



POLITÉCNICA

INTERNATIONAL
CAMPUS OF
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COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001



E.T.S. de Ingenieros
Informáticos

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000835 - Ethics And Law For Data Science

DEGREE PROGRAMME

10AZ - Master Universitario En Innovación Digital

ACADEMIC YEAR & SEMESTER

2025/26 - Semester 2

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1. Description

1.1. Subject details

Name of the subject	103000835 - Ethics And Law For Data Science
No of credits	3 ECTS
Type	Optional/elective
Academic year of the programme	First year
Semester of tuition	Semester 2
Tuition period	February-June
Tuition languages	English
Degree programme	10AZ - Master Universitario en Innovación Digital
Centre	10 - E.T.S. De Ingenieros Informáticos
Academic year	2025-26

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Asuncion De Maria Gomez Perez		asunciondemaria.gomez@upm.es	Sin horario.
Victor Rodriguez Doncel (Subject coordinator)	D2110	victor.rodriguez@upm.es	M - 10:00 - 13:00 Tu - 10:00 - 13:00

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Skills and learning outcomes *

3.1. Skills to be learned

CB08 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios

CE-EIT04 - Capacidad para desarrollar un proyecto y un modelo completos de negocio orientados al cliente usando una metodología iterativa siguiendo los pasos necesarios para crear una empresa de base tecnológica sostenible incluyendo consideraciones éticas, sociales y medioambientales.

CE-EIT06 - Capacidad para reconocer, abordar y sugerir maneras para tratar los diferentes retos (madurez, propiedad intelectual, etc.) en el proceso de explotar una tecnología para crear un negocio.

3.2. Learning outcomes

RA97 - Ability to assess the societal, legal and ethical impact of Artificial Intelligence and data processing projects

RA98 - Knowledge of the European and national legal framework of AI and data processing

RA131 - Prepare ethical-related documents for a project: consent forms, proposals for ethical committees, inclusive usability testing plans, ...

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

Data scientists and AI professionals will face legal and ethical issues during their careers. Designing, deploying, or using AI systems and data-intensive applications requires knowing and abiding by the law (legal compliance) and being aware of the technology's impact and acting accordingly (ethical responsibility).

In this course, students will learn about European Union policies and regulations related to AI and data. Specifically, they will cover the basics of the EU AI Regulation and the liability norms, the General Data Protection Regulation (GDPR), the Data Governance Act, the Data Act, and some aspects of copyright law, including the Database Directive. The course will also cover open data policies in Europe.

Additionally, students will develop skills to critically assess AI-intensive and big data projects, considering legal, ethical, and societal aspects. Critical thinking will be fostered, and students will learn to apply the official positions of the European Commission to real use cases.

4.2. Syllabus

1. Introduction. Overview of issues raised by Artificial Intelligence.
2. Introduction to ethics.
3. Professional ethics and deontological codes.
4. Methodologies for the ethical assessment of data and AI projects.
5. Bias and explainability of AI systems.
6. Information Ethics. The future of AI.
7. Privacy and Data Protection. GDPR.
8. Regulation of AI.
9. Regulation of Data.
10. Intellectual Property Rights.
11. Copyright and data licenses.

12. Identity and Security

5. Schedule

5.1. Subject schedule*

Week	Type 1 activities	Type 2 activities	Distant / On-line	Assessment activities
1	<p>Lecture. Duration: 02:00 Lecture</p> <p>Lecture Duration: 01:00 Problem-solving class</p>			
2	<p>Group activity in the class Duration: 01:30 Design thinking</p> <p>Lecture Duration: 01:00 Problem-solving class</p> <p>Questionnaire Duration: 00:30 Additional activities</p>			
3	<p>Lecture Duration: 02:00 Lecture</p> <p>Lecture Duration: 01:00 Problem-solving class</p>			
4	<p>Lecture Duration: 01:30 Lecture</p> <p>Lecture Duration: 01:00 Problem-solving class</p> <p>Questionnaire Duration: 00:30 Additional activities</p>			<p>Questionnaire (10%) Written test Progressive assessment Presential Duration: 00:30</p>
5	<p>Lecture Duration: 02:00 Lecture</p> <p>Lecture Duration: 01:00 Problem-solving class</p>			

