COURSE DATA

Data Subject

Code	33863
Name	Information Technology I
Cycle	Grade
ECTS Credits	6.0
Academic year	2019 - 2020

Study (s)

Degree	Center	Acad. year	Period
1007 - Degree in Information and Documentation	Faculty of Geography and History	1	First term

Subject-matter

Degree	Subject-matter	Character
1007 - Degree in Information and Documentation	16 - Information technology	Basic Training

Coordination

Name	Department
CASTRO COMPANY, FRANCISCO	240 - Computer Science

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

VNIVERSITAT Ð̵ VALÈNCIA

Relationship to other subjects of the same degree

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

Other requirements

No specific

OUTCOMES

1007 - Degree in Information and Documentation

- Capacity to write analytical reports and summaries with regard to management and organisation of information.
- Demonstrate organisational and planning skills.
- Have oral and written communication skills in one's own language.
- Have computer skills related to the field of study.
- Have skills for information management.
- Have problem-solving skills.
- Have decision-making capacity.
- Be able to work in a team and to integrate into multidisciplinary teams.
- Be able to apply critical reasoning to the analysis and assessment of alternatives.
- Be able to learn independently.
- Be able to adapt to changes in the environment.
- Be able to undertake improvements and propose innovations.
- Show creativity.

LEARNING OUTCOMES

At the end of this course, students must be able to:

- Describe the basic parts of a computer and how they work together.
- Explain how computers store and manipulate information.
- List several examples of peripherals and explain how they perform input/output operations.
- Explain the relationship between hardware and software.
- Describe the role of current computer operating systems.
- List the general differences between various types of operating systems.
- Create complex documents using word processing applications.
- Describe the basic functions and applications of spreadsheets.
- Create visual presentations of moderate complexity.
- Describe the basic types of technology that enable telecommunications.
- Describe the nature and function of local area and wide area networks.
- Describe the technology that lies at the heart of the Internet.
- Explain the uses and implications of e-mail, instant messaging, teleconferencing and other forms of

on-line communication.
- Describe some of the risks of Internet use and how to minimize them.

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: comprenssion, 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

ACTIVITY	Hours	% To be attended
Theory classes	45,00	100
Laboratory practices	15,00	100
Attendance at events and external activities	2,00	0
Development of group work	20,00	0
Study and independent work	10,00	0
Readings supplementary material	4,00	0
Preparation of evaluation activities	20,00	0
Preparing lectures	15,00	0
Preparation of practical classes and problem	15,00	0
Resolution of case studies	4,00	0
TOTAL	150,00	

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.

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

Basic

- Introducción a la Informática. George Beekman. Pearson Prentice Hall. 2005.

Additional

- 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

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

English version is not available