

LAB 6 – INTRODUCTION TO JAVASCRIPT

OVERVIEW:

A two-hour lecture/lab introducing students to JavaScript fundamentals through browser objects, form interaction, and dynamic styling. Use these notes as internal cues for pacing and demonstration.

TIMING OVERVIEW:

1. Intro & Context – 10 min
2. Browser Objects & DOM – 20 min
3. Coding Part 1: The Form – 20 min
4. Coding Part 2: Event Handling & Functions – 30 min
5. Dynamic Style Sheets – 30 min
6. Wrap-up / Discussion / Q&A – 10 min

1. OPENING ACT — CONTEXT & CURIOSITY (10 MIN)

- Warm-up question: “Who here has ever broken a web page by clicking ‘View Source?’”
→ Frame JavaScript as the glue between HTML (structure), CSS (style), and JS (behavior).
- Use theatrical metaphors: HTML = stage, CSS = costumes, JS = actors.

2. BROWSER OBJECTS & THE DOM (20 MIN)

Demonstrate object hierarchy:

window → document, navigator, location, screen

Have students explore these in the console and predict what each does.

⚠️ Emphasize browser quirks: early JavaScript was browser-dependent, and knowing these objects helps understand compatibility.

3. CODING PART 1 – THE FORM (20 MIN)

Guide students in building the form using `<form name='testForm'>` and matching input/button IDs. Explain naming conventions (`btnCheckText`, `txtText1`) and importance of readability.

Tip: Encourage indentation and clean spacing.

4. CODING PART 2 – EVENT HANDLING & FUNCTIONS (30 MIN)

1. Function `isEmpty()`: introduce conditionals and method chaining.
 - a. Ex: `if (document.getElementById('txtText1').value == '') {...}`
2. Redirect: Discuss `window.location` vs `window.open`, and input validation
 - a. Let students test with `'www.google.com'`
3. Browser Info: Show `navigator.appName` and discuss modern replacements like `navigator.userAgent`.

5. DYNAMIC STYLE SHEETS (30 MIN)

1. Add `<style>` in head and apply `#floatingForm` to div around form.
2. Create controller form with `#controllerForm` styling.
3. Implement movement and visibility toggles in `controlForm(opt)`.

Add missing logic, and discuss `document.all` vs `document.getElementById` transition:

```
if (opt == 3) hide; if (opt == 4) move right.
```

6. WRAP-UP / REFLECTION (10 MIN)

- ⇒ Discussion: difference between function and event handler, which object controls window.
- ⇒ Bonus: introduce `console.log()` as modern debugging.
- ⇒ Encourage exploration: dynamic colors, movement, animation.
- ⇒ Close line: “The browser is your stage, and JavaScript your troupe of improv actors.”

BONUS IDEAS (IF TIME ALLOWS)

- ⇒ Mini challenge: make form bounce instead of slide.
- ⇒ Debugging demo: break `getElementById()` intentionally.
- ⇒ Ethics note: discuss responsibility in UX—“Just because you can move everything doesn’t mean you should.”