SCIENCES, TECHNOLOGIES, SANTÉ

Syllabus 2024/2025 CentraleDigitalLab@LaPlateforme_

Language(s)
English

Presentation

Centrale Méditerranée, La Plateforme_, and the Institut 3IA are partnering to offer a high-level professional training program in Artificial Intelligence and data management: the postgraduate diploma CentraleDigitalLab@LaPlateforme_, specialized in business innovation and digital transformation.

Objectives

The objective is to develop, within a project-oriented pedagogy, scientific skills (artificial intelligence, data science) and a work methodology focused on innovation.

This one-year program is entirely taught in English and aims to train professionals in digital innovation and transformation (AI project manager, data scientist, data analyst, etc.):

Tech skills: Machine Learning, data science, Deep Learning
Project skills: rapid prototyping, agile methods, test-driven development, continuous integration, version control (git), and developer tools
Soft skills: teamwork, direct client communication, change management

The program begins with an intensive refresher course in mathematics and programming, followed by 3 weeks of courses in AI and Data Science, SCRUM methodology, etc. To enrich their experience, students in the program complete:

- 2 projects with partner companies
- An internship in France or abroad

The completion of 60 ECTS credits is required to obtain the CentraleDigitalLab@LaPlateforme_ postgraduate diploma.

Skills

Organisation

Admission

Recommended prerequisites

Solides bases en programmation-objet, en algorithmique nécessaires

Useful info

Contacts

Lead Instructor

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Administrative contact

Graduate School

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Campus

🏫 Nice

Program

Organization

The training program is divided into two phases:

Phase 1: Active Learning
- **Courses**: Intensive skill enhancement with a period of foundational learning followed by in-depth study.
- **Projects (30 ECTS)**: Each project is carried out by a team of 3 to 5 students over a 6 to 9-week sprint, culminating in a collective submission. After the kickoff meeting, students maintain direct and regular contact with their client, a company seeking their assistance for a transformation need or technical challenge (e.g., artificial intelligence, connected objects, high-performance computing).

Skills acquired by the end of Phase 1 across all projects, assessed by a panel:
- **Technological Innovation**: Modeling and designing a solution or prototype addressing a real-world problem.
- **Development**: Developing a software program with an artificial intelligence or data science component.
- **Project Management**: Managing a team project using agile methodologies.
- **Communication**: Presenting and promoting their work effectively and developing a strong client relationship.

Skills are assessed according to the following levels: Novice, Intermediate, Competent, Advanced, and Expert (Competency framework provided at the start of the session). A level of "Competent" or higher in each skill is required to earn the 30 ECTS credits.

Phase 2 (30 ECTS): Internship in a company, in France or abroad, lasting 5 to 6 months.

The internship aims to further enhance the skill levels.

	Nature	CM	TD	TP	Crédits
Period 1 - Lesson	Bloc				
Refresher Courses	Bloc				
Mathematics for AI – Refresher Course	Module				
Introduction to the WEB - Upgrading	Module				
Basic Algorithms and Programming - Upgrading	Module				
Data analysis and visualisation	Module				
Formation théoriques	Bloc				
IA and data sciences	Bloc				
Foundations of Machine Learning	Module	22h			
Deep Learning	Module	16h	14h		
Big Data	Module	9h	12h		
Quantum Computing	Module	8h			
Agile approach (SCRUM methodology)	Module	6h			
Soft skills	Module	14h			
Intellectual property and data governance	Module	3h			
Period 1 - Projects	Bloc				30

	Nature	CM	TD	TP	Crédits
Projet sprint 1	Module				
Projet sprint 2	Module				
Period 2 - Internship	Bloc				30
Stage	Module				30