Badji-Mokhtar university Annaba
Faculty of technology
Departement of computer science

جامعة باجي مختار عنابة
كلية التكنولوجيا
قسم الإعلام الآلي

SYLLABUS

Field :	Mathematics and computer science	**Sector :**	Computer science
Speciality:	Mathematics and Applied Computer Science in Economic and Management Sciences		
Semester :	Second semester	**Academic year :**	2024/2025

Identification of the teaching subject

Couse title: Introduction to Artificial Intelligence (IAI)

Teaching Unit : UFC2

Credits: 5 **Coefficient : 3**

Weekly teaching hours : 03H00

- **Lecture :** 03H00
- **Tutorials :** 1H30

Responsible for teaching subject

Name, Surname, Grade : Debbah Amina, Associate Professor A

Office location : Computer science department , office 13

Email : Amina.debbah@gmail.com

Course Schedule and Location : **Sunday:** 11:30 AM - 1:00 PM, **Tuesday:** 9:45 AM - 11:15 AM, SNV 3, SNV4

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Course description

Prerequisites: Basic knowledge of Python programming, algorithms, and data structures.

Course Objectives:

This course is aimed at developers and students in the fields of computer science and engineering who are interested in AI. In this course, students will explore AI, understand what it's for and why mathematics is involved in subsequent courses. In this course, students will be able to: Understand the role of AI in industry; Define AI hardware and software; and finally, Evaluate the importance of datasets, data sources, problem solving with data and data science workflows.

Learning objectives :

1. Understanding the role of AI in different industries.
2. Defining AI hardware and software requirements;
3. Evaluating the importance of datasets, data sources, and data science workflows;
4. Identifying ethical concerns and responsible AI practices.

Course content

- Chapter 1 : Introduction to AI
- Chapter 2 :Artificial intelligence in industry
- Chapter 3: Artificial intelligence in the entreprise
- Chapter 4: AI development tools
- Chapter 5: Supervised learning
- Chapter 6: Data collection and enhancement

Assessment method

Assessment type	Weight
Final exam	**50%**
Continuos assessment	**50%**
Total	**100%**

References

Textbook (main references) :

Title of the book	Author	Editor and year
Artificial Intelligence: A Modern Approach	Stuart Russell and Peter Norvig	(4th Edition)
Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow	Aurélien Géron	O'Reilly, 2019
Practical Artificial Intelligence: Machine Learning, Bots, and Agent Solutions Using C. Apress.	Christophe Dabancourt	Castaño, A. P. (2018).
"Applied Artificial Intelligence: A Handbook for Business Leaders" by	Mariya Yao, Adelyn Zhou, and Marlene Jia	Topbots Press

Course schedule (tentative)

week	Title of the course	Date
1	Chapter 1: Introduction to AI	09/02/2025
2	Chapter 2: AI in health and genomics	16/02/2025
3	Chapter 2: AI in transportation and retail	23/02/2025
4	Chapter 3: AI in finance, industry, and government	02/03/2025
5	Chapter 3: AI in the entreprise	09/03/2025
6	Chapter 4: AI developement tools	16/03/2025
7	Exercices	06/03/2025
8	Chapter 5: Supervised learning	13/04/2025
9	Chapter 6: data collection and preprocessing	20/04/2025
10	Chapter 6: Overfitting and underfitting	27/05/2025
11	Final review and exam preparation	04/05/2025