COURSE DATA

DATA SUBJECT

Code: 34651
Name: Ethics. Legislation and profession
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1400 - Degree in Computer Engineering	Escola Tècnica Superior d'Enginyeria	3	Second quarter
1936 - Double Degree Program in Mathematics-Telematics Engineering	Facultat de Ciències Matemàtiques	2	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1400 - Degree in Computer Engineering	Ethics, law and occupation	COMPULSORY
1936 - Double Degree Program in Mathematics-Telematics Engineering	Segundo curso	COMPULSORY

COORDINATION

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SUMMARY

This course is presented as a necessary complement to the professional development of future graduates. Alongside technological competencies is essential to have complementary skills that allow a full professional development and exercise of the profession that it conforms to the applicable legal and ethical rules.

Knowledge of the meaning and application of basic concepts of conduct, ethics and legals is an objective need for a professional performance suited to regulatory requirements and rules of conduct to avoid unnecessary risks, that could affect both to the IT service provider as to potential customers or users of products and / or applications.

Moreover, the subject provides a comprehensive overview of the actual situation of the labor market and the practical implications raised by the professional associations, by the presence of providers trusted third parties who accredit knowledge and roles, their obligations and rights, that can assume a professional either hired labor or as a service provider.

It also seek to provide sufficient knowledge of all those legal and ethical requirements that is necessary to analyze to design, implement, test and deploy software projects properly.

In regard to the practical part, students acquire the skills necessary to be able to identify these ethical and legal requirements, locate and use available resources, and acquire a vocabulary and skills to be able to develop their work in multidisciplinary teams and to identify where his performance needs to seek services or support from professionals from other disciplines.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

There are no prerequisites for enrollment, but it is recommended to have completed the following areas / subjects:
Company business
Engineering, Society and University. Also, the subject has an instrumental relationship to concepts in the course studied computer programming, software engineering and informatics security.

COMPETENCES / LEARNING OUTCOMES

1400 - Degree in Computer Engineering

G10 - Knowledge to perform measurements, calculations, assessments, appraisals, surveys, studies, reports, scheduling and other similar work in the field of computer engineering, in accordance with both the knowledge and the specific skills acquired in the degree.

G11 - Ability to analyse and assess the social and environmental impact of technical solutions, and understanding of the ethical and professional responsibility of a computer engineer.

G12 - Knowledge and application of the basic principles of economics and human resource management, project organisation and planning, and legislation, regulation and standardisation in the field of computer projects, in accordance with both the knowledge and the specific skills acquired in the degree.

G1 - Ability to design, write, organise, plan, develop and sign projects in the field of computer engineering aimed at the design, development or exploitation of computer systems, services and applications.

G2 - Ability to lead project activities in the field of information technology, in accordance with both the knowledge and the specific skills acquired in the degree.

G7 - Ability to recognise, understand and apply the legislation required in the professional practice of computer engineering and to deal with mandatory specifications, regulations and standards.

SI2 - Ability to determine the requirements of an organisations information and communication systems, considering safety aspects and compliance with regulations and legislation.

SI5 - Ability to understand and apply the principles of risk assessment and apply them correctly in the development and implementation of action plans.

SI6 - Ability to understand and apply the principles and techniques of quality management and technological innovation in organisations.

TI1 - Ability to understand the environment of an organisation and its needs in the field of information and communication technology.

TI5 - Ability to select, implement, integrate and manage information systems that meet the needs of the organisation taking account of cost and quality criteria.

DESCRIPTION OF CONTENTS

1. Introduction to ethics

Introduction to ethics
a) Definition of profession and ethics
b) Engineering and Ethics
c) Differences between ethics and law
d) Self-regulation of professional practice
e) Why the growing importance of ethics today?
The Ethics of Computer Engineering
a) Potential social problems caused by the use of computers
b) Computer Crimes
c) Computer Engineer Ethics: main features and principles
The Profession of Computer Engineering
a) Definition of profession
b) The profession of engineer in Spain
c) Professional associations
d) The ethics of the profession of Computer Engineering
e) IT Professional ethics Codes
f) Professional codes in Computer Engineering
g) The institutional framework of the computing profession
h) The need for a computer professional code
i) The ten commandments of ethics Computer Engineering
j) Codes of ethics in computing: national and international examples

