

Academic Year: (2020 / 2021)

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Department assigned to the subject:

Coordinating teacher: IGLESIAS MARTINEZ, JOSE ANTONIO

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 1

OBJECTIVES

Subject related competencies:

CB6. Knowledge and understanding of opportunities in the development and/or application of ideas, often in a research context.

CG4. Ability to mathematical model, calculate and simulate in technology centres and business engineering, especially in in research, development and innovation in all the areas related to Computer Science and related multidisciplinary fields.

CG8. Ability to apply the knowledge obtained and solve problems in new or little-known environments in broader and multidisciplinary contexts, with the ability to integrate knowledge.

CG11. Ability to communicate (orally and in writing) some conclusions - and the knowledge and reasons behind - to specialized and non-specialized audiences in a clear and unambiguous way.

CE1. Ability to integrate general technologies, applications, services and systems of Computer Science into broader and multidisciplinary contexts.

CE12. Ability to apply mathematical, statistical and artificial intelligence methods to model, design and develop applications, intelligent and knowledge-based systems.

Learning results:

RA12 Critical awareness of the vanguard knowledge of his specialty.

RA52. Comprehensive knowledge of applicable methods and techniques and their limitations

RA23. Ability to use their knowledge and understanding in order to conceive models, systems and engineering processes.

RA43 The ability to critically analyse the data and reach conclusions

RA31. Ability to use their knowledge and understanding in order to provide solutions to be applied in problems using knowledge beyond those of the discipline.

RA61. Demonstrate the generic competences of Bachelor's graduates at the higher-level characteristic of the master's graduates.

DESCRIPTION OF CONTENTS: PROGRAMME

1. An Overview of Business Intelligence, Analytics, and Decision Support.
2. Foundations and Technologies for Decision Making.
3. Business Reporting, Visual Analytics, and Business Performance Management.
4. Data Mining.
5. Text Analytics, Text Mining, and Sentiment Analysis.
6. Web Analytics, Web Mining, and Social Analytics.
7. Automated Decision Systems and Expert Systems.

LEARNING ACTIVITIES AND METHODOLOGY

- Lectures (Theory): The aim is to teach the specific competences of the subject. The main knowledge that the students must acquire will be presented. In order to help to achieve this aim, the students will be given the corresponding class notes and reference texts that will help them to deal with the topic in which they are more interested in depth. The general aspects to create support decision computational systems will be a very relevant issue.

- Seminars: In these sessions, the students will solve, with teacher's support, practical problems related to the use of decision support systems in the organizations.
- Practice: The practice in this subject will be done in group and its aim is to design and create a decision support system.
- Keynote speaker: An invited speaker will talk about some aspects of the subject.
- Personal work: This activity is related to the development of different abilities such as auto organization and pacification of the individual work and the learning process.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	20
% of continuous assessment (assignments, laboratory, practicals...):	80

The purpose of the evaluation is to know how the student achieves the learning process objectives. For this reason, both the individuals and groups work will be assessed using the evaluation activities such as exercises and exams, practical essays and other academic activities described above.

The continuous evaluation grade of the students will consider the following 3 works:

- 1) Seminars: Each student will present a seminar (10%).
- 2) Practical essays: The students will work in group for 2 continuous practical essays (12%*2) and a final practical essay (16%).
- 3) Continuous evaluation exams: Each student will take 2 continuous evaluation exams (25%).

It will be done a formative and continual evaluation which allows the student to know what s/he must know and his/her aims.

Taking this continuous evaluation into account, the final mark will be calculated as follows: The activities done during the course will be the 75% of the final mark, and the final exam will be the remaining 25%. More than 4 points in the final exam will be required to sum continuous assessment.

In the extraordinary evaluation, the final mark will be calculated based on the following rules:

- a. If the student has participated in the continuous evaluation process, the continuous mark will be considered in the final mark. In this case, the final mark will be calculated by using the same percentage (of the continuous mark and final extraordinary exam mark) than in the ordinary evaluation. However, the mark assigned to the continuous evaluation will be taken into account only if it improves the final mark.
- b. If the student has not participated in the continuous evaluation process, s/he will be able to take an exam and the final mark will be the 100% of the calculation of this exam. However, if it is possible taking into account the continuous evaluation exercises, the teacher could let the student submit the corresponding (continuous) exercises. In this case, the final mark will be obtained in the same way than the ordinary evaluation.

BASIC BIBLIOGRAPHY

- Daniel J. Power Decision Support Systems. Concepts and Resources for Managers, Quorum Books, 2002
- Efraim Turban, Jay E. Aronson, Ting-Peng Liang, Ramesh Sharda Decision Support and Business Intelligence Systems (eighth edition), Pearson Prentice Hall, 2006
- Efraim Turban, Ramesh Sharda, Dursun Delen Decision Support and Business Intelligence Systems (Ninth Edition), Pearson, 2011
- Efraim Turban, Ramesh Sharda, Dursun Delen Business Intelligence and Analytics: Systems for Decision Support, Pearson, 2014
- Elizabeth Vitt, Michael Luckevich, Stacia Misnes Business Intelligence. Técnicas de análisis para la toma de decisiones estratégicas, McGraw Hill, 2003

- Elizabeth Vitt, Michael Luckevich, Stacia Misnes Business Intelligence. Técnicas de análisis para la toma de decisiones estratégicas, McGraw Hill, 2003

ADDITIONAL BIBLIOGRAPHY

- Kenneth N. Berk, Patrick Carey Análisis de datos con Microsoft Excel, Thompson Learning.
- Wayne L. Winston Microsoft Excel. Data Analysis and Business Modeling, Microsoft.