



**Master of Science in Applied Artificial Intelligence (MSc)
Structure of the study programme**

Faculty of Sciences and Technology

CHATEAU D'AIRE
SWISS UMEF University of Applied Sciences institute
185-187 Route d'Aire - 1219 Aire
Geneva – Switzerland
T: +41 (0) 22 732 07 12 – E: info@swiss-umef.ch
Updated January 2025

1. Master of Science in Applied Artificial Intelligence

Description:

The Master's programme in Artificial Intelligence aims to provide students with advanced knowledge of AI concepts, including machine and deep learning. The programme develops the ability to effectively manage AI projects while instilling an understanding of the ethical and societal implications of AI. Students will become familiar with global AI policies and regulatory frameworks, while cultivating entrepreneurial skills. Finally, the programme offers practical exposure through a final project or internship, allowing students to understand the challenges and implementation strategies of AI in different domains.

Objectives:

1. Acquire advanced expertise in artificial intelligence, including machine learning, deep learning, and reinforcement learning techniques.
2. Develop skills in managing AI projects using agile methodologies such as Scrum for optimal efficiency.
3. Master Big Data and Cloud technologies, essential for successfully integrating AI solutions into various contexts.
4. Deepen understanding of the ethical and societal implications of AI, focusing on a responsible and ethical approach in the design and use of AI systems.
5. Familiarise with international AI policies and regulatory frameworks to adeptly navigate the legal aspects of implementation.
6. Develop change management skills specifically tailored to the successful implementation of AI in various industrial sectors.

Learning Outcomes:

1. Demonstrate the ability to effectively plan, execute, and control AI projects in complex environments.
2. Exhibit competence in interpreting and using data to develop relevant AI models and solutions.
3. Demonstrate the capacity to identify, evaluate, and resolve ethical dilemmas related to the design and use of AI systems.
4. Communicate clearly and effectively with diverse stakeholders on technical and ethical AI topics.
5. Critically evaluate different AI approaches and solutions to make informed decisions.
6. Adapt quickly to technological advancements and changes in the AI field.

Career Opportunities:

- AI Project Manager
- AI Analyst
- AI Ethicist
- AI Strategy Consultant
- AI Application Developer
- Data Governance Expert

Master of Science in Applied Artificial Intelligence

First year

First semester 30 credits (ECTS)

Number	Title	ECTS Credits	Periods of Courses
MAI 400	Artificial Intelligence and Machine Learning	6	60
MAI 401	Big Data Analytics	6	60
MAI 402	Digital and Computer Vision	6	60
MAI 403	Robotics	6	60
MAI 404	Reinforcement Learning and AI Optimization	6	60
	Total Course Required Credits	30	300

Second semester 30 credits (ECTS)

Number	Title	ECTS Credits	Periods of Courses
MAI 405	AI in Business Decision Making	6	60
MAI 406	Economic Forecasting and AI-Driven Market Dynamics	6	60
MAI 407	Financial Intelligence and Algorithmic Trading	6	60
MAI 408	AI Innovation and Entrepreneurship	6	60
MAI 409	Advanced Project Management in AI	6	60
	Total Course Required Credits	30	300

Third and Fourth semester 60 credits (ECTS)

Number	Title	ECTS Credits	Periods of Courses
MAI 500	Change management strategies for AI transition	6	60
MAI 501	Advanced study of ethical considerations	6	60
MAI 502	Global AI policies and regulatory frameworks	6	60
MAI 503	Global Diplomacy and AI-Driven Policy Making	6	60
MAI 504	AI-Powered Learning Systems and Education Policy	6	60
MAI 505	Capstone Project or Internship	30	
	Total Course Required Credits	60	300

2. Remark:

SWISS UMEF has the right to accept or refuse a candidate without having to motivate its decision.

The content of all our programmes are the property of SWISS UMEF.

SWISS UMEF reserves the right to introduce changes.

Specialisations require a minimum of five students to be opened.