Professional Bodies:
a) Professional Spanish Bodies in Computer Engineering and their General Council
b) Activities and services COIICV
c) Codes of conduct for computer Professional Bodies
Professional Associations

2. Professional Bodies, Professional Associations and institutions of study and diffusion

Professional Bodies:
a) Professional Spanish Bodies in Computer Engineering and their General Council
b) Activities and services COIICVa) Types of associations in Spain and International
b) Benefits for the professional
c) Presentation of the most significant, as ATI, ALI and AI2 in Spain, and international as ACM, AEI SECURITY, ISMS, ISACA, etc..
d) Products and services ISACA
e) ISACA Code of Ethics
Entities of study and diffusion
a) Types of entities in Spain and International
b) Benefits for professionals and society
c) Presentation of the most significant, as INCIBE, ITGI, IEEE, etc..

3. AENOR standards in the environment of Computer Engineering

Standards AENOR in the environment of Computer Engineering:
a) Total quality as a competitive strategy applied
b) What are ISO standards?
c) Classification of standards adopted in Spain and International
d) PDCA Cycle
e) Quality Circles
f) Outline of the major standards
g) Work areas of Computer Engineering
h) Professionals Certificates of Implanter , Auditor and other

4. Labour Market

Job Market:
a) Current situation in Spain
b) Expectations abroad
c) Professionals with greater future
Current and future scenarios of professional practice
a) Software Factories
b) Information Security
c) e-Government
d) computer forensic
e) Services of the Information Society and Electronic Commerce
f) Ergonomics and access for people with disabilities
g) ERP and business management
h) Other scenarios of future
Professional Certifications
a) The certificate Vs the title
b) Some of the most popular certificates

5. Professional Skills

Professional Skills:
a) Effective Presentations
b) Negotiation
c) Preparation and exposure of writings
d) Teamwork

6. Introduction to Law

Introduction to Law:
a) Legal system.
b) Sources of Law. Types of standards.
c) The rules of law as "state of the art". Design of software and law compliance

7. The fundamental right to data protection (I). Constitutional protection of privacy

Constitutional protection of privacy:
a) The rights to individual and family privacy, honor and reputation.
b) The inviolability of the home and secrecy of communications.
c) The fundamental right to data protection
Regulations of the Fundamental Right to Data Protection (I): Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and Organic Law 3/2018, of 5 December, on the Protection of Personal Data and Guarantee of Digital Rights:
a) Basic concepts
b) Principles of data protection
c) The rights of access, rectification, opposition, deletion, portability and treatment limitation d) Responsible for and in charge of the treatment. Special consideration for data protection and security from the design and default, and the impact assessment regarding data protection

8. The fundamental right to data protection (II)

The fundamental right to data protection (II):
a) Duty of confidentiality.
b) Security measures.
c) Security Audit and Audit Data Protection Act.
d) Privacy by Design and Privacy Impact Assessment.
e) Liability and sanctions regime.

a) Crimes against privacy.
b) Computer Scams: Phishing and Pharming.

9. Criminal Law and IT.

a) Crimes against privacy.
c) The impersonation.
d) Crimes against children.
e) Intellectual Property Offenses
f) Computer damage (Cracking and ramsomware)
g) The electronic evidence

10. E-commerce. Intellectual property.

E-commerce. Law 34/2002, of 11 July, on information society and e-commerce services (LSSI). Law 3/2014, of 27 March, amending the consolidated text of the General Law for the Defense of Consumers and Users and other supplementary laws.
a) Basic obligations of service providers. Liability regime.
b) Electronic contracting.
c) Commercial communications by electronic means.
d) Liability and sanctioning regime.
Intellectual property:
a) Basics. Industrial property.
b) Domain names.
c) Brands.
d) Patents.
Copyright:
a) Copyright and Intellectual Property Law.
b) Alternative models: Creative Commons
c) Intellectual property in software. Free and open source licenses.

