



ETAILED SYLLABUS · CT-02 · TRAINING PROGRAM

AI Code Training

Trains technical teams and specialists with a programming background to use AI coding assistants to build, test and hand over internal software.

Organization	AI Native Lab
Legal entity	Công ty Trách nhiệm hữu hạn AI Native Lab · Tax code 4101698483
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Contact	admin@doctorx.vn · 0941 193 444
Status	Draft – awaiting confirmation by the organization; not a contractual basis
Total duration	14 sessions · 42 hours
Delivery formats	On-site at the organization; Live online with an instructor; Blended
Class size	8–16 learners per class

1. Target learners

- a) Developers and IT specialists of enterprises and public service units
- b) Technical staff in charge of information systems at departments and agencies
- c) Professional specialists with basic programming knowledge who need to build their own data-processing tools

2. Competency objectives

- 2.1 Use an AI coding assistant across the whole development lifecycle: design, coding, testing, documentation
- 2.2 Build a complete internal application from a real business requirement of the organization
- 2.3 Set up code review and testing procedures to control the quality of AI-generated code
- 2.4 Package, deploy and hand over the product with operating documentation

3. Level-based pathway

LEVEL 1 · FOUNDATION · 5 SESSIONS × 3 HOURS

3.1. Foundations of coding with AI

Set up the environment, describe requirements to AI and control AI-generated code with automated tests.

CONTENT

- Setting up the environment and the AI coding assistant
- Describing requirements to AI: from business problem to technical specification
- Generating, reading and fixing AI-generated code
- Writing automated tests with AI support

MANDATORY DELIVERABLES OF THE LEVEL

- A command-line tool or data-processing script that solves a real task, with a test suite

OUTCOMES (2)

- 1.1 Turn a business requirement into a technical specification that the AI assistant implements correctly – Practical exercise on 3 requirements, scored on execution results; pass threshold: ≥ 2 of 3 requirements run correctly
- 1.2 Write an automated test suite covering the main cases of a function – Test suite delivered with the level 1 deliverable; pass threshold: Covers $\geq 70\%$ of the main processing branches

LEVEL 2 · APPLICATION · 6 SESSIONS × 3 HOURS

3.2. Building an internal application

Develop, in short iterations, an application that solves a real problem of the organization, with security review and documentation.

CONTENT

- Architecture of a small application: data, interface, processing
- Short-iteration development with an AI assistant
- Code review, security and personal-data handling
- Version control and documentation

MANDATORY DELIVERABLES OF THE LEVEL

- A complete internal application solving a real problem of the organization, with source code in a version control system
- Design documentation and a user guide

OUTCOMES (2)

- 2.1 Build a complete, working application that meets the agreed business requirements – Functional acceptance against the requirements list; pass threshold: $\geq 90\%$ of mandatory requirements met
- 2.2 Detect and fix common security flaws in AI-generated code – Code review exercise with planted flaws; pass threshold: Detect ≥ 4 of 5 flaws

EVEL 3 · MASTERY · 3 SESSIONS × 3 HOURS

3.3. Deployment and handover

Put the product on the organization's environment, run it in trial operation and hand it over so that others can take it on.

CONTENT

- Packaging and deploying to the organization's environment
- Monitoring, logging and incident handling
- Handover procedure and knowledge transfer

MANDATORY DELIVERABLES OF THE LEVEL

- The product deployed on the organization's environment, with operating documentation and a handover record

OUTCOMES (2)

- 3.1 Deploy the product to the real environment and operate it stably through the trial period – Trial operation record; pass threshold: Stable for ≥ 5 working days with no critical failure
- 3.2 Hand over the product with documentation so that others can operate it without the author – Operation check by someone who did not take part in development; pass threshold: $\geq 90\%$ of documented operations performed correctly

4. Duration

14 sessions · 42 hours

Level 1 – Foundations of coding with AI	5 sessions × 3 hours
Level 2 – Building an internal application	6 sessions × 3 hours
Level 3 – Deployment and handover	3 sessions × 3 hours

5. Delivery formats

On-site at the organization

Live online with an instructor

Blended

- **On-site at the organization:** Instructors and experts work at the organization's premises on an agreed schedule. Reference pace: 2 sessions/week.
- **Live online with an instructor:** Real-time online classes with attendance, practice and grading of deliverables. Reference pace: 3 sessions/week.
- **Blended:** Theory online; practice, acceptance and data work at the organization. Reference pace: 2 sessions/week.

Prerequisites

- Learners can already program at a basic level in at least one language

- The organization provides the business problem and a test deployment environment for levels 2–3

6. Mandatory deliverables

- L1 A command-line tool or data-processing script that solves a real task, with a test suite
- L2 A complete internal application solving a real problem of the organization, with source code in a version control system
- L2 Design documentation and a user guide
- L3 The product deployed on the organization's environment, with operating documentation and a handover record

7. Pass criteria

- ✓ **Full attendance.** Present at $\geq 80\%$ of sessions, with attendance records.
- ✓ **All outcomes of the registered levels achieved.** Each outcome meets its published threshold, with evidence kept on file.
- ✓ **The software product accepted in real operation.** Functional acceptance record and trial operation at the organization.

Outcome ledger – CT-02 · 6 rows

CODE	OUTCOME	VIDENCE	ASS THRESHOLD
CØR-1.1	Turn a business requirement into a technical specification that the AI assistant implements correctly	Practical exercise on 3 requirements, scored on execution results	≥ 2 of 3 requirements run correctly
CØR-1.2	Write an automated test suite covering the main cases of a function	Test suite delivered with the level 1 deliverable	Covers $\geq 70\%$ of the main processing branches
CØR-2.1	Build a complete, working application that meets the agreed business requirements	Functional acceptance against the requirements list	$\geq 90\%$ of mandatory requirements met
CØR-2.2	Detect and fix common security flaws in AI-generated code	Code review exercise with planted flaws	Detect ≥ 4 of 5 flaws
CØR-3.1	Deploy the product to the real environment and operate it stably through the trial period	Trial operation record	Stable for ≥ 5 working days with no critical failure

CĐR-3.2	Hand over the product with documentation so that others can operate it without the author	Operation check by someone who did not take part in development	≥ 90% of documented operations performed correctly
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