

STUDY GUIDE

BUILDING DIGITAL PRODUCTS WITH GENERATIVE AI: FROM IDEA TO DEPLOYMENT WITHOUT PROGRAMMING

Organised by
University of Cantabria (UC)

1. IDENTIFYING DATA.		
• Course Name.	Building Digital Products with Generative AI: From Idea to Deployment Without Programming	
• Coordinating University.	Universidad de Cantabria (UC)	
• Partners Involved.	CIC – Consulting Informático	
• Course Field(s).	Artificial Intelligence, Software Engineering, Digital Products, Digital Innovation, Digital Competences	
• Related Study Programme.	N/A	
• ISCED Code.	0613 – Software and Applications Development and Analysis	
• SDG.	SDG 4 – Quality Education, SDG 8 – Decent Work and Economic Growth, SDG 9 – Industry, Innovation and Infrastructure	
• Study Level.	N/A	
• EUNICE Key Competencies	Problem solving Teamworking Communication Self-management Cognitive flexibility Digital competence Technical competence Global intercultural competence GREEN YELLOW YELLOW GREEN GREEN GREEN GREEN RED	

• Number of ECTS credits allocated.	2 ECTS
• Mode of Delivery.	Online live
• Language of Instruction.	English
• Course Dates.	26 October – 13 November, 2026
• Precise Schedule of the Lectures.	The course consists of 20 contact hours delivered through live online sessions via Microsoft Teams according to the following schedule:

	• Week 1: Monday 26 October – Friday 30 October 2026, 18:00–20:00 (Europe/Madrid, CET). • Week 2: Monday 2 November – Thursday 5 November 2026, 18:00–20:00 (Europe/Madrid, CET). • Final Project Presentation: Friday 13 November 2026, 18:00–20:00 (Europe/Madrid, CET). Between the last teaching session and the final presentation, participants will complete and refine their final project.
• Key Words.	Generative AI, AI-assisted Development, Digital Products, MVP, Docker, DevContainers, Git, GitHub, Claude Code, ChatGPT, Software Engineering, Product Development, Cloud Deployment.
• Catchy Phrase.	Transform your ideas into real digital products using Generative AI, without becoming a software developer.
• Main Targeted Audience.	The course is aimed at university students, vocational education and training (VET) students, professionals, entrepreneurs, researchers, consultants, product managers and innovation specialists interested in learning how to create digital products using Generative AI. It is suitable for participants with basic digital and command-line skills who wish to acquire practical competencies in AI-assisted software development and digital product creation.

• Prerequisites and co-requisites.	Participants are expected to have basic familiarity with operating systems and command-line environments (Windows Terminal, WSL, Linux or macOS Terminal). No previous programming experience is required.
• Number of students that can attend the course.	50

2. CONTACT DETAILS.

• Department.	Department of Informatics Engineering
• Name of Lecturer.	Marcos Cobo Carrillo, Diego García Saiz
• E-mail.	marcoscobocarrillo@gmail.com, diego.garcia@uncan.es
• Other Lecturers.	-

3. COURSE CONTENT.

This course introduces participants to a new approach to software development where generative artificial intelligence becomes the primary tool for designing, building and deploying digital products.

Students learn how to transform an idea into a functional Minimum Viable Product (MVP) by collaborating with AI systems throughout the complete product lifecycle, from requirements definition to deployment. The course covers modern development environments, AI coding assistants, version control, project organisation, cloud deployment and software engineering best practices.

The programme follows a highly practical methodology in which participants progressively build and deploy a real digital application while learning to work effectively with AI agents such as Claude Code, ChatGPT and other state-of-the-art generative AI tools.

4. LEARNING OUTCOMES.

Upon successful completion of the course, participants will be able to:

- Use generative AI tools to support the development of digital products.
- Configure modern development environments based on Docker, DevContainers and Visual Studio Code.
- Apply Git and GitHub for project management and version control.
- Organise software projects following recognised documentation and collaboration practices.
- Define functional requirements and translate them into effective prompts for AI systems.
- Design, generate, validate and iteratively improve functional prototypes.
- Deploy applications on modern cloud platforms.
- Collaborate efficiently with AI assistants throughout the software development lifecycle.
- Understand both the opportunities and current limitations of generative AI in software engineering.

5. OBJECTIVES.

The course aims to:

- Empower participants to transform digital ideas into functional products using Generative AI.
- Develop practical competencies in the creation of digital products.
- Familiarise students with modern software engineering environments and workflows.
- Promote project-based learning through the incremental development of a real application.
- Enable participants to independently build, validate and deploy functional digital products.
- Foster responsible and effective use of generative AI technologies in professional environments.

6. COURSE ORGANISATION.

UNITS/MODULES

- | | |
|----|---|
| 1. | Introduction to AI-Assisted Development |
|----|---|

2.	Development Environment Setup
3.	Foundations of AI Collaboration
4.	Building an AI-Optimised Development Environment
5.	Designing and Building a Minimum Viable Product
6.	Deployment, Evolution and Maintenance
7.	Building and Presenting a Complete Digital Product
LEARNING RESOURCES AND TOOLS.	
Microsoft Teams, Docker, Visual Studio Code, Git, Claude Code, GitHub, Vercel.	
PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.	
Live online lectures, Live demonstrations, Guided hands-on practical sessions, Project-Based Learning (PBL), Individual and collaborative practical exercises, Interactive discussions.	

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.

Assessment will be continuous throughout the course and culminates in the presentation of an individual/group final project.

Participants will progressively develop a functional digital application using generative AI and submit a short project report describing the development process, design decisions and deployment results.

Assessment criteria include:

- correct application of AI-assisted development methodologies
- quality and organisation of the project
- successful deployment of a functional application
- understanding of the concepts presented throughout the course

Assessment will take place during the final module.

OBSERVATIONS.

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8. BIBLIOGRAPHY AND TEACHING MATERIALS.

- Anthropic. Claude Code Documentation.
- OpenAI. ChatGPT Documentation.
- Docker Documentation.
- Git Documentation.
- Visual Studio Code Documentation.

- Vercel Documentation
- Teaching materials. Will include lecture slides, practical examples, reusable project templates, and curated references to the official documentation of the technologies used throughout the course (e.g., Docker, Git, Visual Studio Code, Dev Containers, Claude Code or Vercel).

All materials will be made available through the learning platform together with supplementary resources to support self-paced learning and practical project development.

9. OTHER COMMENTS (IF ANY).

This course has been designed according to a Project-Based Learning (PBL) methodology, allowing participants to acquire practical competencies by developing a real digital product from concept to deployment.

The programme has been specifically designed to democratise access to software development by leveraging generative AI, enabling participants from diverse academic and professional backgrounds to create functional digital applications without requiring prior programming experience. The course emphasises hands-on learning and the practical application of Generative AI technologies in real-world software development scenarios.