

Statistical crime analysis

Academic Year: (2023 / 2024)

Review date: 11-04-2023

Department assigned to the subject: Statistics Department

Coordinating teacher: WIPER , MICHAEL PETER

Type: Compulsory ECTS Credits : 6.0

Year : 3 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

None

OBJECTIVES

- Know the basic rules of probability
- Manage the most important probability distributions
- Synthesize statistical information in tabular, numerical and graphical form
- Obtain the distribution in the sampling of estimators in normal populations, raise hypothesis contrasts and construct the corresponding confidence intervals
- To propose and validate the linear regression model as a model of relationship between variables
- To practice in the computer the construction of models, contrasts and confidence intervals
- Apply these procedures to the treatment of statistical problems in security management and criminology

DESCRIPTION OF CONTENTS: PROGRAMME

- Content leading to the acquisition of knowledge in:
 - Introduction to probability and statistics: concept of probability and basic rules, distributions, descriptive statistics for one and several variables
 - Introduction to statistical inference: confidence intervals and hypothesis contrasts for mean and variance; Comparisons of means between two populations
 - Relations between variables: introduction to linear models, estimation of model parameters and inference about these parameters
 - Applications to security management and criminology

LEARNING ACTIVITIES AND METHODOLOGY

- Lecture classes for the presentation of fundamental concepts,
- Practical classes in computer labs,
- Tutorials in groups and individual

ASSESSMENT SYSTEM

Exercises, intermediate tests, mini-project using statistical analysis of data, final exam

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

BASIC BIBLIOGRAPHY

- J.M. Gau Statistics for Criminology and Criminal Justice, SAGE Publications, 2015
- R.D. Bachman & R. Paternoster Statistics for Criminology and Criminal Justice, SAGE Publications, 2016

ADDITIONAL BIBLIOGRAPHY

- D. Rowntree Statistics Without Tears, Penguin, 2018

BASIC ELECTRONIC RESOURCES

- M.P. Wiper . Teaching web page: <http://halweb.uc3m.es/esp/Personal/personas/mwiper/eng/docencia.html>

