

■ Opportunities and Doctoral studies

The AI domain is a huge reservoir of jobs for years to come. It presents a wide range of opportunities in the following sectors:

- Robotics
- Computer game development
- Self-driving cars
- Fintech
- Healthcare and medical applications
- Internet of Things (IoT)
- Economy
- Machine learning
- Deep learning
- Human-centered problems
- Language processing
- Intelligent tutoring systems
- Expert systems
- etc.

This program also prepares the students for research. In fact, students who have successfully completed the Master's Degree will be eligible to pursue a PhD.

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Université Saint-Joseph de Beyrouth
Faculté d'ingénierie
École supérieure d'ingénieurs
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MASTER IN ARTIFICIAL INTELLIGENCE

Objectives

The Master in AI is part of a professional program to prepare specialists capable of developing intelligent programs and systems to be implemented in different industries for the better of mankind.

It is a professional master program that meets the needs of the job market. Furthermore, the theoretical basis that this program provides, allows students to pursue a doctoral thesis in this domain.

Academic Coordinator

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Admission

Admission of students is based on their file and an interview might be required.

1- Admission to the first semester of the Master's program (S1)

To be authorized to submit application files, students must satisfy one of the following conditions:

- Hold a BS Degree in Computer and Communications engineering, or Computer Science, telecommunications,
- Hold an equivalent Degree recognized by USJ.

2- Admission to the third semester of the Master's program (S3)

To be authorized to submit application files, students must satisfy one of the following conditions:

- Hold a BE Degree in Computer and Communications Engineering or being a CCE Program Student at ESIB and earned at least 120 credits in Engineering Cycle.
- Hold a Master Degree in Computer Science, or Computer and Communication, or Informatics.
- Hold an equivalent Degree recognized by USJ.



Organisation

Language

All the courses are offered in English. The file of each candidate must include a written statement certifying that the student has high proficiency in English language (written by the candidate if he does not have an official certificate). If deemed necessary, the Scientific Committee might check the English level of the candidate and might require, if necessary, some remedial courses.

Degree requirement

The AI Master's Degree is awarded to candidates who have successfully passed the evaluations of the theoretical and practical Teaching Units (courses) and who show excellent level during their thesis defense. There is no provision for makeup exams in case of a missed exam or test. In the event of a serious accident, duly and seriously justified, the case will be examined by the jury to take the measures deemed appropriate.

Program

The Master program is spread over 2 years. The Teaching Units (courses) are distributed over semesters S1, S2, S3 and S4 according to the tables below.

Semester 1 (S1)	Credits
Programming for AI & Machine Learning	6
Graph Theory and Operational Research	6
Foundation of Artificial Intelligence	6
Statistics for AI & Machine Learning	6
Mathematics for AI & Machine Learning	6
	30

Semester 2 (S2)	Credits
Foundations of Decision modeling	6
Mining Massive Data Set	6
Parallel Computing	6
Machine Learning and Deep Learning	6
Game Theory	6
	30

Attendance

Student attendance is compulsory for all teaching activities.

Conditions

Each Teaching Unit is given a grade. Following the exam period, the jury finalizes the results. The GPA is calculated based on the theoretical and practical courses weighted by the number of credits. Theoretical modules are validated if the grades of all subjects are greater than 10/20. Students who have validated the theoretical modules are allowed to present the internship report or the research paper. The priority in the choice of internships is based on the overall GPA. The research thesis is validated if its grade is greater than or equal to 12/20.

Semester 3 (S3)	Credits
Legal, Policy and Ethical considerations for AI	4
AI in Financial Technology (Fintech)	4
AI in Computer Vision	6
AI based Control Systems	6
AI in Computer Games	4
AI in Natural language processing	4
AI in Cybersecurity	4
	30

Semester 4 (S4)	Credits
Internship or Research Thesis	30