COURSE SYLLABUS

AI Software Engineering Bootcamp (Self-Paced)

Pick up the skills to design, create, and launch AI-powered applications through a structured, hands-on software engineering program.

> Group classes (Live Online) and onsite training are available for this course. For more information, email corporate@nobledesktop.com or visit: https://www.careercenters.com/certificates/ai-software-engineering-bootcamp-self-paced



nyc@careercenters.com • (212) 684-5151

Course Outline

This package includes these courses

- AI Coding Bootcamp with Claude Code (Self-Paced) (60 Hours)
- AI Coding for Product and UX (Self-Paced) (60 Hours)
- AI Coding for Security (Self-Paced) (60 Hours)
- AI Coding for Systems and Architecture (Self-Paced) (60 Hours)
- AI Coding Capstone (Self-Paced) (60 Hours)

AI Coding Bootcamp with Claude Code (Self-Paced)

- Use Claude Code as a practical coding assistant for planning, editing, debugging, and shipping apps
- Build confidence with Git, GitHub, and collaborative development workflows
- Understand the structure of modern web apps across frontend, backend, APIs, and deployment
- Create full-stack projects with Next.js, Supabase, authentication, and third-party APIs
- Improve app quality with responsive design, accessibility, testing, and security practices
- Deploy a finished application with environment variables, a custom domain, and launch-ready polish

AI Coding for Product and UX (Self-Paced)

Design a website with AI the way a designer would: direct it, compare options, build a system, and test the result.

- Give AI clear references and constraints so its designs are not generic
- Judge a design by its hierarchy, type, color, spacing, and layout, and explain what to change
- Generate designs in several AI tools, notice AI's habits, and merge the strongest ideas
- Build a design system that keeps every page consistent, from phone to desktop
- Plan the full site with a sitemap, user flows, and a heading outline, then add forms and interface states
- Check your work with DevTools, accessibility tests, and a usability session with a real person

AI Coding for Security (Self-Paced)

Work with AI to see how attacks happen, secure accounts and cloud services, and detect and respond to threats.

- Assess a small organization's risks and set priorities for fixing them
- Understand common web app attacks by practicing them on a safe range
- Protect logins, secrets, and cloud settings from common mistakes
- Identify and test AI-specific risks like prompt injection and over-permissioned agents
- Analyze logs and write simple detection rules with Claude Code
- Handle phishing, harden devices and networks, and respond to incidents step by step

AI Coding for Systems and Architecture (Self-Paced)

See how modern applications are structured, scaled, and fine-tuned by working through the principles of systems design and architecture.

- Bring core computer science concepts into real-world development challenges
- Design scalable systems with modern architecture patterns
- Navigate networks, concurrency, and multi-language environments
- Set up caching, queues, and background processing workflows
- Roll out applications using cloud infrastructure tools
- Tune performance and keep systems reliable

AI Coding Capstone (Self-Paced)

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