

CSC 4035 Lab 2: Building a Structured Web Page with HTML5 & Validation

Lab Duration: 2 Hours

Objective: By the end of this lab, students should be able to:

- Create a well-structured **HTML5 webpage** using **semantic elements**.
- Implement **HTML5 forms with built-in validation**.
- Validate the HTML code using the **W3C Validator**.
- Push the project to **GitHub** for submission.

Prerequisites

Before starting this lab, ensure you have the following installed:

- **VS Code** or any text editor ([Download VS Code](#))
- **Google Chrome or Firefox** (for testing the webpage)
- **Git & GitHub** ([Download Git](#))
- **Internet connection** (for W3C validation & pushing to GitHub)

Part 1: Create a New Project Folder

1. Open VS Code (or your preferred editor).
2. Click File → Open Folder and create a folder named:

`lab2-html`

3. Inside the `lab2-html` folder, create the following files

- `index.html` (Main HTML file)
- `README.md` (Project description)

Part 2: Writing a Well-Structured HTML5 Page

1. Add the Basic HTML5 Structure

- Copy and paste the following **basic HTML5 template** into your `index.html` file:
- **Make sure to add [Your Name & Computer Number] within the <h1> tag.**

```
htm<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Week 2 Lab - Structured Web Page</title>
</head>
<body>
  <header>
    <h1>Welcome to [Add Your Name & Computer Number] Website</h1>
    <nav>
      <a href="#">Home</a> |
      <a href="#">About</a> |
      <a href="#">Contact</a>
    </nav>
  </header>

  <main>
    <section>
      <article>
        <h2>Latest News</h2>
        <p>HTML5 has introduced powerful new semantic elements.</p>
      </article>
    </section>
    <aside>
      <h3>Related Links</h3>
      <ul>
        <li><a href="#">Web Standards</a></li>
        <li><a href="#">HTML5 Guide</a></li>
      </ul>
    </aside>
  </main>

  <footer>
    <p>&copy; 2025 My Website</p>
  </footer>
</body>
</html>
```

This structure includes:

- A semantic layout with `<header>`, `<nav>`, `<main>`, `<section>`, `<article>`, `<aside>`, and `<footer>`.

- A navigation menu (`<nav>`) for linking pages.
- A main content area (`<main>` → `<section>` → `<article>`).
- A sidebar (`<aside>`) for extra links.
- A footer with copyright information.

Part 3: Adding a Contact Form with HTML5 Validation

1. Below the `<footer>`, add the following HTML5 form with validation:

- Copy and paste the following **basic HTML5 template** into your `index.html` file:

```
<section>
  <h2>Contact Us</h2>
  <form action="#" method="post">
    <label for="name">Full Name:</label>
    <input type="text" id="name" name="name" required minlength="3"><br>

    <label for="email">Email:</label>
    <input type="email" id="email" name="email" required><br>

    <label for="message">Message:</label>
    <textarea id="message" name="message" required
minlength="10"></textarea><br>

    <button type="submit">Send Message</button>
  </form>
</section>
```

This form includes:

- A required text input for name.
- A validated email input.
- A textarea for user messages (minimum 10 characters).
- A submit button.

Part 4: Validating HTML Using the W3C Validator

1. Go to <https://validator.w3.org/>.
2. Click "Validate by File Upload" and upload your `index.html`.
3. Click "Check" to see any errors or warnings.
4. Fix any issues based on the suggestions.
5. **Final Check:** After fixing errors, **validate again** and confirm **no errors remain**.

Part 5: Publishing Your Project on GitHub

1. Open **VS Code Terminal** or **Command Prompt**.
2. Navigate to your project folder
3. Initialize a Git repository
4. Add all project files
5. Commit the files
6. Create a GitHub repository named **lab2-html**.
7. Connect GitHub to your project:
8. Push your code to GitHub
9. **Check your GitHub repository** to confirm files are uploaded.

Lab Deliverables

You must submit the following items via **Google Classroom** or the assigned submission platform:

1. **GitHub Repository Link** with:
 - `index.html` (Well-structured HTML5 page).
 - `README.md` (Short description of the project).
2. **W3C Validation Screenshot:**
 - Take a screenshot of the **W3C Validator** result **showing no errors**.
3. **Collaboration Task:**

- Fork your group partner's repository and the following below the **h1** tag
 - `<h2>Group Partner [Add Your Name & Computer Number]</h2>`
- Submit a **Pull Request (PR)** to their repository.

4. Submission of a Short Video or Annotated Screenshots:

- Take a screenshot of
 - the **W3C Validator** result **showing no errors**.
 - The modified web page displayed in a browser

Learning Outcomes

By completing this lab, you should have:

- Written **valid, semantic HTML5** code.
- Used **HTML5 forms with built-in validation**.
- Checked and fixed errors using **the W3C Validator**.
- Published the project on **GitHub** using version control.