DEGREE CURRICULUM

QUANTITATIVE TECHNIQUES AND METHODS

Coordination: FRAILE PEREZ DE MENDIGUREN, PEDRO

Academic year 2021-22

QUANTITATIVE TECHNIQUES AND METHODS 2021-22

Subject's general information

<table>
<tr><td>Subject name</td><td>QUANTITATIVE TECHNIQUES AND METHODS</td></tr>
<tr><td>Code</td><td>101158</td></tr>
<tr><td>Semester</td><td>1st Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Bachelor's Degree in Geography</td><td>2</td><td>COMMON</td><td>Attendance-based</td></tr>
</table>
</td></tr>
<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><th>PRALAB</th><th>PRAULA</th><th>TEORIA</th></tr>
<tr><td>Number of credits</td><td>1</td><td>1</td><td>4</td></tr>
<tr><td>Number of groups</td><td>1</td><td>1</td><td>1</td></tr>
</table>
</td></tr>
<tr><td>Coordination</td><td>FRAILE PEREZ DE MENDIGUREN, PEDRO</td></tr>
<tr><td>Department</td><td>GEOGRAPHY AND SOCIOLOGY</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>60 contact hours (in the classroom or virtual) 90 hours of autonomous student work</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
</table>

QUANTITATIVE TECHNIQUES AND METHODS 2021-22

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
FRAILE PEREZ DE MENDIGUREN, PEDRO	pedro.fraile@udl.cat	6	

Subject's extra information

See later sections.

Tutoring hours will be established to address individual problems in the monitoring of the subject

Learning objectives

O1. Understand the meaning of different types of variables and frequencies

O2. Understand the meaning and calculation of position measures

O3. Understand the meaning and calculation of dispersion and shape measurements

O4. Understand and manage time series O5. Understand and calculate regression lines, and measure their quality

O6. Management of index numbers and sampling

The learning outcomes should be as follows:

Mastery of the basic tools of descriptive statistics

Use of statistical sources: Catalan, Spanish, European, world

Ability to start a survey from start to finish

Use of some general graphic expression program (not cartographic)

Competences

CB2 Apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

CB3 Ability to gather and interpret relevant data (normally within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues

CB4 To be able to transmit information, ideas, problems and solutions to a specialized and non-specialized public)

CB5 Know how to develop those learning skills necessary to undertake further studies with a high degree of autonomy

CE1 Manage and use the methods and techniques of analysis and interpretation of statistical sources

CE2 Acquire the vocabulary and professional tools of the geographer and the planning of the territory

CE5 Acquire the habits of search, analysis, synthesis and exposure of geographic information (writing reports)

CE10 Acquire the skills of quantitative methodologies

CE12 Learn the use of GIS software in its different functions: data entry, editing and management, spatial queries and analysis
CT3 Acquire training in the use of new technologies and information and communication technologies

Ability to apply statistical techniques to the resolution of geographical problems and, in genral proper to the CCSS

Subject contents

1. Changes in Geography and CCSS and statistics.

1.1. CCSS and quantitative methods.

1.2. Applications of statistics to Geography. Descriptive statistics.

2. The basics

2.1. Types of variables

2.2. Frequencies. Its meaning

3. Position measurements

3.1. Measures of central position

3.2 Non-central position measurements

4. Measures of dispersion and shape

4.1. Measures of dispersion.

4.2. Coefficients of asymmetry.

4.3 Concentration curve.

5. Time series

6. Regression lines

6.1. Method of least squares

6.2. Measures of the quality of the regression.

7. Indices and weights. Sampling

Methodology

The exposition of theory and the resolution of problems will be combined in a continuous way

Development plan

1. Changes in Geography and CCSS and statistics. (3 hours)

2. The basics (7 hours)

3. Position measurements (10 hours)

4. Measures of dispersion and shape (10 hours)

5. Time series (10 hours)

6. Regression lines (10 hours)

7. Indices and weights. Sampling (10 hours)

Four Wednesdays will be dedicated to the exclusive realization of problems, two to the resolution of doubts and another two to the realization of computable exercises for the evaluation.

Evaluation

Exam 40%

Class participation 10%

Student portfolio (problems solved during the course) 25%

Problem solving in class 25%

It is necessary to have, at least, a 4 in the exam so that the other components of the final grade are assesse

Students who combine their degree with a full time job have the right to ask for alternative assessment within 5 days after the beginning of the semester. For information, please send an e-mail to academic@lletres.udl.cat or ask for information at the Faculty's office(Secretaria de la Facultat de Lletres).

It is necessary to have, at least, a 4 in the exam so that the other components of the final grade are assessed

For continuous evaluation, attendance is compulsory. With an attendance of less than 80% (not justified) there will be the option of the final exam.

Bibliography

Grupo Chadule: *Iniciación a los métodos estadísticos en Geografía*. Barcelona: Ariel, 1980.

Juan Verdoy, P.: Introducción a la estadística y probabilidad, Valencia: Tilde, 2008

Martín Guzmán, P. (et al): *Manual de estadística descriptiva*. Navarra: Aranzadi, 2006

Serrano Lara, J. J. *Ejercicios de estadística para geógrafos*, Valenca: Tirant Humanidades, 2020