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.nobledesktop.com/certificates/ai-software-engineering-bootcamp-self-paced



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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)

Learn the design skills that make AI-built sites look good, then direct AI to design, build, and test a site of your own.

- Direct AI with specific references and constraints instead of accepting generic results
- Use visual hierarchy, typography, color, spacing, and layout to describe what you want and judge what you get
- Compare designs from Claude Design and AI design skills, spot what AI overuses, and combine the best parts
- Keep AI consistent across pages with a design system, and make the site work on every screen size
- Design forms and the interface states AI tends to miss, then find bugs with DevTools and a QA pass
- Test for accessibility by keyboard, contrast, zoom, and screen reader, and run a usability test with a real person

AI Coding for Security (Self-Paced)

Use AI as your security assistant to understand attacks, lock down accounts and cloud services, and spot and stop threats.

- Threat-model a small organization and decide which risks to fix first
- Practice common web app attacks safely and know what to ask a developer or AI tool to fix
- Secure accounts, logins, secrets, and cloud services against common misconfigurations
- Recognize and test for AI-specific threats such as prompt injection and over-powered agents
- Use Claude Code to triage logs, hunt for threats, and write simple detection rules
- Investigate phishing and scams, harden devices and networks, and run a documented incident response

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