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.
   1. Ex: if (document.getElementById('txtText1').value == '') {...}
2. Redirect: Discuss window.location vs window.open, and input validation
   1. 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.'