



POLS0007
Principles of Social Science Research

Lecturer:	Dr. Maria Sironi
Teaching:	10 hours of lectures, 10 hours of seminars
Assessment Method:	One 1500 word midterm essay (50%) One 1500 word final essay (50%)
Attendance:	Attendance is compulsory at all lectures and seminars for which students are timetabled. Attendance will be monitored and no student will be entered for assessment unless they have attended and pursued the module to the satisfaction of the department.

USEFUL LINKS

Lecture and Seminar Times:

Online Timetable at www.ucl.ac.uk/timetable

UG Student Intranet

<https://www.ucl.ac.uk/political-science/intranet/ug>

Extenuating Circumstances

<http://www.ucl.ac.uk/spp/intranet/ug/assessment/extenuating-circumstances>

Penalties for Late Submission and Overlength Essays

<http://www.ucl.ac.uk/spp/intranet/ug/assessment/essays>

Essay Submission Information

<http://www.ucl.ac.uk/spp/intranet/ug/assessment/essays>

Essay Writing, Plagiarism and TurnItIn

<http://www.ucl.ac.uk/spp/intranet/ug/assessment/essays>

<http://www.ucl.ac.uk/current-students/guidelines/plagiarism>

<http://www.ucl.ac.uk/Library/CitationPlagiarism.doc>

Principles of Social Science Research--How to Generate Knowledge

Overview:

The course's main objective is to introduce students to social science research. To do so we will focus on how we use facts and observations to make and evaluate statements about the world and the forces which appear to account for human interactions. What will become quickly evident is that academic discourse and scientific debate is more involved and cumbersome than everyday reasoning.

Over the course of the ten weeks students will learn how to fruitfully use data to make inferences about the world. We will spend a considerable amount of time on various threats to valid inferences and how one can overcome them.

The second part of the course is focused on experimental designs, lab, field, and natural experiments. Students will be familiarized with the gold standard for internal validity and will see how we can use such approaches to answer relevant real-world questions.

Rather than providing an in-depth theoretical treatment of these topics this class strives to inspire and enthuse students for the scientific endeavour. A number of practical exercises will help to contextualize some of the more abstract concepts and theories.

Aims:

Students will learn how social scientific debate differs from everyday conversations and arguments. They will learn how to assess the quality of an empirical argument and to identify common weaknesses in real research articles. Students will be familiar with basic concepts such as internal and external validity and will also learn why experiments are such a relevant step in the history of sciences.

Intended learning outcomes:

At the end of this course students will have a sound understanding of research design and will be able to criticize existing research.

Readings:

- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. New York: Cambridge University Press.
- Gerber, Alan S. and Donald P. Green. 2012. *Field Experiments. Design, Analysis, and Interpretation*. New York: Norton.

Topics:

1. Introduction

We will first start by defining science and then see why the scientific method is so vital to the endeavour of knowledge production.

2. Basic concepts

This week will introduce students to basic concepts of science, scientific method, and the scientific process. We will discuss how we can test theories. We will also discuss what a good research question is and when it is feasible.

3. Threats to valid inferences 1: Internal and external validity

This week discusses experimental designs, implications for internal validity (what internal validity is and why experimental design is ideal), and implications for external validity (what external validity is and why experimental design may not always be ideal).

4. Threats to valid inferences 2: Omitted variable bias & selection

Two of the most common mistakes: Omitted variable bias, selection, and self-selection.

5. Threats to valid inferences 3: measurement error, endogeneity, and reverse causality

This week discusses the consequences of endogeneity/simultaneity and measurement error.

6. Why is randomization the Holy Grail?

This week introduces the potential outcome framework and the fundamental problem of causal inference. We will then discuss how randomization may help solve the causal inference problem. We also discuss questions of internal and external validity and lab experiments.

7. Field experiments

Most of the questions social scientists study cannot be optimally tested in a laboratory. Field experiments allow researchers to apply large scale experiments in the real world. We will also discuss potential problems that may arise in conducting a field experiment.

8. Natural experiments

Once in a while there is a unique opportunity for researchers when something happens that can be regarded as if it was fully random. These rare events can be used as a leverage to find causal effects.

9. Research and society

We look at a number of ethical and moral issues. What ethical considerations should we take into account when planning an experiment? Why is plagiarism such a problem? And where does publication bias come from? These and similar questions will be answered in this week.

10. Review and outlook

The final week will serve to review the material of the past nine weeks and to provide an outlook to why there are statistics and why we most often model data rather than conduct an experiment.