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

Weekend Assignment (May 10-11):

- Complete design principles assignments
- Create a mood board for your portfolio project
- Practice CSS layouts and responsive design techniques

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

Weekend Assignment (May 17-18):

- Refine your wireframes and mockups
- Complete the to-do application
- Prepare user testing questions for your designs

WEEK 3: UI/UX DEEP DIVE

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

Day 15: CSS Frameworks

- Introduction to Bootstrap/TailwindCSS
- 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

Weekend Assignment (May 17-18):

- Work on portfolio layout implementation
- Practice with JavaScript libraries
- Research and analyze design systems from major companies

WEEK 4: ADVANCED WEB DEVELOPMENT

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

Day 22: Final Project Kickoff

- Project requirements and assessment criteria
- Planning and architecture development
- Comprehensive wireframing and mockups

    Assignment: Create project proposal and wireframes

Weekend Assignment :

- Finalize project proposal
- Complete project wireframes and mockups
- Research and select necessary technologies for your project

WEEK 5: SPECIALIZED TOPICS & PROJECT WORK

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

Weekend Assignment:

- Work on implementing project feedback
- Test your project across different devices
- Prepare questions for final project refinement

WEEK 6: PROJECT COMPLETION & PRESENTATION

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

Follow-up Day: Portfolio Refinement

- Individual portfolio review
- Career resources and next steps
- Networking opportunities

  Assignment: Implement final feedback on portfolio

Assessment Methods

- Daily Assignment: 40%
- Class Participation: 10%
- Final Project: 50%

Weekend Assignments

Weekend assignments are designed to reinforce the week's learning and prepare for upcoming topics. Students are expected to complete these assignments by Monday morning of the following week