

FORMACIÓN PREDOCTORAL  
**ECONOMETRÍA**  
Curso 2022/2023

Curso impartido por [Begoña Álvarez García](#), Universidade de Vigo

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## FECHAS Y HORARIOS

El curso tiene una duración de 40 horas repartidas en 20 sesiones de 2 horas

Mes	Días	Horas
Enero	10, 12, 17, 19, 24, 26, 31	10:00 -12:00
Febrero	2, 7, 9, 14, 16, 23, 24, 28	10:00-12:00
Marzo	2, 7, 9, 14, 16	10:00-12:00

## MODALIDAD

El curso se impartirá en modalidad **presencial**, aunque se valorará la posibilidad de combinarlo con la modalidad online en función de la demanda.

## IDIOMA

El curso se impartirá en **español o inglés** en función de la demanda..

El material de las clases estará en inglés.

## PROGRAMA

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### UNIT 1: INTRODUCTION

1. What type of empirical question?
2. The problem of causal inference
3. Methods for measuring causal effects

### UNIT 2: RANDOMIZED EXPERIMENTS

1. Randomized vs. natural (or quasi-natural) experiments
2. Randomized experiments
3. How can randomization solve the causal problem?
4. Potential problems when running experiments

### UNIT 3: SELECTION ON OBSERVABLES (I): LINEAR REGRESSION MODEL

1. Assumptions and estimation
2. Goodness-of-fit and inference
3. Nonlinearities and dummy variables
4. Multicollinearity, heteroscedasticity and correlation of error terms

### UNIT 4: SELECTION ON OBSERVABLES (II): DISCRETE CHOICE MODELS

1. Binary response models
2. Multiple choice models
3. Count data models

### UNIT 5: ENDOGENEITY

1. Omitted variable bias
2. Measurement error
3. Reversed causation

## UNIT 6: INSTRUMENTAL VARIABLES

1. Motivation
2. Estimation
3. Checking instrument validity
4. Exogeneity tests

## UNIT 7: DIFFERENCES-IN-DIFFERENCES ESTIMATION

1. Difference-in-differences (DD) mechanics
2. Using regression analysis to estimate DD
3. Testing the validity of the parallel trends assumption
4. Limitations of DD estimation

## UNIT 8: REGRESSION DISCONTINUITY

1. Motivation
2. Regression discontinuity design: sharp/fuzzy regression discontinuity

## BIBLIOGRAFÍA BÁSICA

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Angrist, J. and J. S Pischke (2015). Mastering Metrics. The Path from Cause to Effect. Princeton: Princeton University Press.

Angrist, J. and J. S Pischke (2009). Mostly Harmless Econometrics. An Empiricist's Companion. Princeton: Princeton University Press

Stock, J.H. and M.W. Watson (2015). Introduction to Econometrics (3rd edition). Pearson Education Limited.

Wooldridge, J.M. (2012). Introductory Econometrics: A modern approach (5th edition). South-Western College Publishing.