

Based on the curriculum provided, **Programming Hero's Batch 13 Web Development Bootcamp** is a comprehensive, project-driven, and modern full-stack web development program. Here's a structured summary of what you'll learn, broken down by milestone:

Overall Structure:

- 10+ milestones covering frontend, backend, and full-stack development.
 - 60+ modules, 30+ projects, 10+ assignments, and 5400+ job placements support.
 - Tools & Technologies: HTML, CSS, JavaScript, React, Next.js, Node.js, Express, MongoDB, Tailwind, Git, GitHub, and more.
 - Focus: Hands-on projects, responsive design, API integration, authentication, and deployment.
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What You'll Learn (Milestone-by-Milestone):

Milestone 1: Web Foundation (HTML, CSS) & GitHub

- HTML: Structure, forms, tables, semantic tags, audio/video.
- CSS: Box model, flexbox, grid, selectors, positioning, animations.
- Git & GitHub: Version control, repositories, hosting.
- Project: Build a responsive portfolio website.

Milestone 2: Responsive Design, Layouts & Frameworks

- Responsive Web Design: Media queries, mobile-first design.
- CSS Frameworks: Tailwind CSS introduction.
- Advanced CSS: Flexbox, Grid, animations, image optimization.
- Project: Responsive landing pages and UI projects.

Milestone 3: Hello JavaScript

- JavaScript Fundamentals: Variables, data types, conditionals, loops, arrays, objects, functions.
- Problem Solving: Coding challenges, algorithmic thinking.
- ES6+ Features: Let/const, arrow functions, destructuring, spread/rest operators.

Milestone 4: Interactive JavaScript & DOM

- DOM Manipulation: Selecting elements, event handling, dynamic content.
- Projects: Interactive web apps (e.g., mobile banking simulation).
- Advanced Topics: Event bubbling, delegation, form handling.

Milestone 5: Intermediate JavaScript & API

- **ES6 Deep Dive:** Map, filter, reduce, classes, modules.
- **APIs & HTTP:** JSON, RESTful APIs, async/await, fetch, CRUD operations.
- **Project:** API-integrated dynamic website.

Milestone 6: React Fundamentals

- **React Core Concepts:** Components, props, state, hooks (useState, useEffect).
- **React Ecosystem:** Tailwind, Recharts, React Router, context API.
- **Projects:** Country explorer, fantasy team builder.

Milestone 7: React Advanced & Hello Next.js

- **Advanced React:** Context API, custom hooks, React Router, Firebase auth.
- **Next.js Introduction:** Server vs client components, routing, deployment.
- **Project:** Full-stack React app with authentication (e.g., news/real estate site).

Milestone 8: More Next.js & Authentication

- **Next.js Deep Dive:** Data fetching (SSR, SSG, ISR), SEO, server actions.
- **Authentication:** NextAuth.js, middleware, protected routes.
- **Project:** Blog/dashboard with auth and database integration.

Milestone 9: Express + MongoDB + JWT (Backend)

- **Backend Development:** Node.js, Express.js, REST APIs.
- **Database:** MongoDB (CRUD, queries, aggregation).
- **Authentication:** JWT, NextAuth integration, secure APIs.
- **Project:** Marketplace app with bidding system and user auth.

Milestone 10: Full Stack Project

- **Capstone Project:** Multi-module, real-world full-stack application.
- **Integration:** Frontend (React/Next.js) + Backend (Node/Express/MongoDB).
- **Deployment:** Vercel, Render, environment variables, CI/CD basics.

Key Skills You'll Gain:

- ✓ **Frontend:** HTML5, CSS3, JavaScript (ES6+), React, Next.js, Tailwind
- ✓ **Backend:** Node.js, Express.js, MongoDB, REST APIs, JWT
- ✓ **Tools & DevOps:** Git, GitHub, Vercel, Netlify, Render, Postman

- Soft Skills:** Problem-solving, project management, debugging, responsive design
 - Career Prep:** Portfolio building, interview prep, job placement support
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Final Outcome:

By the end of this bootcamp, you'll be able to:

- Build **fully responsive, modern web applications** from scratch.
- Develop **interactive frontends** with React and Next.js.
- Create **secure backends** with authentication and databases.
- Deploy **full-stack projects** to the web.
- **Solve real-world coding problems** and prepare for web developer roles.