COURSE SYLLABUS

AI Software Engineering Bootcamp

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

Group classes (NYC) 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



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Course Outline

This package includes these courses

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

AI Coding Bootcamp with Claude Code

- Use Claude Code confidently for real development tasks and multi-step coding workflows
- Prompt and steer AI effectively using context setting, Plan Mode, review, and recovery techniques
- Work with Git and GitHub for version control, branching, pull requests, and code review
- Understand modern web development fundamentals including HTML, CSS, JavaScript, APIs, frontend, and backend concepts
- Build full-stack applications with Next.js, databases, authentication, and external APIs
- Debug, test, secure, and deploy production-ready applications to the live web

AI Coding for Product and UX

Design and build a complete website with AI, then test it the way a professional would.

- Direct AI with specific references and constraints instead of accepting generic results
- Use visual hierarchy, typography, color, spacing, and layout to judge what AI gives you
- Plan a site with a sitemap, user flows, and a heading outline before you prompt
- Keep AI consistent across pages with a design system, then hand the design to an AI coding tool
- Design for phones, forms, interface states, interface copy, and motion
- Test for accessibility by keyboard, contrast, zoom, and screen reader, and run a usability test with a real person

AI Coding for Security

- Work within team-based development workflows using version control and code review
- Implement continuous integration and deployment pipelines
- Monitor applications using observability and debugging tools
- Apply cybersecurity fundamentals and threat modeling techniques
- Manage authentication, authorization, and sensitive data securely
- Identify and mitigate risks specific to AI-powered applications

AI Coding for Systems and Architecture

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

AI Coding Capstone

- 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