



Swiss International
Institute Lausanne

Professional Certificate in Fundamentals of Artificial Intelligence and Machine Learning

This program introduces students to the exciting world of Artificial Intelligence (AI) and Machine Learning (ML). It is specially designed for high school graduates and early-career professionals who may not have any previous experience in these fields. Through hands-on learning and accessible online courses, students will discover how AI and ML work and how these technologies are used to solve real-world problems. By the end of the program, students will gain valuable digital skills that can open the door to further studies, internships, or entry-level jobs in technology and innovation. The program also encourages creativity and entrepreneurial thinking for those interested in starting their own tech projects in the future.

Prerequisites: none

Level: Beginner

Language of instruction/examination: Russian

Official duration: 4 semesters (2 years): 3 semesters + capstone project.

ECTS: 32 ECTS

Diploma awarded: Professional certificate in in Fundamentals of Artificial Intelligence and Machine Learning.

Prerequisites: Applicants must have a high school diploma. Students who are in their final year of high school and show strong academic performance may also be considered for admission on an individual basis.

Aims of the Program

Spark an Interest in AI and Innovation

The program helps students develop a curious and creative mindset. They will learn how AI technologies can be used to create new ideas, solve problems, and even start their own tech projects in the future.

Build a Strong Foundation in AI and Machine Learning

Students will be introduced to the basic ideas behind Artificial Intelligence and Machine Learning — such as how machines can learn from data and how AI systems are built and used. No prior experience is needed.

Explore Creative Uses of AI

Students will discover how AI can be used in fun and creative ways — from generating music and images to building games or virtual experiences. The program encourages students to experiment and think across different fields.

LEARNING OUTCOMES

Basics of Machine Learning and AI

Students will learn what Artificial Intelligence and Machine Learning are, how they work, and how they are used in everyday life — from smart assistants to recommendation systems.

Creating with AI

Students will explore how AI can be used to make creative content, like generating images, music, or videos. They'll learn to combine technical tools with artistic ideas in a fun and hands-on way.

Thinking Like an Innovator

Students will be encouraged to come up with their own ideas for using AI in new ways. They will learn basic tools to plan simple projects, pitch ideas, and think like young tech entrepreneurs.

CURRICULUM OVERVIEW

Course ID	Course	ECTS	Assessment
	SEMESTER 1	8	
BM0137	Artificial Intelligence Basics	4	Practical coursework
AIML402	Fundamentals of Machine Learning and AI Ethics	2	Oral Exam
SEM0414	Practical Workshop in AI and Machine Learning I	2	Practical coursework
	SEMESTER 2	8	
BM0144	Advanced Machine Learning and AI Applications / EdX course block: 1. Applied AI Development series (x7) by IBM 2. Generative AI Engineering Series (x10) by IBM EDX	6/6	Practical coursework
SEM0414	Practical Workshop in AI and Machine Learning II	2	Practical coursework
	SEMESTER 3	6	
BM0035	Development of Interactive Applications	4	Practical coursework
SEM0415	Practical Workshop in AI and Machine Learning III	2	Practical coursework
	SEMESTER 4	10	
Capstone Project			