

**COURSE DATA****Data Subject**

<b>Code</b>	34651
<b>Name</b>	Ethics. Legislation and profession
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2022 - 2023

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1400 - Degree in Computer Engineering	School of Engineering	3	Second term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1400 - Degree in Computer Engineering	3 - Ethics, law and occupation	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
LOPEZ CAÑAS, JOSE CARLOS	240 - Computer Science

**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.

## OUTCOMES

### 1400 - Degree in Computer Engineering

- 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.
- 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.



- T11 - Ability to understand the environment of an organisation and its needs in the field of information and communication technology.
- T15 - Ability to select, implement, integrate and manage information systems that meet the needs of the organisation taking account of cost and quality criteria.
- 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.

## LEARNING OUTCOMES

The content of this subject aims to achieve the following learning outcomes:

- Apply group work techniques to improve interaction with any member of the project (skateholders), whether it is the team's own personnel, clients, suppliers and / or social agents
- Apply negotiation techniques, leadership and motivation of working groups
- To determine the legal framework to which the activities of the Computer Engineering profession should be adapted.
- Apply appropriate behavior in professional situations.
- Define strategies to manage human and technical resources for the execution of a project
- To understand and respect fundamental rights and equality, in accordance with democratic values

## 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

## **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 COIICV
- c) Codes of conduct for computer Professional Bodies

Professional Associations

- a) 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): The General Regulation of Data Protection of the European Union and the Organic Law 15/1999, of December 13, on the Protection of Personal Data.

Basic aspects:





- 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.

## **9. Criminal Law and IT.**

- a) Crimes against privacy.
- b) Computer fraud: Phishing and Pharming.
- c) The impersonation.
- d) Crimes against children.

## **10. E-commerce. Industrial property.**

E-commerce. Law 34/2002 of 11 July, services of information society and electronic commerce (LSSI):

- a) Basic obligations of service providers. Liability regime.
- b) Electronic contracting.
- c) Commercial communications by electronic means.
- d) Liability and sanctions regime

Industrial property:

- a) The domain names.
- b) Marks.
- c) Patents.

Intellectual property legislation:

- a) Basic concepts.
- b) The intellectual property in the software.
- c) Alternative models: Creative Commons

## **11. The electronic signature. E-Government**



The electronic signature:

- a) Types of electronic signature. Probative value.
- b) Electronic certificates.
- c) Electronic Billing.

E-Government:

- a) Basic concepts.
- b) The identification of citizens and the administration in the administrative proceeding mail.
- c) Requirements for electronic processing.
- d) The electronic office.
- e) National security scheme.
- f) National interoperability scheme.

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Classroom practices	20,00	100
Laboratory practices	10,00	100
Development of group work	8,00	0
Development of individual work	8,00	0
Study and independent work	20,00	0
Readings supplementary material	6,00	0
Preparation of evaluation activities	8,00	0
Preparing lectures	16,00	0
Preparation of practical classes and problem	16,00	0
Resolution of case studies	8,00	0
<b>TOTAL</b>	<b>150,00</b>	

## 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

The evaluation of this subject must be considered that consists of two distinct blocks of content, taught by two teachers: "Ethics and Profession" and "Law". The teacher of each block, in both calls (1 st or 2 nd) and both options (A or B), will evaluate 50% of the final grade. The overall grade of the course will be the average of the ratings of the two blocks that comprise it, conditional on obtaining a minimum of 4 points (out of 10) in each of them.

The evaluation of the subject will prevail student involvement in the teaching-learning process, given regular attendance at planned classroom activities, delivery of the exercises and participation in their resolution, supplemented with the realization of an objective test. Under this approach, the final grade for the course in the first call will be obtained according to the following two options:

### OPTION A:

This is the method to be recommended to students. To implement this type of assessment will require the completion of at least 80% of the practical tasks done in class, in each of the two blocks of the contents included in the subject. Only consider the work delivered by the date stipulated by the teacher, both the exercises in the classroom (theory and practical), and laboratory exercises. The evaluation criteria are:





1) Participation and work during the semester (delivery of case studies and work to, and objective tests during the semester): 50% of the final grade. All practical work is carried out during the course of the classes and hence it cannot be recovered.

2) Individual objective test consisting of an examination or knowledge test, which will include both theoretical and practical issues: 50% of the final grade.

The mark in each content block of the subject will be the arithmetic mean of the participation and the work done during the semester and the individual test, as long as a minimum mark of 4 (out of 10) is obtained in each part.

#### OPTION B:

It applies to students who have not complied with the conditions laid down in the previous option. In Option B, the evaluation will be performed by a Individual objective test. The maximum final grade that the student will be able to get, will be 7.0 points out of 10. In addition, to approve any of the contents of the subject blocks will need to get a 5 out of 7.

In **the second call**, alternative B described for the first call will apply. However, in those cases where be more favorable to the student, the grade is calculated in accordance with the provisions of Option A.

The final exam, regardless of the call and its weighting in the final grade, will consist of two distinct parts, one for each of the blocks of the subject ("Ethics and Profession" and "Legislation"). So that each part will be worth 50% of the examination and evaluated independently by each teacher.

Students who do not pass the subject but have obtained a final grade above 5 in any of the blocks of content in 1st call, will keep the grade of that block and will be exempt from its evaluation in the 2nd call.

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)

## REFERENCES

### Basic

- De Lucas, Javier. Curso de introducción al Derecho. Tirant lo Blanch, Valencia 1994.
- Martínez Martínez Ricard. Protección de datos Comentarios al Reglamento de Desarrollo de la LOPD. Tirant lo Blanch, Valencia, 2009.
- Maria del Rosario de Miguel Molina y Juan Oltra Gutierrez. Deontología y Aspectos Legales de la Informática: Cuestiones Éticas, Jurídicas y Técnicas Básicas. Universidad Politécnica de Valencia. Servicio de Publicaciones, 2007  
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### **Additional**

- Latorre, Ángel. Introducción al Derecho. Ariel, Barcelona, 2012.
- Peguera Poch, Miquel. Derecho y nuevas tecnologías. UOC, Barcelona, 2005.
- John Wecker, Douglas Adeney. Ética Informática y de las Ciencias de la Información. Fragua, 1999. ISBN 2910007044977 .