COURSE SYLLABUS

AI Coding Certificate Program Online

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

Design, build, and verify a complete website using AI tools.

- Brief AI with references and constraints precise enough to control the outcome
- Assess a design against visual hierarchy, typography, color, spacing, and layout
- Document a site with a sitemap, user flows, and a heading outline
- Formalize a design system of reusable components for consistency across pages
- Resolve the phone layout, forms, interface states, interface copy, and motion
- Verify the build with DevTools, accessibility testing, and a usability study

AI Coding for Security Course Online

- Operate within team-based development workflows using version control and code review
- Set up continuous integration and deployment pipelines
- Monitor applications with observability and debugging tools
- Apply cybersecurity fundamentals and threat modeling techniques
- Handle authentication, authorization, and sensitive data securely
- Spot and reduce risks specific to AI-powered applications

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