Statistics II

Academic Year: (2018 / 2019) **Review date: 10-04-2018**

Department assigned to the subject: Statistics Department

Coordinating teacher: JIMENEZ RECAREDO, RAUL JOSE

Type: Electives ECTS Credits : 6.0

Year : Semester :

Branch of knowledge: Social Sciences and Law

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Statistics (13215)

OBJECTIVES

Specific competences:
1. Understand the different approaches to statistical sampling.
2. Be able to define populations that will be studied statistically.
3. Understand how to identify and model the characteristics of a time series.
4. Use of statistical software.

Transversal competences:
1. Capacity of analysis and synthesis
2. Understanding of computing
3. Problem solving
4. Teamwork
5. Critical reasoning
6. Verbal and written communication

DESCRIPTION OF CONTENTS: PROGRAMME

1. INTRODUCTION:
   a) Time series related to politics: inflation, unemployment, IPC.
   b) Sampling: how to study public opinion.

2. SUMMARY OF THE BASIC CONCEPTS OF PROBABILITY AND STATISTICS

3. TIME SERIES.
   a) Introduction. Time series and time series graphs.
   b) Decompostion of a time series:
      i) trend,
      ii) seasonal variation,
      iii) cyclical variation,
      iv) residual variation.
   c) Application.
   d) Index numbers and the IPC.

4. SAMPLING.
   a) Sample and population.
   b) Types of sample:
      i) Simple random sampling.
      ii) Systematic sampling.
      iii) Stratified sampling.
      iv) Cluster sampling.
      v) Multistage sampling.

LEARNING ACTIVITIES AND METHODOLOGY

Theory (4ECTS). Lectures on the blackboard or based on slides and material available on the web
Exercises (2ECTS) Sessions of problem solving. Use of computing resources. Debates. Working in team

ASSESSMENT SYSTEM

Continuous evaluation. Exercises (10%). Tests (30%). Group project with presentation (20%)

Final exam. 40% of the final grade.

% end-of-term-examination:	40
% of continuous assessment (assigments, laboratory, practicals…):	60

BASIC BIBLIOGRAPHY

- Lawrence, K., Klimberg, R. and Lawrence, S. Fundamentals of Forecasting Using Excel, Industrial Press.

- Scheaffer, Richard L. et al Elementary Survey Sampling, Duxbury, 2006