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Zeba Academy

JavaScript - Beginner to Pro

Course Policies & Syllabi, 2024

Course Name	JavaScript - Beginner to Pro
Duration of the Course in Weeks	26 weeks
Duration of the Course in Academic Hours	156 (of which 60% practice hours)
Tuition Fee	600,000 Kazakhstani Tenge (100,000 KZT per month)
Learning Format	Online – pre-recorded lectures + live practice hours (Google Meet)
Learning Platform	In-house LMS + Google Meet
Frequency of Classes	Weekly lectures + bi-weekly practice (combined 6 hours)
Skills / Results Upon Completion of Training	Proficiency in JavaScript programming, covering basic syntax, data types, functions.
Qualification Upon Completion of Training	Certificate affirming their proficiency in "JavaScript Beginner to Pro "
Methodological Basis of the Course	Sequential learning progression. Hands-on practice
The Ratio of Theory to Practice	60-40 (60% practice, 40% theory)
Teaching Staff	Sufyan Mustafa bin Uzayr
Tracking the Development of Students	Assessment and Evaluation Feedback Mechanisms Coding Portfolios Peer and Self-Assessment
Student Performance Evaluation Methods	Midterms + Coding Tests + Final Exam

Course Description

This course offers a comprehensive introduction to JavaScript, covering essential syntax, DOM manipulation, event handling, and modern best practices. Suitable for beginners and those with some programming experience, participants will gain practical skills in building interactive web applications. Through a mix of lectures, exercises, and projects, students will emerge proficient in JavaScript fundamentals, ready to tackle real-world web development challenges.

Course Duration

Number of weeks	26
Number of academic hours	156 (of which 60% practice hours)

Pre-requisites

- As the course materials, lectures, and instructions are primarily delivered in English, a strong understanding of the English language is essential for effective comprehension and communication.
- Fundamental logical and reasoning abilities are required to understand coding concepts and solve problems efficiently.

Skills Taught

- DOM Manipulation: Learning to interact with HTML elements dynamically through the Document Object Model (DOM).
- Event Handling: Implementing event listeners to respond to user actions like clicks and keystrokes.
- Scope and Closure: Understanding variable scope and closure to manage data privacy and optimize code.

- Asynchronous Programming: Working with asynchronous tasks using callbacks, promises, and async/await.
- Debugging: Using debugging tools and techniques to identify and fix errors in JavaScript code.

Learning Plan

Week	Topic	Notes
1	Introduction to JavaScript Basics. Understanding the role of JavaScript in web development. Exploring basic syntax, data types, and variables.	
2	Control Flow and Functions. Implementing conditional statements (if-else) and loops (for, while). Declaring and invoking functions, passing parameters, and returning values.	
3	Arrays and Objects. Creating and manipulating arrays. Defining and accessing properties of JavaScript objects.	
4	DOM Manipulation and Events. Introduction to the Document Object Model (DOM). Selecting and modifying DOM elements, adding event listeners.	
5	Asynchronous JavaScript. Understanding asynchronous programming. Implementing promises for handling asynchronous operations.	
6	Modern JavaScript Features. Exploring ES6+ features like arrow functions and template literals. Using destructuring, spread/rest operators, and let/const declarations.	CT-1
7	Error Handling and Debugging. Handling errors using try-catch blocks. Debugging JavaScript code	

	using browser developer tools.	
8	Form Handling and Validation. Working with HTML forms and form elements. Implementing form validation using JavaScript.	
9	Introduction to HTTP Requests. Making HTTP requests using the Fetch API. Handling responses and updating the DOM dynamically.	
10	Scope and Closure. Understanding variable scope and function closures. Managing scope to avoid naming conflicts and memory leaks.	
11	Project Development. Applying learned concepts to build a dynamic web application. Practicing problem-solving and code organization skills.	
12	Advanced Topics and Best Practices. Exploring advanced JavaScript topics such as modules and classes. Learning best practices for writing clean, efficient, and maintainable JavaScript code.	
13	Midterm-1	Midterm-1

Week 14 onwards, after successfully passing the midterm, students are required to pick either React or Vue.js for specialized JS framework development. They may pick any one framework, but not both. The choice of framework cannot be changed later.

Students who want to opt for: **Vue.js**

Week	Topic	Notes
14	Overview of Vue.js framework and its advantages. Introduction to Vue CLI for project setup. Basics of Vue.js syntax and data binding.	

