30-Day Web Development and UI/UX Design Syllabus

Course Information

Course Title: Web Development and UI/UX Design Fundamentals

Duration: 30 Days

Format: Daily Sessions

Course Description

This intensive 30-day program introduces students to the fundamentals of web development and UI/UX design. Through hands-on projects and daily assignments, students will learn to build responsive websites while mastering design principles that create effective user experiences. By the end of the course, students will have developed a portfolio-ready project showcasing both technical and design skills.

Learning Objectives

By the end of this course, students will be able to:

- Build responsive websites using HTML, CSS, and JavaScript
- Apply UI/UX design principles to create user-centered experiences
- Develop wireframes and interactive prototypes
- Implement accessibility best practices in web design
- Create and deploy a complete web project from concept to launch
- Document their design process for portfolio presentation

Required Materials

- Laptop with reliable internet access
- Text editor (VS Code recommended)
- Modern web browser (Chrome or Firefox recommended)
- Figma account (free)
- GitHub account (free)

Course Schedule

WEEK 1: HTML, CSS & DESIGN FUNDAMENTALS

Day 1: Introduction & Environment Setup

- Course overview and expectations

- Development environment configuration

- Introduction to HTML structure and elements

- **Assignment:** Create a simple HTML page with personal bio

Day 2: HTML Deep Dive

- Semantic HTML elements

- Forms and input types

- HTML5 features and best practices

- **Assignment:** Build a structured contact form

Day 3: CSS Basics

- CSS syntax and selector specificity

- Box model fundamentals

- Typography and color implementation

- **Assignment:** Style your bio page from Day 1

Day 4: CSS Layout

- Display properties and positioning

- Flexbox layout system

- Creating responsive layouts

- **Assignment:** Create a navigation bar and hero section

Day 5: Responsive Design

- Media queries and breakpoints

- Mobile-first approach methodology

- Viewport settings and configuration

- **Assignment:** Make previous assignments mobile responsive

Day 6: Design Principles I

- Color theory and palette creation
- Typography fundamentals and pairing
- Visual hierarchy implementation
- **Assignment:** Analyze and critique a website's design

Day 7: Design Principles II

- Gestalt principles in web design
- Consistency patterns and visual language
- Accessibility foundations (WCAG)
- **Assignment:** Redesign your bio page applying design principles

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WEEK 2: JAVASCRIPT & UI/UX FOUNDATIONS

Day 8: JavaScript Basics

- Variables, data types, and operators
- Functions and control flow structures
- DOM manipulation fundamentals
- **Assignment:** Add simple interactivity to your bio page

Day 9: JavaScript Intermediate

- Event handling and listener implementation
- Form validation and processing
- Local storage implementation
- **Assignment:** Create a simple to-do application

Day 10: UX Research Fundamentals

- User-centered design process
- Creating personas and user journeys
- Conducting effective user research
- **Assignment:** Create a persona for your project

Day 11: Wireframing

- Introduction to wireframing techniques

- Low-fidelity prototype development

- Figma fundamentals for designers

- **Assignment:** Create wireframes for a portfolio website

Day 12: UI Design

- UI components and pattern libraries

- Design systems introduction and implementation

- Transitioning from wireframes to high-fidelity designs

- **Assignment:** Convert wireframes to high-fidelity mockups

Day 13: Prototyping

- Interactive prototypes in Figma

- User flow mapping and implementation

- Microinteraction design principles

- **Assignment:** Create an interactive prototype

Day 14: User Testing

- Testing methodologies and best practices

- Gathering and analyzing user feedback

- Iterative design process implementation

- **Assignment:** Conduct peer user testing and document findings

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WEEK 3: ADVANCED WEB DEVELOPMENT

Day 15: CSS Frameworks

- Introduction to Bootstrap/Tailwind CSS

- Grid systems and responsive layouts

- Component libraries and customization

- **Assignment:** Recreate your bio page using a CSS framework

Day 16: JavaScript Libraries

- Introduction to jQuery and React basics

- Enhanced DOM manipulation with libraries

- API fundamentals and implementation

- **Assignment:** Enhance your to-do app with a library

Day 17: Responsive Frameworks

- Advanced responsive techniques

- Mobile navigation patterns

- CSS Grid implementation

- **Assignment:** Build a responsive portfolio layout

Day 18: Web Accessibility

- WCAG guidelines and compliance

- Semantic HTML for screen readers

- Keyboard navigation and focus management

- **Assignment:** Audit and improve accessibility of previous work

Day 19: Performance Optimization

- Image optimization techniques

- CSS/JS minification and bundling

- Page speed analysis and improvement

- **Assignment:** Optimize your portfolio website

Day 20: Git & GitHub

- Version control fundamental concepts

- Essential Git commands and workflow

- GitHub collaboration features

- **Assignment:** Create a repository for your portfolio project

Day 21: Deployment

- Web hosting options and selection

- Domain management fundamentals

- GitHub Pages deployment process

- **Assignment:** Deploy your portfolio website

WEEK 4: FINAL PROJECT & SPECIALIZED TOPICS

Day 22: Final Project Kickoff

- Project requirements and assessment criteria
- Planning and architecture development
- Comprehensive wireframing and mockups
- **Assignment:** Create project proposal and wireframes

Day 23: UI/UX Portfolio Best Practices

- Case study structure and presentation
- Process documentation techniques
- Portfolio website organization
- **Assignment:** Start building your case study

Day 24: Animation & Interaction

- CSS animations and transitions
- JavaScript animation techniques
- Interaction design principles and implementation
- **Assignment:** Add animations to your project

Day 25: Dark Mode & Color Schemes

- Implementing theme switching functionality
- CSS variables and dynamic theming
- Accessibility considerations for color schemes
- **Assignment:** Add dark mode to your project

Day 26: Forms & Validation

- Advanced form design patterns
- Form UX best practices and implementation
- Client-side validation techniques
- **Assignment:** Create an enhanced contact form

Day 27: Project Work

- Guided in-class working session
- Structured peer review process
- Instructor feedback and guidance
- **Assignment:** Continue project development

Day 28: Responsive Testing

- Cross-device testing methodology
- Browser compatibility verification
- Debugging techniques for responsive issues
- **Assignment:** Test and fix responsive issues

Day 29: Final Project Refinement

- Performance optimization implementation
- Final polish and quality assurance
- Presentation preparation
- **Assignment:** Complete final project

Day 30: Project Presentations

- Final project presentations
- Structured peer feedback session
- Course review and continuing education resources
- Discussion of career paths in web development and UI/UX

Assessment Methods

- **Daily Assignments:** 40%
- **Class Participation:** 10%
- **Final Project:** 50%

Learning Resources

Web Development

- MDN Web Docs: https://developer.mozilla.org/
- CSS-Tricks: https://css-tricks.com/