# uc3m Universidad Carlos III de Madrid

**Research Design** 

Academic Year: (2021 / 2022)

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Department assigned to the subject: Coordinating teacher: SANDELL , FRANK RICKARD

Type: Compulsory ECTS Credits : 5.0

Year : 1 Semester : 2

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

None

## OBJECTIVES

Once completed students will be able to

- \* Describe the conceptual aspects of research methods
- \* Describe the process of conducting a literature review
- \* Compare and contrast the use of theory in qualitative, quantitative, and mixed methods research
- \* Compare and contrast the use of theory in Economics, Sociology, and political Science
- \* Identify ethical concerns to anticipate in research
- \* Integrate knowledge of qualitative, quantitative, and mixed methods approaches into developing a research design
- \* Draft an article review.

#### DESCRIPTION OF CONTENTS: PROGRAMME

The purpose of this course is to provide a formal introduction and overview of research design and its place in the research process. Research design is broadly understood as the link between theory and methods. Course content is designed to cater for a general understanding of the preliminary considerations that go into selecting and implementing a research design. Students will learn how to independently choose a research question and an appropriate research design. The conceptual bases of Social Science research are discussed and described, along with criteria for concept definition and assessment. The difference between description and causality designs will be discussed and explored. A large emphasis is put on the implementation of research design to real world social science problems. Thus, students will actively design research on real life problems using non fictious empirical data from a wide variety of contexts (Sociology, Political Science, and Economics). For this, the students will receive a brief repetition to basic descriptive analysis along with an introduction to data management with the statistical software Stata. Common sources of error in existing data sets are discussed and investigated. A variety of statistical analysis techniques will be used with emphasis on interpretation of results and assessment of different designs effectiveness.

work/discussions is mandatory. In addition to group exercises, students are requested to hand in a set of individual assignments as well as a final exam in terms of a review of a scientific article. The article is chosen after consultation with the course instructor. On the concluding seminar will present the reviewed article.

A total of 9 units of Research Design issues will be covered theoretically as well as practically during the course implementation

- \* Unit 1 RESEARCH BUILDING BLOCKS: Introduction to Social Science Research
- \* Unit 2 RESEARCH BUILDING BLOCKS: Arguments: Descriptive, Causal, and Others
- \* Unit 3 RESEARCH BUILDING BLOCKS: Concepts and Measures
- \* Unit 4 RESEARCH BUILDING BLOCKS: Analyses
- \* Unit 5 CAUSALITY: Causal Frameworks
- \* Unit 6 CAUSALITY: Causal Hypotheses and Analyses
- \* Unit 7 CAUSALITY: Experimental Design

### LEARNING ACTIVITIES AND METHODOLOGY

#### FORMATION ACTIVITIES

Theorical class Practical classes Tutorials Individual work of the student

# TEACHING METHODOLOGIES

Exhibitions in class of the teacher with support of computer and audiovisual media, in which the main concepts of the subject are developed and the bibliography is provided to complement the students' learning. Critical reading of texts recommended by the teacher of the subject:

Press articles, reports, manuals and / or academic articles, either for further discussion in class, or to expand and consolidate the knowledge of the subject.

Resolution of practical cases, problems, etc. ¿raised by the teacher individually or in groups

Exhibition and discussion in class, under the moderation of the teacher of topics related to the content of the subject, as well as practical cases

Preparation of work and reports individually or in groups

#### ASSESSMENT SYSTEM

% end-of-term-examination/test:	35
% of continuous assessment (assigments, laboratory, practicals):	65

Course Requirements and Evaluation Methods

This course will use the following instruments to determine student grades and proficiency of the learning outcomes for the course.

\* Group Hand-Ins: Written responses to a set of Research Design Problems.

\* Individual Home Assignment: Consisting of an elaborated individual response to a set of Research design Problems.

\* Scientific Article Review: ¿ Students will choose a scientific article in consultation with the Professor in charge.

Total Grade is calculated as followsGroup handins30%Individual Home Assignment35%Article Review35%Total100%

### BASIC BIBLIOGRAPHY

- Andrew Gelman and Jeronimo Cortina A Quantitative Tour of the Social Sciences, California University Press, 2009
- Dawn Brancati Social Scientific Research, Sage, 2018
- Patricia Leavy Research Design, California University Press, 2017