
	PROCESO PARA EL DESARROLLO DE LAS ENSEÑANZAS DE LA ESCUELA DE INGENIERÍAS AGRARIAS		 Escuela de Ingenierías Agrarias
		CÓDIGO: P/CL009_D002	

SUBJECT PROGRAMME COMPUTER SCIENCE

Academic course: 2017-2018

Identification and characteristics of the subject					
Code	501124			Créditos ECTS	6
Denomination (Spanish)	Informática				
Denomination	Computer Science				
Degree	Fruit, Vegetable and Gardening Engineering				
Center	Agricultural Engineering School				
Semester	First (1 st)	Character	Compulsory		
Module	Basic Formation				
Materia	Computer Science				
Professor/s					
Name	Room	e-mail	Web link		
Indhira Garcés Botacio	D113 Building Alfonso XIII	indhira@unex.es	http://campusvirtual.unex.es		
Valentín Masero Vargas	D113 Building Alfonso XIII	vmasero@unex.es	http://campusvirtual.unex.es		
Field of knowledge	Software and Information Systems				
Department	Computer Science				
Coordinator (in case there is more than one professor)	Indhira Garcés Botacio				
Lessons and contents					
Short description of the content					
<p>Basic concepts about the use and programming of computers, operating systems, databases and computer programs with application in engineering.</p>					
Syllabus (Big Group activities)					

THEORETICAL PART

Topic 1: Introduction to Computing

Contents of topic 1:

- Introduction.
 - History of Computing.
 - Computer applications.
 - Representation of the information on the computer.
- Functional structure of a computer:
 - Memory.
 - Processor.
 - Input / Output Units (peripherals).
 - Disk drives.
- Software:
 - Definition.
 - Historical evolution.
 - Software feature.
 - Types of software.
 - Software with application in engineering

Developed Skills: CEB3, CT1

Learning Results: RA17, RA18

Topic 2: Operating Systems.

Contents of topic 2:

- Introduction.
- History of operating systems.
- Functions of an operating system.
- Structure of an Operating System.
- User interface.
- Different Operating Systems

Developed Skills: CEB3, CT1

Learning Results: RA17, RA18



Topic 3: Information and Communication Technologies.

Contents of topic 3:

- What are Information and Communication Technologies (ICT)
- Introduction to information resources: WWW, email, distribution lists, newsgroups, telephony via Internet, etc.
- How to search for information on the Internet: thematic indexes, search engines and metasearch engines, catalogs of libraries and documentary databases.
- Introduction to digital imaging

Developed Skills: CEB3, CT1

Learning Results: RA17, RA18

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Topic 4: Databases

Contents of topic 4:

- Introduction to databases
- Entity-relationship model
- The relational model
- Design and creation of the Database

Developed Skills: CEB3, CT1

Learning Results: RA19, RA20

Topic 5: Introduction to Programming.

Contents of topic 5:

- Types of Data and Expressions.
- Algorithm representation technique.
- Programming Structures
- Solved Exercises
- Proposed Exercises

Developed Skills: CEB3, CT1

Learning Results: RA19

PRACTICAL SYLLABUS

Practical lesson 1. Advanced text editing

Practical lesson content: OS. Word Processors. Advanced text editing.

Type and place: Computer classroom (A-77)

Developed skills: CB2, CB3, CB4, CT1, CEB3

Learning results: RA17, RA18

Practical lesson 2. Search of information and electronic resources.

Practical lesson content: Search for information on the internet and analysis of electronic resources.

Type and place: Computer classroom (A-77)

Developed skills: CB2, CB3, CB4, CT1, CEB3

Learning results: RA17, RA18

Practical lesson 3. Advanced use of spreadsheets.

Practical lesson contents: Tools for calculation, statistics, graphics, etc. Spreadsheets.

Type and place: Computer classroom (A-77)

Developed skills: CB2, CB3, CB4, CT1, CEB3

Learning results: RA17, RA18

Practical lesson 4. Databases

Practical lesson contents: This practice will consist of two sessions where a Database in ACCESS will be implemented.

Type and place: Computer classroom (A-77)

Developed skills: CB1, CB2, CB3, CB4, CB5, CEB3, CT1

Learning results: RA19, RA20



Practical lesson 5. Programming

Practical lesson contents: In this session the programming codes practiced in classes will be implemented using a programming language.

Type and place: Computer classroom (A-77)

Developed skills: CB1, CB2, CB3, CB4, CB5, CEB3, CT1

Learning results: RA19

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Evaluation procedure

Students can choose between the Continuous Assessment System (CAS) (by default) or an Alternative Final Test of Global Character (AFTGC).

In the event that students cannot attend classes or prefer the Alternative Final Test of Global Character (AFTGC), they must communicate it to the teachers of the subject explicitly and in writing during the first three weeks of the semester from the start date of the school term. If a student does not make this communication, it will be understood that he chooses the continuous assessment system (CAS). Once the type of evaluation has been chosen, the student will not be able to change the evaluation system.

*** Continuous Assessment System (CAS):**

For students who choose the Continuous Assessment System (CAS), the calculation of the final grade of the subject (Final Grade) will be done as follows:

$$\text{FinalGrade} = \text{TheoreticalGrade} * 0.8 + \text{PracticalGrade} * 0.2$$



Attendance to computer practices is mandatory.

*** Alternative Final Test of Global Character (AFTGC):**

For students who choose the Alternative Final Test of Global Character (AFTGC), the calculation of the final grade of the subject (Final Grade) will be done as follows:

$$\text{FinalGrade} = \text{TheoreticalGrade} * 0.8 + \text{PracticalGrade} * 0.2$$

Students who have chosen the evaluation system through the AFTGC will be able to deliver the computer practices through the virtual campus, in the same dates as the students who have chosen CAS evaluation. Therefore, attendance to the practical sessions will not be taken into account.

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Bibliography and web sites

Theory:

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- [Per14] Juan Diego Pérez Villa. Introducción a la Informática. Edit. Anaya Multimedia. 2014
- [Nor06] Peter Norton. Introducción a la Computación. Edit. McGrawHill. 2006.
- [Mig04] Pedro de Miguel Anasagasti. Fundamentos de los Computadores, 9ª Edic., Edit. Paraninfo, 2004.
- [Sou16] Saravanan SoundraPandian, Ayyoob K. C. Computer Applications in Agriculture. Ed. Lambert Academic Publishing, 2016.
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<http://www.alice.cnptia.embrapa.br/handle/doc/1012319>
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<http://www.ictinagriculture.org/content/ict-agriculture-sourcebook>
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- [Ste09] Diseño De Base De Datos. Rod Stephens , Anaya Multimedia, 2009
- [Ore12] O´Reilly, T, Milstein, S. Twitter, Anaya Multimedia, 2012

Practices:

- [Ame08] VBA ACCESS 2007: PROGRAMAR EN ACCESS. Michel Amelot. Editorial ENI, 2008.
- [Per09] Domine Access 2007. César Pérez López. Editorial Ra-Ma, 2009
- [Val07] Excel 2007. Manual imprescindible. Claudia Valdés-Miranda Cros y Zoe Plasencia López, Editorial Anaya, 2007.
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