



# OSUN STATE UNIVERSITY, OSOGBO

## ASSIGNMENT: IFT 203 Introduction to Web Computing

### Instructions

- Answer **ALL** questions.
- For practical tasks, submit:
  - index.html
  - styles.css
  - (optional) script.js
- Ensure your HTML validates with **W3C HTML Validator** and CSS validates with **W3C CSS Validator**.

### SECTION A: Concepts and Short Answers

1. Define **web computing** and state two reasons why it is important in modern computing.
2. Explain the difference between:
  - **HTML** and **CSS**
  - **Semantic** and **non-semantic** HTML
3. What is a **content hierarchy**? Give one example of good hierarchy on a web page.
4. Define these terms: **heading**, **navigation bar**, **breadcrumb**, **sidebar**, **footer**.
5. State **three functions** of a website footer.
6. List **five examples** of semantic HTML tags and what each is used for.
7. Explain why **valid HTML** matters (give at least three reasons).
8. Explain the purpose of:
  - **W3C HTML Validator**
  - **W3C CSS Validator**
9. What is **cross-browser testing** and why is it necessary?
10. Explain the difference between **Flexbox** and **CSS Grid**.

### SECTION B: HTML Structure and Semantics (Write Code)

Create a simple webpage called “**Department Information Page**” with the following requirements:

1. Use semantic tags:
  - `<header>`, `<nav>`, `<main>`, `<section>`, `<article>`, `<aside>`, `<footer>`
2. In `<header>`: include a site title and a short tagline.
3. In `<nav>`: create a menu with links:
  - Home, About, Courses, Contact
4. In `<main>`:
  - Create **two sections**:
    - Section 1: “About the Department”
    - Section 2: “Courses Offered”
5. Under “Courses Offered”, include **three course cards** using `<article>` (each with a heading and paragraph).
6. Add an `<aside>` containing:
  - “Quick Links” (3 links)
  - “Office Hours” (at least 2 days + time)
7. In `<footer>` include:
  - Contact email (dummy), copyright
  - Links: Privacy Policy, Terms, Help

**Submission:** index.html

## **SECTION C: CSS Fundamentals (Selectors + Box Model)**

Create styles.css and apply the following:

1. Use **element selectors** to style body and headings.
2. Use a **class selector** to style the course cards (`.course-card`).
3. Use an **ID selector** on the navigation container (e.g., `#main-nav`) and style it.
4. Demonstrate the **box model** clearly on course cards:
  - margin, border, padding, content
5. Add `:hover` effect on navigation links.
6. In the box model, explain the correct order: **content** → **padding** → **border** → **margin** (in one paragraph).

## SECTION D: Layout Techniques (Flexbox and Grid)

1. Use **Flexbox** to arrange the navigation links horizontally and align them neatly.
2. Use **Grid** to arrange the three course cards into:
  - 3 columns on large screens
  - 2 columns on medium screens
  - 1 column on small screens
3. When would you choose Flexbox over Grid, and when would you choose Grid over Flexbox?

## SECTION E: Responsive Design

Add media queries so that:

1. On screens  $\leq 600\text{px}$ :
  - navigation becomes vertical
  - sidebar moves below main content
2. On screens **601px – 900px**:
  - course cards show in **2 columns**
3. On screens  $\geq 901\text{px}$ :
  - course cards show in **3 columns**
  - sidebar stays beside the main content

**Write the exact media query rules** you used and explain (briefly) what each breakpoint does.

## SECTION F: Website Navigation and Structure

Add these navigation/structure features:

1. Add a **breadcrumb** under the header (example: Home > Courses).
2. Add a **sidebar** section titled “You Are Here” that highlights the current page name.
3. Add a footer section “Important Links” containing at least 3 links.

**Short Answer:**

- State two advantages of breadcrumbs for user experience.

## SECTION G: Web Standards and Testing (Practical Validation)

1. Validate your HTML using **W3C HTML Validator**.
2. Validate your CSS using **W3C CSS Validator**.
3. Test your page on at least **two browsers** (Chrome + Firefox OR Chrome + Edge).

**Write a short report:**

- List the validation errors you encountered (if any) and how you fixed them.
- Mention any cross-browser issues you noticed and how you resolved them.

**SECTION H: CBT-Style Mini Practice**

Answer the following in 1–2 lines each:

1. Why should `<font>` be avoided in modern HTML?
2. What does the `<main>` tag represent?
3. What selector type is `.menu-item`?
4. What selector type is `#header`?
5. What is the main purpose of media queries?
6. State one benefit of semantic HTML for accessibility.