

**COURSE DATA****DATA SUBJECT**

Code: 33863
Name: Information Technology I
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1007 - Degree in Information and Documentation	Facultat de Geografia i Història	1	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1007 - Degree in Information and Documentation	Information technology	BASIC

COORDINATION

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SUMMARY

This course covers the basics of computer science that any graduate student needs to know for the successful development of its academic and professional career. Therefore, it deals with topics such as the fundamentals of Information Technology and Communication (ICT), computer architecture and the general concepts of algorithmic. Furthermore, it introduces the concepts of operating systems and communication networks, along with an advanced training in the use of office suites.

PREVIOUS KNOWLEDGE**RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE**

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

OTHER REQUIREMENTS

No specific

COMPETENCES / LEARNING OUTCOMES



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Be able to adapt to changes in the environment.

Be able to apply critical reasoning to the analysis and assessment of alternatives.

Be able to learn independently.

Be able to undertake improvements and propose innovations.

Be able to work in a team and to integrate into multidisciplinary teams.

Capacity to write analytical reports and summaries with regard to management and organisation of information.

Demonstrate organisational and planning skills.

Have computer skills related to the field of study.

Have decision-making capacity.

Have oral and written communication skills in one's own language.

Have problem-solving skills.

Have skills for information management.

Show creativity.

DESCRIPTION OF CONTENTS

1. Fundamentals of hardware

This part is responsible for the evolutionary study of the use of computers in the information age, the basic architecture of personal computers and peripherals common input / output between the person and the computer.

Subject 1. Introduction to ICT.

- a) Definition, development and ICT applications.
- b) computing: Evolution and functional units.
- c) Basic concepts of hardware, software and communications.

Subject 2. Fundamentals of hardware.

- a) Representation of digital information.
- b) Basic architecture of the personal computer.
- c) Numeral systems and conversion.



Subject 3. Peripheral devices.

- a) Input Devices.
- b) Output devices.
- c) Storage Devices.
- d) Fundamentals of digitalization.

2. Fundamentals of software

This part consists of a review of the most commonly used software applications, such as: operating systems, word processors, spreadsheets, presentations and graphic editing tools.

Subject 4. Fundamentals of algorithmics.

- a) Paradigms. Data structures and operations.
- b) Codification systems.
- c) Security and cryptography.

Subject 5. Operating Systems.

- a) The hardware-software connection.
- b) Definition and functions of operating systems.
 - i) Directory structures.
 - ii) Command-line usage.
- c) Examples of operating systems: Windows, Linux...
- d) Basic utilities: compression, basic edition, ...

Subject 6. Basic office applications.

- a) Office suites.
- b) Word processing tools.
- c) Spreadsheet Tools.
- d) Tols for creating presentations.
- e) Graphic editing tools.

3. Fundamentals of communications

This part corresponds to the study of interconnection networks among computers, the basic anatomy of the Internet and the use of basic services on the World Wide Web (e. g, email, security ...).

Subject 7. Networks and the Internet.

- a) Basic anatomy of computer networks.
- b) Structure and evolution of the Internet.
- c) Web applications:
 - i) Basic architecture of the WWW.
 - ii) Messaging systems, etc.



- iii) Document management systems.
- d) Safety and risks of using computers.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	45,00
Laboratory	15,00
Total hours	60,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	2,00
Individual or group project	20,00
Independent study and work	14,00
Preparation of lessons	30,00
Preparation for assessment activities	20,00
Resolution of case studies	4,00
Total hours	90,00

TEACHING METHODOLOGY

THEORETICAL CLASSES:

Lectures will introduce, every 20/25 minutes, an activity requiring the involvement of the students, so they can: 1) put immediately into practice the contents just being exposed, 2) recover the level of attention needed go on with the next exhibition block.

PREPARATION OF THEORETICAL CLASSES:

Students must prepare in advance the content of theoretical classes, following the planning of the course. To do this, they can use the basic and specific bibliography, as well as the materials that will be eventually provided by the teacher.

PREPARATION OF LABORATORY CLASSES:

To better assimilate the contents introduced in theoretical classes, practical sessions will be carried out. Attendance to practical sessions is mandatory and it will be checked by the teacher. Students who can not attend to these classes, due to working reasons, must contact the teacher as soon as possible. The results of these activities will be presented to the teacher progressively throughout the course.



COMPLETION OF TEAM WORK:

Throughout the course, a set of medium-sized problems will be proposed that must be solved in teams of 3 to 5 people. The evaluation process of group work will take into account both the joint note of the group and each member's individual grade.

TUTOR SESSIONS:

a) Scheduled tutorial support sessions: Occasional tutor sessions will be scheduled in which students will work in small groups on some of the more complex concepts previously presented in the theoretical classes. In these sessions, students will receive a set of activities and problems to be solved with the help of the teacher.

b) Office hours: Teachers will be available a number of hours per week so that students can ask them about concepts or questions arisen while performing individual or team work.

ADDITIONAL ACTIVITIES:

A seminar will take place dealing with additional details about some of the topics already discussed throughout the course. This seminar will last approximately 2 hours.

EVALUATION

Evaluation of the course will follow a scheme of continuous assessment considering the aspects listed below:

1.Exams: There will be one final written exam dealing with theoretical and practical issues. The minimum score that students must achieve to pass the course is 5 points out of 10. The mark obtained in this exam accounts for 50% of the final mark.

2.Lecture preparation: The activities and problems proposed in the context of theoretical classes account for 10% of the final mark. All exercises are compulsory for the student to receive a mark for this subject.



3.Laboratory exercises: Marks obtained in this section are worth 20% of the final mark. All practical projects are compulsory for the student to receive a mark for this subject. To better assimilate the contents introduced in theoretical classes, practical sessions will be carried out. Attendance to practical sessions is mandatory and it will be checked by the teacher.

4.Teamwork: The evaluation of teamwork will consider both the marks of the group and of the individual members. The mark obtained in this section accounts for 20% of the final mark. All teamwork is mandatory for the student to receive a mark for this subject. Of all of them, only the one of "Exams" will be recoverable in second call, being the rest of evaluation activities not recoverable.

This assessment is based on the premise that teaching at the University of Valencia is, by definition, classroom-based teaching. In this sense, students should be aware that attendance at both theory and practical sessions is essential for the proper understanding of the contents. Students must also bear in mind the possibility of part-time enrolments when they are unable to attend all the subjects that make up a complete academic year (60 credits). However, in duly justified circumstances, students may request to be assessed without attending none or some of the lessons. In such cases, the following procedure must be followed:

- At the start of the year, students must inform the course head lecturer(s) of the reason why they are unable to attend class by providing written proof.
- Based on this information, the head lecturer will decide on the possibility of exempting these students from attending all or part of the classes.

Students who are in this situation must necessarily attend laboratories. Laboratories are considered practical work being worth 30% of the final evaluation. The remaining 70% of the evaluation of the course will be the written test, where students will need 5 points out of 10 for their mark to count towards the final evaluation.

REFERENCES

- Introducción a la Informática. George Beekman. Pearson Prentice Hall. 2005.
- Principios de sistemas de información. R.M. Stair, G.W. Reynolds (ed. Thomson).
- Introducción a la computación. Peter Norton. Mc Graw-Hill.
- Cómo funciona la web. Centro de investigación de la Web. Chile. Disponible en: <http://www.ciw.cl/libroWeb-NV.pdf>