11. Digital Identity, Electronic Signature and Artificial Intelligence.

Digital identity.
a) Basics. Regulations (EU) 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS) and 1183/2024
b) Electronic signature typologies. Probationary value.
c) Electronic certificates.
d) Identification of citizens and management in the electronic administrative procedure.
e) Requirements for electronic processing.
Artificial Intelligence. Regulation (EU) 2024/1732
a) Basics.
b) Legal aspects.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	30,00
Laboratory	10,00
Classroom practices	20,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	16,00
Independent study and work	26,00
Preparation of lessons	32,00
Preparation for assessment activities	8,00
Resolution of case studies	8,00
Total hours	**90,00**

TEACHING METHODOLOGY

The training activities are conducted in accordance with the following distribution:

• Theoretical activities.

In the theoretical issues will be developed to provide a global and inclusive view, analyzing in detail the key issues and more complex, promoting at all times student participation.

• Practical activities.

Complement the theoretical activities in order to apply the basic concepts and extend them with knowledge and experience they acquire during the course of the work proposed. Include the following types of activities

o Classes of problems and issues in the classroom

o Discussion sessions and problem solving exercises and previously worked by students

o Workshops and seminars in computer classroom

o Group work and software project planning and generation of group dynamics.

o Scheduled tutorials (individual)To carry out these activities, the theoretical group will be subdivided into subgroups smaller (20 students maximum) according to need.

• Individual student.

Preparation of classes and exams (study). This task is done individually and tries to promote self job.

• Work in small groups.

Realisation, by small groups of students (3-4), of work, issues and problems outside the classroom. This work complements the individual work and practical activities and promotes the ability to integrate into working groups

It will use the platform of e-learning (virtual classroom) from the University of Valencia in support of communication with students. Through it you will have access to learning materials used in class as well as solve problems and exercises.

EVALUATION

In the evaluation of this subject, it should be considered that it is composed of two clearly differentiated content blocks: "Ethics and Profession" and "Legislation". Each block of the course will have a weight of 50% in the final grade for the subject, which will be calculated as the arithmetic mean of the scores obtained in each block. A minimum score of 4 out of 10 is required on each block ("Ethics and Profession" and "Legislation") to pass the course.

The student's involvement in the teaching-learning process will be actively assessed, considering regular attendance at the planned face-to-face activities, the delivery of the proposed exercises and participation in the resolution thereof, completing with the performance of an objective test. In accordance with this approach, the final grade of the subject will be obtained according to the following two options:

OPTION A:

This is the primary method and applies independently for each of the content blocks ("Ethics and Profession" and "Legislation"). To apply this type of assessment, an attendance rate for the practical classes of each block greater than 75% and having delivered at least 75% of the work required in each block will be necessary. Only works submitted before the deadline, both the proposed exercises in class (theory and practices), and the laboratory exercises, will be considered as valid deliveries.The final mark for each block will be calculated according to the following evaluation criteria:

1) Ongoing assessment: Participation and work carried out during the semester (case studies, , ongoing assignments, practical activities, and other objective assessments conducted during the semester). They will have a weight of 50% on the final grade. The lecturer for each content blocks will establish the evaluation criteria of the deliveries, as well as their weight in the final mark for the "Continuous Evaluation". Practical work carried out during the classes is not recoverable.

2) Individual objective test: consisting of an examination or test of the level of knowledge, which will comprise both theoretical and practical issues, weighing 50% on the final mark. In order for the final grade of each content block to be computed, the continuous evaluation and individual objective test must be greater than 4 out of 10.

OPTION B:

It will apply to students who have not met the conditions under option A.

In this assessment method, the continuous assessment, laboratory work and practical activities each account for 30% of the mark and cannot be resat. There will be an individual multiple-choice test which will account for 70% of the mark. The mark required to pass each part of the module must be more than 5 out of 10.

In cases where there may be a discrepancy about which option to apply, the one that most benefits the student will apply, provided that it meets all the requirements for its application.

In any case, the evaluation of this subject will be done in compliance with the University Regulations in this regard, approved by the Governing Council on 30th May 2017 (ACGUV 108/2017). Copying or plagiarism of any activity that is part of the evaluation will result in the impossibility of passing the course, and the student will then be subject to the appropriate disciplinary procedures indicated in the ACTION PROTOCOL FOR FRAUDULENT PRACTICES AT THE UNIVERSITY OF VALENCIA (ACGUV 123/2020).

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