Course title:

INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Staff responsible for the course:

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Lecturers:

Manuel LESAICHERRE - Pierre MOUSSALLY

1) COURSE PRESENTATION

Aims:
Draw up a list of competencies and/or skills that the student should have acquired or improved at the end of the course.
You must fill in the field under the format "the student should be able to…" using action verbs such as define, realise, control… (This description should not take more than ten lines)

Subject and objectives:
- By the end of the course, students should be able to demonstrate the creativity needed to innovate with the data available (internal and open source) in order to create value.
- In this context, the students will work on a digital transformation strategy (creation/improvement of company goods/services).
- The aim is to teach them how to carry out an audit of their data (internal or external), because they will be at the heart of the digital transformation by data.

Complementary objectives:
- Work on case studies and practical projects.
- Develop your digital culture,
- Exchange views with data experts,
- Understand:
  - how artificial intelligence works and should create value,
  - what impact AI will have on businesses and employee skills.
- Be able to understand the challenges of digital transformation, particularly artificial intelligence technologies.

Prerequisites:
You must not write courses' codes or names but identify the preliminary skills as the knowledge or the know-how needed to efficiently follow this course.
Write it out in terms of knowledge and methodologies required to follow this course (this would help students from direct entry to position themselves). (This description should not take more than five lines)

- Be able to understand the basics of AI technologies.
- Be able to imagine concrete, sustainable use cases.

Course contents:
Here, an abstract of the course can be given or the different chapters of the course can be simply written down.
(The description should not take more than ten lines)

- Part 1: understand the general context.
  - 1.1 - Understanding digital transformation and how digital generates data.
  - 1.2 - Identifying databases (in-house or external)
  - 1.3 - How data can generate value:
    - Workshop: How to create value with data
    - What are the steps involved in adding value to your data?
    - Know how to create value by objectives (for the company, for employees, for collective issues)

- Part 2: understand AI.
  - 2.1 - Everyone talks about AI, but do you understand it?
  - 2.2 – Back in time: history of AI and its major developments,
  - 2.3 - Understanding the technologies behind AI: AI, a set of technologies.

- Part 3: focus on Generative AI, the key area to master.
  - 3.1 - Understanding generative AI
  - 3.2 - Players in generative AI: who are the major players?
  - 3.3 – Know how to use and understand
    - Developing your Prompt Engineering skills
    - Workshop: customising your GPTs

2) WORKING LOAD

Here, you should allocate the effective working load of the course, including an estimation of the personal work required from the student.

TABLE 1

Course's types	Number of hours	Notes
Effective presence		
- Magistral Course	4	
- Interactive Course	4	+ 4h of corporate sessions
- Tutorials	4	
- Coaching	4	
Training from a distance		
- Video-conferences		
- Webinars		
Self-learning		
- Books 'readings		
- E-learning		
- Research		
Outdoors-training		
- In firms		
- Internship		
Personal work		
- Group Projects	10	
- Individual Projects		
- Personal work	10	
Total working time for the student	**40**	

3) EDUCATIONAL METHODS

Tick here the different educational methods used:

X Coaching

X Case Study

☐ E-Learning and/or Self-learning

X Interactive courses

X Presentations

X Projects

☐ Research

☐ Seminars

☐ Tutorials

☐ Visits

4) ASSESSMENT

Sum up briefly the course assessment's mechanism (two or three lines) in order to introduce the assessment's table that you have to complete below (table n°2).

You must also define clearly how feedback will be given to students (in accordance with the feedback policy).

Attendance and active participation in class are compulsory.

Assessment process:
- Continuous assessment (30%):

The analysis work required to prepare the lessons will be marked (it may be individual or collective, depending on the subject).
- Collective project to be presented at the end of the term (70%):

Students will have to present a digital innovation project based on AI technologies. This work will be done in groups and will be both written (dossier) and presented orally.

Students will have to present a digital innovation project to meet the challenges of responsible digital. This work will be done in groups and will be both written (dossier) and presented orally.

List the assessment for each modality.

TABLE 2

Modality	Type of control	Length (h)	Number	Weighting (%)
Continuous assessment	Continuous assessment (CONT)			30
	Mid-term exam (MIDT)			
	Participation (PARTN)			
	MCQ			
Final exam	Oral final exam (ORAL)			
	Written final exam (ENDT)			
Others	Case study (CASE)			
	Group Project (GPROJ)			35
	Individual Project (IPROJ)			
	Written assignment (WRITTEN)			35
	Exercises (EXERC)			
Total				**100%**

5) *RECOMMENDED READING*

Name of books (indicate only three or four must-read references) / Name of reviews:

Reference book (appellation reserved for books selected by the School and necessarily bought by all the students):

Class books:

- Machine Learning for Beginners
    o Chris Sebastian
- Artificial Intelligence: The Basics
    o Kevin Warwick
- Artificial Intelligence: A Modern Approach
    o Stuart Russell,
    o Peter Norvig

Reviews:

Internet Resources:

Please indicate here if you use the school intranet site to put on-line documents and/or if you advise the visit of web sites to students.

Name of the Website	URL
Elements of AI free online course	www.elementsofai.com
Google: Machine learning and artificial intelligence	https://cloud.google.com/learn/training/machinelearning-ai