Universidad Zaragoza

Academic Year/course: 2022/23

27456 - E-Government and Public Decisions

Syllabus Information

Academic Year: 2022/23
Subject: 27456 - E-Government and Public Decisions
Faculty / School: 109 - Facultad de Economía y Empresa
Degree: 417 - Degree in Economics
ECTS: 3.0
Year: 4
Semester: Second semester
Subject Type: Optional
Module:

1. General information

1.1. Aims of the course

The course is oriented to Decision Aid and contributes, according to evolutionary paradigms, to three key aspects of student training (3Ps): (i) helps to make a decision (product); (ii) it helps to better understand the decision-making process (process) and, fundamentally, (iii) it helps the comprehensive training of individuals (people), and also the improvement of the systems in which they are immersed, providing them with a series of aptitudes, attitudes and skills to tackle the scientific resolution of any problem, even if it does not arise in the economic context.

Due to its location in the last year of the degree, it has a professional contribution. It presents different applications in the context of the electronic government of society (new models of democracy and citizen participation in public decisions), of the methods, models and techniques most used in the scientific resolution of economic problems and applies the computer systems used to help to the decision. In short, it seeks to provide scientific rigor at all stages of the decision-making process followed in the design of public policies.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the 2030 agenda of the United Nations, in such a way that the acquisition of the learning outcomes of the subject provides training and competence to contribute to some extent to its achievement; specifically for SDG 1: reduce poverty, SDG 4: inclusive and equitable education; SDG 8: promote economic development; SDG 9: foster innovation; SDG 11: sustainable communities; SDG 12: sustainable production; SDG 17: revitalize the global partnership for sustainable development

1.2. Context and importance of this course in the degree

Due to its location (4^{th} year) and content, the orientation given to the subject is eminently practical. Its teaching, which combines the formative with the informative and the rational with the emotional, will take place in the computer room, with each student having their own equipment. The memory and calculation effort will be avoided, promoting teamwork, creativity, the use of the computer and the application of the techniques developed in class to real situations.

The subject Electronic Government and Public Decision Making allows, through the application of new decision-making tools and the use of information and communication technologies (ICTs), co-decision and co-creation (citizens and representatives) in the scientific resolution of the problems posed in the New Public Administration and the New Public Governance.

1.3. Recommendations to take this course

This course, focused on the scientific resolution of complex problems posed in the economic field, has an eminently participatory and practical orientation, without any memory requirement. In it, it is intended to apply different decision-making tools (analytical and computer) to the scientific resolution of a case / problem as real as possible (raised in the field of public decisions), selected by the student. No special knowledge is required apart from that acquired throughout the career, and for its best use it would be convenient, although not essential, to have taken the subject of the first semester Computer Systems for Decision Support.

2. Learning goals

2.1. Competences

Specific competences:

E14. Identify the sources of relevant economic information and exploit its content to intervene in economic reality.

E16. Derive from the data relevant economic information.

E17. Use deductive reasoning in conjunction with models to explain economic phenomena.

E18. Formally represent the economic decision processes.

E19. Use information and communication technologies in their professional performance.

Generic competences

G1. Capacity for analysis and synthesis.

G2. Capacity to solve problems. G3. Autonomous reasoning ability.

G5. Ability to apply economic reasoning to decision making.

G6. Mastery of computer tools and statistical and mathematical language.

2.2. Learning goals

The student, to pass this subject, must demonstrate the following results ...

- Know the different scientific approaches followed throughout history to address the scientific resolution of economic. problems.

- Know what are the new challenges and needs posed by scientific decision-making in what is known as the knowledge society.

- Manage traditional decision-making tools with a cognitive orientation in accordance with the holistic vision of reality.

- Be aware of new scientific approaches (multicriteria) followed in solving complex problems characterized by the existence of multiple scenarios, actors and criteria (both tangible and intangible).

- Be able to integrate in decision-making processes the objective, rational and tangible associated with traditional science with the subjective, emotional and intangible associated with the human factor.

- In short, you must be able to endow with scientific rigor the resolution of any type of decisional problem.

2.3. Importance of learning goals

The cognitive orientation given to the exploitation of the mathematical models used in the subject contributes, as already mentioned, in the 3Ps (Product, Process and Person), that is, it helps to: (i) make a timely decision; (ii) better understand the decision-making processes and (iii) train people in one of the key aspects of them in the knowledge society: decision-making. This training is not limited to skills (methods, models, and techniques) but focuses on attitudes (skills, habits, and qualities) when addressing public decision-making in complex situations. Training in this type of intangible and emotional aspects is key from the professional and human point of view, the latter aspect essential in the knowledge society.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that they have achieved the expected learning outcomes through the following assessment activities:

- Global assessment, in both calls, consisting of the presentation and defense of an individual practical work, as real as possible, in which the theoretical knowledge and computer tools seen in class are applied to the resolution of a problem raised in the context of public decisions associated with the electronic government of society. The work will be selected by the students. To take advantage of the synergies of teamwork, individual work will be favored as part of a larger ?group work?.

