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 (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



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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

Take a website from design concept to tested, accessible build with AI.

- Give AI references specific enough to produce a design that fits the audience
- Evaluate a layout by hierarchy, typography, color, and spacing
- Plan a site with a sitemap, user flows, and a heading outline
- Build a design system so AI stays consistent from page to page
- Correct what AI misses on phones, in forms, and across interface states
- Run a DevTools QA pass, accessibility checks, and 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