some other source that provides content under a Creative Commons license. You may use any images that are either in the **public domain** or licensed for use under **Creative Commons**. Of course, you are free to use your own images and writing if you choose.

Some sources of free images and video:

* <https://unsplash.com/>
* <https://morguefile.com/photos/morguefile/> (images and video)
* <https://videos.pexels.com/> (video)
* <https://www.pexels.com/>
* <https://pixabay.com/>
* <http://nos.twnsnd.co/>
* <http://jaymantri.com/>
* <http://pickupimage.com/>
* <https://picography.co/>
* <http://www.lifeofpix.com/>

**Attribution:**

Please note that if you use any content created by someone else, including text, images and videos, you must provide proper attribution; failure to do so will result in a mark of 0 on the project. You must cite every source by providing a link to the exact, specific page where you got the content, even if the source does not require attribution.

You may not use any code libraries or frameworks (other than WordPress and a JavaScript form validation plugin) without permission from the instructor. You are encouraged to explore other tools, but please discuss it with the instructor first.

**Notes on Sources and Attribution:**

* Google Images is *not* a valid source.
* Rather than simply providing a link to a stock image site, provide a link to the page for the *specific* image you used. For example, providing a link to “pexels.com” would *not* be sufficient.
* If an image does not have any copyright or license information, you must assume that it is *not* free to use.

**Failure to follow these practices will result in a mark of 0 on the project and will be reported to the college as academic misconduct. Ask the instructor if you have any doubts.**

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| **What and When to hand in** |
| * 1. **[10 marks] Submit your project proposal** (filename: **Project Proposal.docx**)   **(Due: 11:59pm**, **Sunday, Nov 13, 2022)**  Create a document that contains the following   1. The title of the project 2. The objectives of the project 3. Detailed description of the project 4. Project website organization diagram 5. Detailed wireframe of each different page layout    1. **[80 marks] Submit your project final version**   **(Due: 11:59pm, Sunday, Dec 4, 2022)**  **What to handle in**   * **Option A**: Export your database using PhpMyAdmin and include it in your project files. Make sure your project has a database configuration file with the necessary credentials for the marker to connect. Remove any files that are not being used in the final version of your site, and make sure your code has been cleaned up/formatted/commented. Zip all necessary files, rename the folder to **2030-firstname-lastname**, and hand in the archive to D2L. If there are any special instructions for installing the project, please include them in the comments. * **Option B:** Remove any files that are not being used in the final version of your site, and make sure your code has been cleaned up/formatted/commented. Install the **Show Current Template** plugin so that the marker can see the template used for each page. Use the **Duplicator** plugin to create a duplicate of your site, and hand it in to D2L.   **Check List**   * Option A [30 marks]   + [6 marks] Organization/Architecture   + [7 marks] Dynamic content that is stored in and fetched from the database;   + [10 marks] At least one form, with validation;   + [7 marks] Some way for the user to update the database or add new records to the database; * Option B [30 marks]   + [5 marks] Functions.php used for styles, scripts, menus, etc.   + [5 marks] A posts page that displays all recent posts;   + [5 marks] At least one registered menu;   + [9 marks] At least four distinct PHP templates;   + [6 marks] At least one custom query. * Both Options [50 marks]   + [8 marks] Documentation page   + [5 marks] Animations   + [5 marks] Grid/Flexbox Layout   + [5 marks] JavaScript functionality   + [9 marks] Accessible and responsive   + [9 marks] Well-tested and free from errors (with screenshots of validation.)   + [9 marks] Well-designed   \*Please note that the marker may deduct up to -20% for poorly organized/commented/formatted code and for improper hand in. |
| 1. **[10 marks]** **Demonstrate your project to the class on Wednesday, November 30, 2022** |