



UCA International Summer School

ISC 08 Course Content and Schedule

The course consists of sessions that combine theoretical explanations with coding practical activities. Classes will begin at 9 a.m., with a coffee break between sessions.

Day 1

- **Session 1.1:** Introduction to Artificial Intelligence (1.5h)
- **Session 1.2:** Large Language Models (LLM) (1.5h)

Day 2

- **Session 2.1:** Developing Web Applications with Java and Vaadin (2h)
- **Session 2.2:** Integrating LLM in Applications with Langchain4j (2h)

Day 3

- **Session 3.1:** Prompt Engineering (2h)
- **Session 3.2:** Retrieval Augmented Generation (RAG) (2h)

Day 4

- **Session 4.1:** Advanced RAG (2h)
- **Session 4.2:** Building AI Agents (2h)

Day 5

- **Session 5.1:** LLM Operations (1.5h)
- **Session 5.2:** Challenges and Closing (1.5h)

Course Objectives

- Introduce participants to the fundamentals of Artificial Intelligence (AI) and the practical applications of Large Language Models (LLMs).
- Develop skills for building web applications using Java and Vaadin, including seamless LLM integration via Langchain4j.
- Enhance proficiency in prompt engineering and retrieval-augmented generation (RAG) techniques.
- Explore AI agent deployment and address practical challenges in modern AI applications.