COURSE SYLLABUS

AI Coding Bootcamp Program

Gain the skills to design, build, and deploy AI-powered applications through a structured, hands-on coding program.

> Group classes (Live Online) and onsite training are available for this course. For more information, email partnerships@vdci.edu or visit: https://vdci.edu/certificates/ai-coding-certificate-program-online



admissions@vdci.edu • (619) 758-9300

Course Outline

This package includes these courses

- AI Coding Fundamentals Course Online (60 Hours)
- AI Coding for Product & UX Course Online (60 Hours)
- AI Coding for Security Course Online (60 Hours)
- AI Coding for Systems & Architecture Course Online (60 Hours)
- AI Coding Capstone Course Online (60 Hours)

AI Coding Fundamentals Course Online

- Use Claude Code with confidence for genuine development tasks and multi-step coding workflows
- Prompt and guide AI effectively through context setting, Plan Mode, review, and recovery methods
- Handle version control with Git and GitHub, including branching, pull requests, and code review
- Grasp the fundamentals of modern web development, from HTML, CSS, and JavaScript to APIs and frontend and backend concepts
- Create full-stack applications powered by Next.js, databases, authentication, and external APIs
- Test, debug, secure, and launch production-ready applications to the live web

AI Coding for Product & UX Course Online

- Brief AI with references and constraints precise enough to control the outcome
- Assess a design against visual hierarchy, typography, color, spacing, and layout
- Compare designs from several AI tools and design skills, identify what AI overuses, and combine the strongest elements
- Formalize a design system of reusable components and adapt it for every screen size
- Plan a site with a sitemap, user flows, and a heading outline, then resolve forms and interface states
- Verify the build with DevTools, accessibility testing, and a usability study

AI Coding for Security Course Online

- Threat-model a small organization in plain language and decide which risks to fix first

- Practice common web app attacks safely on a deliberately vulnerable app, and know what to ask a developer or AI tool to fix
- Secure the accounts, logins, secrets, and cloud service settings a small team depends on
- Recognize and test for AI-specific threats such as prompt injection and over-powered AI agents
- Use an AI coding tool to triage logs and hunt for threats, and spot phishing and AI-powered scams
- Harden devices and networks, and run a calm, documented incident response

AI Coding for Systems & Architecture Course Online

- Apply core computer science concepts to real-world development challenges
- Design scalable systems with modern architecture patterns
- Work across networks, concurrency, and multi-language environments
- Set up caching, queues, and background processing workflows
- Deploy applications using cloud infrastructure tools
- Optimize performance and maintain system reliability

AI Coding Capstone Course Online

- Plan and carry out a full application build from concept to deployment
- Use advanced AI-assisted development workflows and tools
- Weave AI-powered features into real-world applications
- Run production readiness reviews and testing
- Present technical work clearly through demos and documentation
- Prepare a portfolio project for job applications