"Investing in Africa's Future"

COLLEGE OF ENGINEERING AND APPLIED SCIENCES (CEAS)

NCIS 211: WEB TECHNOLOGIES

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER 2025

LECTURER: MS ELIZABETH MAFU

TIME: 3 HOURS

INSTRUCTIONS

1. Answer **ALL questions**.
2. Use only the software installed on your machine (**VS Code, Browser, Git, Node.js**) – no internet access is allowed.
3. Save all files in a single folder named: `WebTech_Final_StudentID`.
4. At the end of the exam, zip the folder and submit it to the invigilator.
5. Marks will be awarded for **functionality, correctness, code quality, and presentation**.

Question 1: HTML & CSS Portfolio Page (20 Marks)

Create a **single HTML page** named portfolio.html with the following:

- A header with your name and course of study. (5)
- An "About Me" section with at least one paragraph. (5)
- A list of at least 3 skills formatted using CSS. (5)
- A navigation bar with links that scroll to each section. (5)

Deliverables: portfolio.html and style.css

Question 2: Responsive Layout with CSS (15 Marks)

Using the portfolio.html file from Question 1:

- Apply **Flexbox** or **Grid** to arrange your skills in two columns on large screens and a single column on small screens. (5)
- Add a responsive image of yourself (placeholder acceptable) with appropriate alt text. (5)
- Ensure the page layout adjusts gracefully for mobile and desktop. (5)

Deliverables: Updated portfolio.html and style.css.

Question 3: JavaScript Interactivity (20 Marks)

Enhance your portfolio page with **JavaScript**:

- Add a **button** that displays the current date and time when clicked. (5)
- Create a **form** (e.g., "Contact Me") that validates input (Name and Email required). (5)
- Show an alert or message if fields are empty when the user tries to submit. (5)
- Use DOM manipulation to display the form data on the page after submission.(5)

Deliverable: script.js linked to portfolio.html.

Question 4: Bootstrap Implementation (15 Marks)

Redesign your portfolio page using **Bootstrap 5**:

- Use the Bootstrap **navbar** for navigation. (5)
- Use Bootstrap's **grid system** to make the layout responsive. (5)
- Add at least one Bootstrap **card component** to showcase a project. (5)

Deliverables: Updated portfolio.html and style.css with Bootstrap.

Question 5: Git & Version Control (10 Marks)

Perform the following Git tasks:

- Initialize a Git repository in your project folder. (2)
- Create a commit with the message "Initial commit – WebTech Final Exam". (2)
- Create a new branch called feature-form and switch to it. (2)
- Make a small change to script.js (e.g., add a console log) and commit it. (2)
- Switch back to the main branch and merge feature-form. (2)

Deliverables: .git folder in your submission directory.

Question 6: Short Answer Questions (20 Marks)

Answer briefly in a text file named answers.txt.

1. Explain the **difference between HTTP and HTTPS**. Why is HTTPS important? (5)
2. Describe the **client-server model** using an example from your portfolio project. (5)
3. Differentiate between **domain names** and **web hosting**. (5)
4. Explain what **RESTful APIs** are and give one real-life example where they are used.

(5)

END OF EXAMINATION