15	Understanding Vue instance and its lifecycle hooks. Exploring template syntax for data rendering and event handling. Hands-on exercises to create and manipulate Vue instances.	
16	Explanation of Vue components and their benefits for modular development. Creating, registering, and reusing components in Vue.js applications. Communication between components using props, custom events, and slots.	
17	Introduction to Vuex for centralized state management. Setting up a Vuex store with mutations, actions, and getters. Organizing Vuex store structure for scalable applications.	
18	Introduction to Vue Router for client-side routing. Setting up Vue Router and configuring routes. Implementing navigation guards for route protection and authentication.	CT-2
19	Techniques for handling user input in Vue.js applications. Form validation and submission with Vue.js. Best practices for managing form data and handling form events.	
20	Introduction to Axios for making HTTP requests in Vue.js. Performing CRUD operations with Axios in Vue.js applications. Error handling and interceptors with Axios.	
21	Styling Vue components using CSS, Sass, or CSS-in-JS libraries. Scoped CSS and global styles in Vue.js applications. Using CSS frameworks like Bootstrap or Tailwind CSS with Vue.js.	
22	Overview of testing methodologies for Vue.js applications. Writing unit tests with Jest and Vue	

	Test Utils. End-to-end testing with tools like Cypress or Selenium.	
23	Different deployment options for Vue.js. applications (e.g., GitHub Pages, Netlify, Heroku). Configuring production builds and optimizing Vue.js applications. Continuous integration and deployment pipelines with tools like GitHub Actions or Jenkins.	
24	Creating and using Vue plugins to extend Vue.js functionality. Custom directives in Vue.js for DOM manipulation. Exploring advanced Vue.js features like transitions, filters, and mixins.	
25	End Term (Midterm-2)	Midterm-2
26	Projects: VueTasker: A Dynamic Task Management Application VueMart: An E-commerce Platform Built with Vue.js VueWeather: A Real-time Weather Forecasting Application VueChat: A Real-time Chat Application Using Vue.js and Firebase	
Finals Period		Final Exam

Students who want to opt for: **React**

Week	**Topic**	**Notes**
14	Overview of React and its role in modern web development. Understanding React's component-based architecture. Setting up a development environment with Node.js and npm.	

15	JSX syntax: understanding JSX and its role in React development. Components and props: creating reusable components and passing data through props. State management: utilizing React state to manage component data.	
16	Event handling in React components. Commonly used events and their handling methods. Implementing event handlers to create interactive UIs.	
17	Conditional rendering techniques in React. Using conditional statements and ternary operators. Rendering components based on state and props.	
18	Rendering lists in React. Utilizing keys for efficient list rendering and updating. Handling dynamic data with lists and keys.	CT-2
19	Creating controlled components for form inputs. Handling form submissions and user input. Form validation techniques in React.	
20	Introduction to React Hooks. Understanding useState, useEffect, and other built-in hooks. Converting class components to functional components using hooks.	
21	Managing global state with React Context API. Introduction to Redux for more complex state management. Implementing Redux in React applications.	
22	Setting up routing in React applications. Creating navigation menus and links. Passing parameters and handling route transitions.	
23	Making HTTP requests with fetch or Axios. Handling asynchronous data fetching in React.	

	Consuming APIs and updating UI accordingly.	
24	Performance optimization techniques in React. Code splitting and lazy loading for improved performance. Advanced patterns and best practices for scalable React applications. Introduction to testing React applications with Jest and React Testing Library.	
25	End Term (Midterm-2)	Midterm-2
26	Projects: To-Do List Application E-commerce Store Weather Forecast Application Social Media Dashboard	
Finals Period		Final Exam

Student Evaluation Criteria

Component	**Description**	**When**	**Points**
Class Test	(a) Computer-based (b) Online	6th and 18th week	each worth 15 points → 30 points
Midterms	(a) Computer-based (b) Online	13th and 25th week	each worth 15 points → 30 points
Final Exam	(a) Computer-based (b) Online	Finals Period	40 points
Total			100 points

Letter Grade	Points	Grade Remarks
A	95-100	**Excellent**
A-	90-94	
B+	85-89	**Good**
B	80-84	
B-	75-79	
C+	70-74	
C	65-69	**Satisfactory**
C-	60-64	
D+	55-59	
D	50-54	
FX	25-49	**Fail**
F	0-24	

Course Fee

600,000 Kazakhstani Tenge (100,000 KZT per month)

Teaching Staff

Sufyan Mustafa bin Uzayr
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Google Scholar Profile - https://scholar.google.com/citations?user=CzF2dJIAAAAJ
Sufyan Mustafa bin Uzayr is a skilled teacher with extensive experience in the IT industry, having taught for over 5 years. He is proficient in various software tools and programming paradigms. Having authored 60+ books, their expertise in Sufyan has taught and worked at universities and colleges in 3 different continents.

Student Selection Criteria

To be admitted to the program, students are required to pass an Aptitude Test, consisting of 25 questions. The Test shall be conducted online, the dates of which shall be communicated to the students via email.
Additionally, the Test topics shall include General Reasoning and Logic, Mathematical Skills (School Grade-8 level).
It is a pre-requisite for students to possess general verbal and oral English skills.

Training Format

Online – pre-recorded lectures + live practice hours (Google Meet)

Use of Technology in Teaching

Zeba Academy uses its own flagship Learning Management System, that comes with features such as Pre-recorded Video Lessons, Advanced Quizzes, Flashcards, Image Hotspots Groups and Cohorts, AI-based adaptive learning algorithm, and guided practice materials in the form of ebooks and other content.

Contact

Zeba Academy Help Desk for Students
Telegram and WhatsApp: **+7 705 435 2915**

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