# RESEARCH METHODS IN IR

**Grado en Relaciones Internacionales / Bachelor in International Relations BIR SEP-2023 RM-IR.2.M.A**

Area International Relations

Number of sessions: 30

Academic year: 23-24

Degree course: SECOND

Number of credits: 6.0

Semester:  2º

Category: BASIC

Language: English

## Professor: **GUILLERMO TORAL**

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Guillermo Toral is Assistant Professor of Political Science at the IE School of Global and Public Affairs, and a Faculty Affiliate at MIT GOV/LAB. He obtained his PhD in Political Science at the Massachusetts Institute of Technology in 2020, and an MPhil in Comparative Government at the University of Oxford (with distinction) in 2011. Prior to joining IE, Guillermo worked as Assistant Professor at Vanderbilt University. Before doing his PhD, he spent several years working on human development policy and programs at the World Bank, in Washington DC and across Latin America.

Guillermo works in the fields of comparative politics and political economy, with a regional focus on Latin America and Southern Europe, and a substantive focus on issues of development, governance, and corruption. His research focuses on relationships among state actors (politicians, bureaucrats, and anticorruption agents) and how they shape public service delivery and human development. In his work, Guillermo uses big administrative datasets, surveys, and extensive qualitative fieldwork to shed light on dynamics of government accountability.

Some of Guillermo's research has been published or is forthcoming in leading journals, including the American Journal of Political Science, the Journal of Politics, and the Annual Review of Political Science. He has also published a number of policy reports and book chapters.

## Office Hours

Office hours will be on request. Please contact at:

For office hours, sign up using the following link: https://calendly.com/guillermo-toral/office-hours

Alternatively, if the available slots are not convenient, feel free to email at gtoral@faculty.ie.edu

## SUBJECT DESCRIPTION

This course provides an overview of quantitative research methods in the study of International Relations. You will learn key concepts in interpreting, evaluating, and implementing data analysis and statistical methods. You will gain the skills to conduct quantitative analysis using R, a popular and free software environment.

This course will involve in-class activities and interactive lectures. Students are expected to come to class having read and carefully thought about the material we will cover beforehand. The material we cover will come from a variety of sources – not just the main textbook – so lecture and lecture notes are an important source of information on which you will be examined.

Statistics and programming can be intimidating subjects, and the course will be challenging. The lectures and sections are designed to give you all of the tools that you will need, but each of these skills requires significant time outside of class.

## LEARNING OBJECTIVES

By the end of this course, you should:

1. Acquire the literacy for understanding International Relations research based on quantitative data and reasoning.
2. Be critical consumers of statistics, and to identify the misuse of statistics and data in arguments, be they academic, political, or popular.
3. Be able to define and understand important statistical concepts and methods (simple hypothesis testing, ordinary least squares regression, uncertainty, causality).
4. Be able to demonstrate basic programming and data analysis skills with R.

## TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

| Learning Activity | Weighting | Estimated time a student should dedicate to prepare for and participate in |
|---|---|---|
| Lectures | 30.0 % | 45.0 hours |
| Discussions | 3.33 % | 5.0 hours |
| Exercises in class, Asynchronous sessions, Field Work | 16.67 % | 25.0 hours |
| Group work | 20.0 % | 30.0 hours |
| Individual studying | 30.0 % | 45.0 hours |
| TOTAL | 100.0 % | 150.0 hours |

**PROGRAM**

**SESSION 1 (LIVE IN-PERSON)**

Introduction to the course's objectives, requirements, rationale, and participants

**SESSIONS 2 - 3 (LIVE IN-PERSON)**

Introduction to working with data, R, and RStudio

*Book Chapters: DASS chapter 1 (See Bibliography)*

**SESSIONS 4 - 5 (LIVE IN-PERSON)**

Causal inference with randomized control trials

*Book Chapters: DASS chapter 2 (See Bibliography)*

**SESSIONS 6 - 7 (LIVE IN-PERSON)**

Descriptive inference with surveys

*Book Chapters: DASS chapter 3 (See Bibliography)*

**SESSIONS 8 - 9 (LIVE IN-PERSON)**

Predictive inference with regression

*Book Chapters: DASS chapter 4 (See Bibliography)*

**SESSIONS 10 - 11 (LIVE IN-PERSON)**

Visualizing data and insights

*Book Chapters: Fundamentals of data visualization: A primer on making informative and compelling figures. Chapter 29) (CED)*

