

# Agentic AI & Workflow Automation

Automate real business processes with tool-calling models, safe integrations and human approval where it matters

AI and Automation · intermediate · Live online, instructor-led

This syllabus is a draft awaiting instructor review and may change.

An eight-week live course in building AI automations: tool calling, when to use agents versus workflows, API integrations, human approval gates, testing, monitoring, privacy and a reviewed business automation project.

## Length and schedule

32 hours of live teaching, on either schedule:

- Weekday Intensive (Mon–Fri): about 7 weeks before holidays
- Weekend Evening (Sat & Sun evenings): about 8 weeks before holidays

## Fees per student, whole course

- Group: Rs. 9,999
- Duo: Rs. 16,999
- One-to-One: Rs. 29,999

Launch fee — GST treatment to be confirmed.

## What you will be able to do

- Explain the difference between deterministic workflows and agents, and choose the simpler option that meets the need
- Define tools for a model with clear schemas, and validate every argument before executing it
- Build common workflow patterns: chaining, routing, parallel steps and evaluate-and-revise loops
- Build an agent loop with step, time and cost limits and a clear stopping condition
- Integrate business systems through REST APIs, webhooks and scheduled jobs with retries and idempotency
- Design human approval gates and audit trails for consequential actions
- Test automations with unit tests, mocked model responses and scenario evaluations
- Monitor automations in production with traces, usage and cost tracking, alerts and a way to pause them
- Apply privacy, consent and least-privilege practices to automations that handle personal data

## Before you start

- Basic Python: functions, dictionaries, lists and installing packages
- Familiarity with calling a web API and reading JSON
- Some experience calling an LLM API is recommended (for example from AI & Generative AI App Development or equivalent work)
- A laptop with at least 8 GB RAM running Windows, macOS or Linux
- Access to an LLM API account for practice; usage costs, free tiers and the provider chosen for the batch are explained before it starts

## Tools

Python 3.12 or later, Visual Studio Code, An LLM API with tool calling (provider chosen per batch), Model Context Protocol (MCP) for exposing tools, A workflow automation platform (open-source or hosted, chosen per batch), FastAPI, Pydantic, PostgreSQL, pytest, A tracing and observability tool (chosen per batch), Docker, Git and GitHub

## Syllabus

### Module 1: Tool calling foundations

What automation, workflows and agents are, and how a model proposes tool calls that your code validates and executes.

1. Automation, workflows and agents (2 h)
2. Tool calling fundamentals (2 h)
3. Tool calling lab and doubt-clearing (2 h)

### Module 2: Workflows versus agents

Build predictable workflow patterns first, then agent loops for tasks that genuinely need flexible decisions — with limits that keep them in check.

4. Workflow patterns (2 h)
5. Agent loops, memory and limits (2 h)
6. Pattern lab and doubt-clearing (2 h)

### Module 3: API integrations and reliable automation

Connect automations to real business systems through APIs, webhooks and schedules, so that they keep working when networks and services fail.

7. Integrating business APIs and webhooks (2 h)
8. Reliability: idempotency, retries and queues (2 h)
9. Tool servers, least privilege and doubt-clearing (2 h)

### Module 4: Human approval, security and privacy

Keep people in control of consequential actions, and protect the data and systems an automation can reach.

10. Approval gates and audit trails (2 h)
11. Security and privacy for agentic systems (2 h)

### Module 5: Testing and monitoring automations

Prove an automation works before release and notice quickly when it stops working afterwards.

12. Testing agentic systems (2 h)
13. Monitoring, cost control and incident handling (2 h)
14. Testing and monitoring review and doubt-clearing (2 h)

### Module 6: Business automation project and final assessment

Apply the whole course to a business automation project, then present and defend it in a live review.

15. Project build lab and mid-point review (2 h)
16. Project presentations and final assessment (2 h)

## Final project

Automate a real business process with human approval built in. You choose a process from a list of written briefs — for example handling customer enquiries, processing supplier invoices, or scheduling and reminding attendees for events — or propose your own with instructor approval, using sample or synthetic data rather than real personal records. You build it individually or in a pair.

**Deliverables-** A short process analysis: the current manual steps, which steps you automate, which stay manual and why, and the risks of getting each step wrong.- A working automation that uses tool calling, with a written justification for each part built as a fixed workflow or as an agent.- At least two integrations with external systems (for example a database, an email or messaging sandbox, a spreadsheet or a ticketing API), using webhooks or scheduled jobs, with retries and idempotency so repeated events do not cause repeated actions.- A human approval gate for every consequential action — sending a message, changing or deleting a record, or anything involving money — with an audit log of what was proposed, who approved or rejected it and when.- Guardrails: validated tool arguments, least-privilege credentials, step, time and cost limits, and a documented prompt-injection test with the defences you added.- Automated tests: unit tests for each tool, tests with mocked model responses, and a set of at least fifteen scenarios with expected outcomes run as an evaluation.- Monitoring: traces of each run, usage and cost per run, an alert on repeated failures, and a documented way to pause the automation.- A privacy note covering what personal data the automation touches, what is sent to which provider, how long it is kept and how it is redacted from logs.- A README with setup steps, an architecture diagram, evaluation results and a list of known limitations.

The project is presented and reviewed live in the final week, with feedback on reliability, safety, privacy and design decisions.

## Certificate

- At least 80% attendance
- All assignments submitted
- Projects passed
- Final assessment passed (60%)

A ZORK Academy course completion certificate; paying for the course does not by itself earn it.

## Next step

Book a free consultation: <https://zorkacademy.online/consultation?course=agentic-ai-workflow-automation>

We help you prepare for work; we do not guarantee jobs, placements or salaries.