

# Master Sciences du langage – Parcours : Computational Linguistics

SCIENCES HUMAINES ET SOCIALES

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## Présentation

The field of Natural Language Processing (NLP) has revolutionized industries by enabling advanced generative AI technologies and fostering innovations like real-time translation, intelligent assistants, and automated content creation. UPCité's master's program in Computational Linguistics equips students with theoretical and practical skills in NLP, preparing them for careers in industry or research through interdisciplinary training in computer science, data science, linguistics, and AI.

A full description of the courses is available [here](#). A more detailed description of the "parcours" and its requirements can be found [here](#).

This master's program is part of Université Paris Cité's Graduate Schools "Artificial Intelligence and Data Science" and "Linguistics", linking master's and doctoral courses with cutting-edge research laboratories.

- \* The Graduate School "Artificial Intelligence and Data Science" trains specialists in artificial Intelligence and data Science, with an emphasis on interdisciplinarity [Find out more >](#)
- \* The Paris Graduate School in Linguistics takes a multidisciplinary approach to the study of language, covering theoretical, computational, historical, sociolinguistic and psycholinguistic linguistics. [Find out more >](#)

## OBJECTIFS

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The program aims to provide students with a comprehensive mastery of generative AI methods, both from theoretical and practical perspectives. It focuses on equipping students with the skills to design, train, and deploy state-of-the-art generative models, particularly for text-related applications such as chatbots, automatic summarization, and translation. Additionally, the training emphasizes expertise in data science, with a specialization in textual data: Students will learn to analyze, process, and interpret large-scale text datasets using advanced machine learning and deep learning techniques.

This program opens doors to various career paths in both industry and research. Graduates will be well-prepared for roles such as **data scientist**, **AI engineer**, or **NLP specialist** in industries that leverage natural language processing technologies. Furthermore, the program provides a solid foundation for pursuing research opportunities, whether in academic institutions or applied research labs, fostering innovation in the rapidly evolving field of natural language processing.

## COMPÉTENCES VISÉES

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- \* master theory and practise of language models (including generative AIs)
- \* know current natural language processing and machine learning algorithms, and know how to implement them in practice to solve a given task
- \* be able to use major deep learning libraries
- \* be familiar with modern linguistic concepts for describing a variety of languages
- \* know how to explore and process large and varied text corpora

**Pour en savoir plus, rendez-vous sur > [u-paris.fr/choisir-sa-formation](https://u-paris.fr/choisir-sa-formation)**

## Programme

### ORGANISATION

The Master's program spans two years, divided into four semesters, with each semester corresponding to 30 ECTS credits. The first three semesters consist of on-site courses taught in English, offering a well-rounded curriculum organized into three main categories:

#### Natural Language Processing Lectures (# 45 ECTS)

These courses provide both theoretical foundations and practical insights into the tools and algorithms central to modern NLP systems.

#### Linguistics Lectures (# 18 ECTS)

Shared with the Master's in Linguistics, these courses ensure students grasp the theoretical challenges encountered when working with real-world textual or speech data.

#### Computer Science and Data Science Lectures (# 27 ECTS)

Focused on equipping students with the skills to design and implement NLP algorithms, these hands-on courses emphasize programming, data processing, and large-scale text corpus analysis, ensuring readiness for practical applications.

Find out more: [Master's degree structure and course descriptions](#)

### STAGE

**Stage** : Obligatoire

**Durée du stage** : an optional internship in M1, and a mandatory 6 month internship in M2

#### Stages et projets tutorés :

On top of practical sessions in regular courses, the second

semester of M1 includes a "NLP project", where students are supervised by a lecturer to carry out a NLP full program in pairs.

M1 includes an internship (minimum 1 month, average

duration 2 to 3 months), either within a NLP company or in a research laboratory.

The second semester of M2 is entirely devoted to an internship, likewise in a NLP company or research laboratory.

## Admission

Due to its multi-disciplinary character, candidates for this Master's degree can have different profiles: we welcome either students with a main training in linguistics but with knowledge and interest in computer science and mathematics, or students trained in computer science but interested in linguistics and the formal organisation of languages.

Note that while it is possible to enter the Master's programme with little to no knowledge of linguistics but some knowledge in computer science and in mathematics is required.

A detailed description of the prerequisites is available at <https://u-paris.fr/linguistique/futurs-etudiants/conditions-acces-li/>

### PRÉ-REQUIS

- See admission requirements and prerequisites: <https://u-paris.fr/linguistique/futurs-etudiants/conditions-acces-li/>

- Ability to read scientific texts in English and understand English lectures.

#### Droits de scolarité :

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National tuition fees are set annually by the “Ministère de l'Enseignement Supérieur et de la Recherche”. Mandatory and optional contributions are added according to the student's individual situation.

## Et après ?

### POURSUITES D'ÉTUDES

Doctoral studies, for students who have completed an M2 research internship, and depending on the results obtained.

### DÉBOUCHÉS PROFESSIONNELS

À l'issue du master, *l'orientation professionnelle ouvre sur des postes de linguiste informaticien.ne et ingénieur.e en sciences de données textuelles dans des entreprises d'intelligence artificielle orientées vers le traitement du texte écrit.*

*L'orientation recherche peut permettre de poursuivre en doctorat de linguistique informatique.*

## Contacts

### Responsable de la mention

Jalal Al-Tamimi  
jalal.al-tamimi@u-paris.fr

### Responsable du Master 1

Guillaume Wisniewski  
guillaume.wisniewski@u-paris.fr

### Responsable du Master 2

Marie Candito  
marie.candito@linguist.u-paris.fr

### Secrétariat pédagogique

Yushu ZHANG  
01 57 27 57 55  
scolarite.ling@u-paris.fr

## En bref

### Composante(s)

UFR Linguistique

### Niveau d'études visé

BAC +5 (niveau 7)

### ECTS

120

### Public(s) cible(s)

- Étudiant

### Modalité(s) de formation

- Formation initiale
- Formation continue

### Validation des Acquis de l'Expérience

Oui

### Langue(s) des enseignements

- Anglais

### Capacité d'accueil

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**Lieu de formation**

Campus des Grands Moulins

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