Research, transfer and entrepreneurship courses in Applications and Tools of Generative Artificial Intelligence for Scientific Research

Universitat Oberta de Catalunya

ONLINE, ANYTIME

Online Research, transfer and entrepreneurship courses in Applications and Tools of Generative Artificial Intelligence for Scientific Research

Date
11 Mar 2026

Online
100%

3
Credits

Enrolment: October 23, 2025

Language: Spanish

Price: 450 €

Fully online method

World's first ever online university

Personalized guidance and support

Presentation

Harness the power of generative AI to radically transform your scientific research. This highly specialized programme for researchers and doctoral students will give you hands-on experience of the most advanced AI tools to optimize and automate the key stages of any academic project. You'll learn how to get the most out of open source models to manage information, increase your productivity and ensure that your results are reliable, all in accordance with ethical principles. You'll be awarded a microcredential certifying the doctoral degree-level digital competencies that you need to lead state-of-the-art research projects.

This course awards a micro-credential that certifies the doctoral-level digital skills essential for leading cutting-edge research projects.

This course is designed to develop specific professional skills.

Why study artificial intelligence for research at the UOC?

The following strong points of this microcredential will give you a competitive edge in the world of academia:

- Direct application to scientific research: The course has been designed based on a completely hands-on approach to the use of generative AI tools for academic environments, covering aspects ranging from literature searches to the presentation of results, so that you can apply your newly acquired knowledge to your thesis or research project from day one.
- Open source-based approach: You'll learn how to use and apply open-source AI models, giving you greater flexibility and control and the ability to tailor this technology to the specific requirements of your research.
- Ethics and reliability of AI: In addition to the techniques involved, you'll learn how to use this technology ethically and verify the data generated or analysed by it, ensuring that your research meets the highest standards of scientific rigour and academic integrity.
- Certified training: Students who successfully complete this course will be awarded a microcredential, a digital certification proving that they have acquired the competencies taught in the course.

What is a microcredential?

- Microcredentials are digital, portable certifications that can be easily shared with prospective employers if you're looking for a job or with educational establishments if you want to request recognition of the course in order to continue training.
- They have detailed and valuable information on the level achieved to make it easier for them to be validated and recognized by others.
- They can easily be linked in your CV or shared via social media, such as LinkedIn.

For more information about microcredentials, take a look at our microcredentials explainer page (in Catalan).

The UOC, Spain's best online university

We are rated the best online university in Spain by the main university quality rankings.

Programme of study

Objectives

The course, which aims to provide students with practical professional competencies, has been designed to meet the current needs of both the labour market and society as a whole.

Its three main aims are:

- **To master generative AI tools.** To equip researchers with practical and effective skills in the use of the most relevant generative AI tools and models to optimize research processes.
- **To automate the stages of research.** To help researchers master the use of AI to automate and improve critical tasks ranging from efficient information management and data analysis to structuring and writing up their scientific research (such as theses and articles).
- **To ensure reliability and compliance with the principles of ethics.** To train researchers in the ethical, legal and responsible use of AI, ensuring the reliability of results and adhering to the highest standards of academic integrity throughout the research process.

Competencies

This UOC microcredential course certifies the acquisition of the following professional competencies:

- Critically assessing the possibilities and limitations of generative AI in the scientific research process.
- Using AI tools in the search for scientific literature and the retrieval of academic information.
- Using AI-assisted systems to support the drafting of scientific introductions and the management of references.
- Using AI tools to help conduct data analyses and organize research results.
- Interpreting and reporting research results through AI-assisted scientific writing techniques.
- Demonstrating a responsible, ethical and transparent use of generative AI in academic research.

These key competencies for the job market have been defined based on the European Skills, Competences, Qualifications and Occupations (ESCO) classification to promote employability and mobility between jobs and increase recognition between different educational establishments.

Contents

The course is worth 3 ECTS credits, requires 75 hours of study (25 hours per credit) and takes place over three months.

Modules

Module 1: Introduction

Introduction to generative AI and its application in the early stages of scientific research

- What is generative AI? Principles, evolution and state of the art.
- Scientific applications: review of real-life cases and analysis of recent articles.
- Pros and cons of the most popular tools: ChatGPT, Gemini, Copilot, Elicit, DALL·E, SciSpace, etc.
- AI-assisted literature search and curation: how to improve the theoretical framework.
- Ethical considerations and limitations of AI tools.

Module 2: Methodology

The role of generative AI in the planning and design of scientific research projects

- The role of generative AI in the planning and design of scientific research projects.
- Improving reproducibility and replicability with AI (pre-registration and open science).
- Sample delimitation and sampling strategy.
- AI-assisted recording and cleaning of quantitative and qualitative data.

Module 3: Results

Analysing, interpreting and reporting results with generative AI

- Exploratory data analysis with AI assistance.
- Generating code for analysis with AI assistance.
- Interpretation of statistical outputs.
- Ethics in analysis, presentation and publication assisted by AI: traceability, authorship and limits—

This is a level 8 course according to the European Qualifications Framework (EQF), equivalent to a doctoral degree.

Academic team

Course instructor

Pablo Vallejo Medina

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Enrolment and fees

Fees and enrolment

Methods of payment

You can pay for Research, transfer and entrepreneurship courses with a credit or debit card.

1. VPoS: payment using a credit or debit card via the VPoS (virtual point of sale) provided by «la Caixa».

Enrolment withdrawal

450 € Price of this course

The fees for this programme will be those applicable when enrolment is completed. Subject to annual revisions.