

# UE Introduction to Artificial Intelligence



Niveau d'étude  
Bac +4



ECTS  
3 crédits



Crédits ECTS  
Echange  
3.0



Composante  
UFR  
Informatique,  
mathématiques  
et  
mathématiques  
appliquées  
(IM2AG)



Période de  
l'année  
Automne (sept.  
à dec./janv.)

## Diplômes intégrant cet élément

- Master Informatique

- › **Langue(s) d'enseignement:** Anglais
- › **Ouvert aux étudiants en échange:** Oui
- › **Crédits ECTS Echange:** 3.0
- › **Code d'export Apogée:** GBX7MO10

## Présentation

### Description

This course aims to introduce to students the basics of and a large overview on Artificial Intelligence, including Machine Learning, Deep Learning and Symbolic AI.

### Objectifs

Providing a solid background in AI, understanding the principles in AI, developing the skills to model, implement and deploy simple AI models in different contexts, analysing the advantage and the limits of AI

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## Heures d'enseignement

|    |    |       |
|----|----|-------|
| CM | CM | 19,5h |
| TP | TP | 13,5h |

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## Pré-requis recommandés

Very basic notions in Linear Algebra (Matrices), Analysis and Probability, basic programming in Python

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## Syllabus

The course contains three parts. 1. Machine Learning: Basics, Supervised ML, Unsupervised ML, Regularization, Evaluation of ML. 2. Deep Learning: Dense neural networks, Convolution Neural Networks, Recurrent Neural Networks, Gradient Descent, Backpropagation, Large Language Model (it time permits). 3. Symbolic AI: Logic-based Knowledge, Rule-based Reasoning.

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## Compétences visées

Understanding the notions and principles, manipulating simple analysis, implementing AI models

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## Bibliographie

An introduction to Statistical Learning, very good book with online version: <https://www.statlearning.com/>

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## Infos pratiques

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### Contacts

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## Campus

➤ Grenoble - Domaine universitaire