# uc3m Universidad Carlos III de Madrid

## Advanced research methods in political science

Academic Year: (2019 / 2020) Review date: 30-04-2020

Department assigned to the subject: Social Sciences Department Coordinating teacher: TORRE FERNANDEZ, MARGARITA

Type: Compulsory ECTS Credits: 6.0

Year: 4 Semester:

Branch of knowledge: Social Sciences and Law

# REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Basic knowledge of statistics

### **OBJECTIVES**

At the end of the course, students must be proficient in the following tasks:

- 1) operationalization of research hypotheses
- 2) handling and preparation of data
- 3) use of the main quantitative techniques in social research:
- a. Selecting the most appropriate technique for each type of research question and data
- b. Data Analysis
- c. Interpretation of the analyses
- 4) a working knowledge of Stata/R and basic programming skills

#### DESCRIPTION OF CONTENTS: PROGRAMME

Quantitative research techniques are a key element in the training of future professionals. This course delves into the learning of quantitative social research techniques from an applied perspective. All topics will be approached in a theoretical/practical way, using the statistical package Stata/R

The course is structured as follows:

- 1. Introduction to quantitative social research
- 2. Descriptive Analysis
- Bivariate analysis
- Multivariate Analysis:
- a. Linear Regression
- b. Logistic Regression
- Visualización and reporting

## LEARNING ACTIVITIES AND METHODOLOGY

Master Classes (3 ECTS credits):

Lecture on the theoretical content of the subject.

Reduce Classes (3 ECTS credits):

Practical classes in the computer room using Stata/R.

## ASSESSMENT SYSTEM

Exercises conducted and evaluated in class, participation in debates and other activities.

Percent of continuous assessment (assignments, labs, etc.): 40%.

Final exam: includes both theory and practice content.

Percent of end-of-term examination: 60%.

% end-of-term-examination: 60

% of continuous assessment (assigments, laboratory, practicals...): 40

- Cameron, Colin A. & Pravin K. Trivedi Microeconometrics using Stata, Stata Press, 2010
- Long, Scott J. & Jeremy Freese Regression Models for Categorical Dependent Variables Using Stata, Stata Press, 2014

## ADDITIONAL BIBLIOGRAPHY

- James, Gareth, Daniel Witten, Trevor Hastie, & Robert Tibshirani An introduction to Statistical Learning with applications in R, Spinger, 2013