**SESSIONS 12 - 13 (LIVE IN-PERSON)**

Review session: taking stock of descriptive, predictive, and causal inference

**SESSION 14 (LIVE IN-PERSON)**

Midterm exam

**SESSIONS 15 - 16 (LIVE IN-PERSON)**

Causal inference with observational data

*Book Chapters: DASS chapter 5 (See Bibliography)*

**SESSIONS 17 - 18 (LIVE IN-PERSON)**

Causal inference with regression discontinuities

*Book Chapters: Thinking Clearly with Data - chapter 12 (IE Library)*

## SESSIONS 19 - 20 (LIVE IN-PERSON)

Probability

*Book Chapters: DASS chapter 6 (See Bibliography)*


## SESSIONS 21 - 22 (LIVE IN-PERSON)

Statistical inference

*Book Chapters: DASS Chapter 7 (See Bibliography)*


## SESSIONS 23 - 24 (LIVE IN-PERSON)

Predictive inference with machine learning

*Book Chapters: Hands-On Machine Learning with R - chapters 1 and 2*


## SESSIONS 25 - 26 (LIVE IN-PERSON)

Review session


## SESSIONS 27 - 28 (LIVE IN-PERSON)

Group project presentations


## SESSIONS 29 - 30 (LIVE IN-PERSON)

Final exam


## EVALUATION CRITERIA

**Problem sets:**

We will have three problem sets, which will offer students opportunities to apply what you have learned. The assignments will contain a combination of analytic problems and data analysis in R. Dates and rules for the problem sets will be announced at the beginning of the semester.

**Group data project**

Students will work in groups to produce a data-driven report on a topic of international relations that they will choose in consultation with the instructor. Deliverables will include a presentation, a slide deck, a report, and the R and data files used to produce the analyses. More details about the group projects will be announced at the beginning of the semester.

**Midterm exam**

There will be one in-class midterm exam.

**Final exam**

There will be one in-class final exam.

| criteria | percentage | Learning Objectives | Comments |
|---|---|---|---|
| Class Participation | 10 % | | |
| Problem Sets | 30 % | | |
| Midterm Exam | 25 % | | |
| Final Exam | 35 % | | |

**RE-SIT / RE-TAKE POLICY**

**GENERAL OBSERVATIONS**

Students are required to obtain the minimum grade of 5 required to pass the course. Students whose grade in the Final Exam is below 5 will fail the course. Dates and location of the final exam will be posted in advance and will not be changed.

Students must attend at least 80% of the sessions. Students who do not comply with the 80% attendance rule will receive a 0.0 on their first and second attempts and go directly to the third one (they will need to enroll in this course again the following academic year).

Students who are in the third or fourth attempt must contact the professor during the first two weeks of the course.

**EXTRAORDINARY EXAMINATION POLICY:**

Any student whose weighted final grade is below 5 will be required to sit for the extraordinary exam to pass the course (except those not complying with the attendance rules, whom are banned from this possibility).

Grading for retakes will be subject to the following rules:

- The extraordinary call will consist of a comprehensive exam or equivalent assignment. The grade will depend only on the performance on this exam; continuous evaluation over the semester will not be taken into account.
- Dates and location of the retakes will be posted in advance and will not be changed.
- The exam/assignment will be designed bearing in mind that the passing grade is 5 and the maximum grade that can be attained is 8 out of 10.

# BIBLIOGRAPHY

## Compulsory

- Elena Llaudet and Kosuke Imai. (2023). *Data Analysis for Social Science: A Friendly and Practical Introduction.* Princeton University Press. ISBN 9780691199436 (Digital)

## Recommended

- Kosuke Imai. *Quantitative Social Science: An Introduction.* Princeton University Press. ISBN 9780691175461 (Printed)

E-book version also available.


# BEHAVIOR RULES

Please, check the University's Code of Conduct here. The Program Director may provide further indications.


# ATTENDANCE POLICY

Please, check the University's Attendance Policy here. The Program Director may provide further indications.


# ETHICAL POLICY

Please, check the University's Ethics Code here. The Program Director may

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provide further indications.