6	<p>Lecture Duration: 01:30 Lecture</p> <p>Lecture Duration: 01:00 Problem-solving class</p> <p>Questionnaire Duration: 00:30 Additional activities</p>			<p>Questionnaire (10%) Written test Progressive assessment Presential Duration: 00:30</p>
7	<p>Lecture Duration: 01:30 Lecture</p> <p>Lecture Duration: 01:00 Problem-solving class</p> <p>Questionnaire Duration: 00:30 Additional activities</p>			<p>Intermediate work group delivery (5%) Group work Progressive assessment Not Presential Duration: 00:00</p> <p>Questionnaire (10%) Written test Progressive assessment Presential Duration: 00:30</p>
8	<p>Work presentation Duration: 02:00 Additional activities</p> <p>Lecture Duration: 01:00 Problem-solving class</p>			<p>Work presentation (10%) Individual presentation Progressive assessment Presential Duration: 02:00</p> <p>Final work group delivery (15%) Group work Progressive assessment Not Presential Duration: 00:00</p>
9				<p>Continuous Evaluation Test (40%) Written test Progressive assessment Presential Duration: 02:00</p>
10				
11				
12				
13				
14				
15				
16				
17				<p>Exam Written test Global examination Presential Duration: 02:00</p> <p>Work delivery, including report and presentation in video Individual work Global examination Not Presential Duration: 00:00</p>

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27

hours of student face-to-face contact and independent study time.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
4	Questionnaire (10%)	Written test	Face-to-face	00:30	10%	0 / 10	CB08 CE-EIT04 CE-EIT06
6	Questionnaire (10%)	Written test	Face-to-face	00:30	10%	0 / 10	CB08 CE-EIT04 CE-EIT06
7	Intermediate work group delivery (5%)	Group work	No Presential	00:00	5%	0 / 10	CB08 CE-EIT04 CE-EIT06
7	Questionnaire (10%)	Written test	Face-to-face	00:30	10%	0 / 10	CB08 CE-EIT04 CE-EIT06
8	Work presentation (10%)	Individual presentation	Face-to-face	02:00	10%	4 / 10	CB08 CE-EIT04 CE-EIT06
8	Final work group delivery (15%)	Group work	No Presential	00:00	15%	4 / 10	CE-EIT04 CE-EIT06 CB08
9	Continuous Evaluation Test (40%)	Written test	Face-to-face	02:00	40%	4 / 10	CB08 CE-EIT04

6.1.2. Global examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
17	Exam	Written test	Face-to-face	02:00	60%	5 / 10	CE-EIT04 CE-EIT06 CB08
17	Work delivery, including report and presentation in video	Individual work	No Presential	00:00	40%	5 / 10	

6.1.3. Referred (re-sit) examination

No se ha definido la evaluación extraordinaria.

6.2. Assessment criteria

EVALUATION SYSTEM

There are three different evaluation activities:

1. QUESTIONNAIRES. During the course, Moodle questionnaires will be open as in-class activities or homework tasks. **(30%)**
2. GROUP WORK. This group work (4 students per group) will have an intermediate delivery (towards the middle of the course) and a final delivery. At the end of the course, there will be an oral presentation (possibly video). **(30%)**
3. GLOBAL EXAM. This final exam will consist of two parts. First, a written test with no materials. Second, a Moodle questionnaire, where any online or offline material is allowed. All the competencies of the course will be evaluated in this exam. For this second part, a printed version will be also available for students with no electronic device. Each of the two parts needs to obtain at least a 4/10 in order to pass the course. **(40%)**

The group work and the global exam need to obtain at least 4/10. Each of the two parts in the global exam needs to be evaluated with at least 4/10 in order to pass the course.

EVALUATION ONLY THROUGH GLOBAL EXAM

Notwithstanding the global exam (60%), students will have to deliver the work, even if individually, and will have to record a video to replace the oral presentation (40%). Both parts require at least 4/10.

EXTRAORDINARY EXAM

Notwithstanding the global exam (60%), students will have to deliver the work, even if individually, and will have to record a video to replace the oral presentation (40%). Both parts require at least 4/10. The group work is the same as the one described before, no additional delivery is necessary if passed during the progressive evaluation.

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Textbook	Bibliography	Quinn, M. J. (2017). Ethics for the information age. Pearson.
Moodle	Bibliography	A collection of readings will be made available through the moodle platform. Additional recommended bibliography will be also referenced from Moodle.
EU Legislation	Bibliography	Online in EurLex

8. Other information

8.1. Other information about the subject

Language. The course is delivered in English.