- To pass the course it will be necessary to obtain 50 or more points out of the 100 contemplated for the test. The evaluation criteria will take into account the following sections: (i) Topicality and relevance of the selected topic (up to 15 points); (ii) Modeling (up to 15 points); (iii) Resolution (up to 15 points); (iv) Use of computer tools (up to 15 points); (v) Exploitation and Learning (up to 20 points) and (vi) Formal aspects and defense (up to 20 formal).
- Those students who do not present the individual practical work and want to take the global assessment will have an exam in which they will be presented with a fictitious situation (case) that they must model (up to 40 points) and solve using the computer tools seen in class (up to 60 points). To pass the course it will be necessary to obtain 50 or more points.

Valuation criteria:

To pass the course, you must obtain at least a grade of 5 out of 10 (or 50 out of 100).

These tests are expected to be carried out in person but if the health circumstances require it, they will be carried out in a semipresential or online manner. In the case of online assessment, it is important to highlight that, in any test, the student may be recorded, and may exercise their rights through the procedure indicated in https://protecciondatos.unizar.es/sites/protecciondatos.unizar.es/files/users/lopd/gdocencia_reducida.pdf?

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The necessary software will be used to check the originality of the activities carried out.
The detection of plagiarism or copying in an activity will imply the rating of 0 points in it
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4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

As the subject has an eminently practical orientation, the presentation of the contents of the subject will take place in the computer room with a professional orientation. In parallel, the exploitation for cognitive purposes of the decisional tools seen in class will be carried out in an expository way using unstructured procedures (lateral thinking, group discussion ...) to enhance creativity and emotional skills. As far as possible, an effort will be made to group individual works to be carried out in a context of multiple actors, to train in group decision-making (co-decision and co-creation).

4.2. Learning tasks

Apart from the regulated presentations carried out in the computer room (decisional tools), the student's training will be complemented by conferences and seminars that will be organized in parallel and communicated at the time. Likewise, a collaborative tool will be enabled for the discussion and debate of the most current or relevant economic-business problems.

The teaching methodology is planned to be face-to-face. However, if necessary for health reasons, the face-to-face classes may be taught online.

4.3. Syllabus

Chapter 1: Foundations of decision making

- 1.1 Presentation (objectives, programme and assessment)
- 1.2 Decision making problems, Processes and models.
- 1.3 Basic concepts. Structured and non-structured techniques.

Chapter 2: Uni-criterion models and techniques

- 2.1 Mathematical programming models.
- 2.2 Linear optimisation.
- 2.3 Software y applications.

Chapter 3: Statistical analysis of decisions

- 3.1 Introduction. Deterministic and stochastic criteria.
- 3.2 Sample information.
- 3.3 Software and applications.

Chapter 4: Multicriteria decision making. Multi-objective programming

- 4.1 Continuous Multicriteria decision making. Pareto optimal solutions.
- 4.2 Compromise programming and goal programming.
- 4.3 Software and applications.

Chapter 5: Multicriteria decision making. Multi-attribute programming

- 5.1 Dsicrete multicriteria decision Making. MAUT and outranking methods
- 5.2 Analytic hierarchy process (AHP) and analytic network process (ANP).
- 5.3 Software and applications.

Chapter 6: Electronic government. E-Administration

- 6.1 Basic concepts. ICT and public administration.
- 6.2 Public administration in the knowledge society.
- 6.3 Transparency, participation and control.

Chapter 7: Electronic government. E-Governance

- 7.1 Democracy models.
- 7.2 From e-democracy to e-cognocracy.
- 7.3 Design and evaluation of public policies.

Chapter 8: Electronic Government. Social networks

- 8.1 Analysis techniques of social networks.
- 8.2 Data sources.
- 8.3 Case study.

4.4. Course planning and calendar

Calendar:

Week 1: Foundations of decision-making [2 hours]

Week 2: Uni-criterion models and techniques [4 hours]

Week 3: Statistical analysis of decisions [2 hours]

Week 4: Multi-criteria decision making. Multiobjective programming [2 hours]

Weeks 5 to 7: Multi-criteria decision making.. Multi-attribute programming [6 hours]

Weeks 8 and 9: Electronic government. E-Administration and e-Governance [4 hours]

Weeks 10 and 11: Electronic government. Social Networks [4 hours]

Weeks 12 and 13: Practical work [4 hours]

The activities and key dates are communicated through the appropriate means at the beginning of the academic period of the subject. The dates of the final exams can be found on the website of the Faculty of Economics and Business.