

**COURSE DATA****Data Subject**

Code	33860
Name	Introduction to the Statistical Analysis and Processing of Data
Cycle	Grade
ECTS Credits	6.0
Academic year	2016 - 2017

Study (s)

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

Subject-matter

Degree	Subject-matter	Character
1007 - Degree in Information and Documentation	13 - Statistics	Basic Training

Coordination

Name	Department
LEON MENDOZA, MARIA TERESA	130 - Statistics and Operational Research

SUMMARY

Statistical data analysis is a basic tool for its practical application on different areas of education and research in Information and Documentation, such as the assessment and management of the resources, processes and services of information units; the development of studies on the community of users, with particular attention to gender studies; or the quantitative analysis of the scientific and documentary production in general. Moreover, statistics is a basic analytical tool for problem-solving and decision-making in any organisation or system. The aim is to provide the tools and basic concepts of statistics that are needed to formulate hypotheses, recognise simple probabilistic models, analyse data sets and make decisions based on statistical techniques.



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 hay

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 computer skills related to the field of study.
- Have skills for information management.
- Have problem-solving skills.
- Have decision-making capacity.
- Be able to apply critical reasoning to the analysis and assessment of alternatives.
- Be able to undertake improvements and propose innovations.

LEARNING OUTCOMES

Be familiar with the variability that is intrinsic to the data obtained in any type of study and with the problems that this may cause for drawing conclusions from research.

Model simple random experiments by identifying the appropriate probability model.

Handle techniques related with statistical inference, such as estimation and testing of hypotheses, which will be used in the statistical analysis of experiments.

Analyse the applicability conditions and limitations of the most common statistical methods. Know how to use statistical software to work with databases. Interpret graphs and tables obtained with statistical software.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Computer classroom practice	30,00	100
Study and independent work	27,00	0
Preparation of evaluation activities	3,00	0
Preparing lectures	15,00	0
Preparation of practical classes and problem	45,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

All documents to be used both in the theoretical and practical sessions will be available on the Virtual Classroom environment in pdf (portable document format).

Classes: During the lectures real problems will be presented, the resolution of which will require applying the methodology specific for each unit. Then the appropriate statistical technique will be introduced and applied to problem-solving. The practical sessions – held in the computer lab and synchronised with the theory lessons – will enable students to apply these procedures to solving problems. These practical exercises must be submitted at the end of each session for assessment. Each student will be provided with a dossier in which the content of each practice is described and also includes some questions to be solved.

PREPARATION OF THEORETICAL CLASSES: For the preparation of the course, students have a collection of problems, classified by subjects, which they will have to solve on their own.

PREPARATION OF PRACTICAL WORK: Students must attend every practical session having previously read the corresponding dossier and having reviewed the related theoretical content.

EVALUATION

Written test: Given the practical focus of the course, it is impossible to think of evaluating theory and practice separately, so assessment will consist of a theoretical and practical test whose resolution will require the interpretation of different results presented in the standard format of the statistical software used.



Student must obtain a mark greater than or equal to 5 (out of 10) for this mark to count towards the final mark.

Individual work: It will involve solving the problems proposed both in the theory and the practical classes.

In summary

• TEST: 50% • Individual work: 50% • TOTAL: 100%

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 (except in the case of first-year students) 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.

To be assessed, students who are in this situation must submit all the assignments required by the lecturer (not necessarily identical to those required during the course). Also, they may be asked to defend their assignments orally in front of the lecturer, and they will have to pass a theory test. Assignments will be worth 50% of the final mark and the test will be worth the remaining 50%.

REFERENCES

Basic

- Egghe, L. y Rousseau, R. (1990). Introduction to Informetrics: quantitative methods in library, documentation and information science. Elsevier



- Glenberg, A. M. y Andrzejewski, M. E. (2008). Learning from data. An introduction to statistical reasoning. Lawrence Erlbaum Associates, 3ª Edición
- Marín, J. (2008). Estadística Aplicada a las Ciencias de la Documentación. Diego Marín Librero-Editor, 3ª Edición
- Peña, D. y Romo, J. (1997) Introducción a la Estadística para las Ciencias Sociales. McGraw-Hill.

Additional

- King, B.M. y Minium, E. W. (2008) Statistical reasoning in the Behavioral Sciences. John Wiley & Sons, 5ª Edición.
- Milton, J. S. (2001). Estadística para Biología y Ciencias de la Salud. Madrid: Ed. Interamericana - McGraw-Hill. 3ª Edición
- Samuels, M.L., Witmer, J.A. y Schaffner (2012) Fundamentos de Estadística para las ciencias de la vida. Pearson Educación SA. 4ª Edición