

Introduction to the use of data for statistical analysis in political science and related disciplines (sociology, public policy, international relations, etc.). The module will introduce concepts such as measurement, variables, statistical data, and provide an introduction to basic descriptive statistics summarizing numerical data, both graphically and numerically. The core of the module will be an introduction to applied multiple regression analysis, discussing the purpose, implementation, and interpretation of standard regression models, for both continuous and dichotomous variables. It will introduce the basics of statistical inference, drawing conclusions about populations on the basis of sample data, and apply this to the regression context. Foundational knowledge of frequentist and Bayesian statistical inference will be provided and the end result will be basic ability to perform, interpret, and report on multiple regression analysis.

</div>

<div style="text-align:center;"><p><strong><em>Curricular information is subject to change</em></strong></p></div>

## What will I learn?

<span class="subHeadCB">Learning Outcomes:</span>  
<p>- basic understanding of working with R and RStudio  
- being able to summarize and describe statistical data  
- solid understanding of frequentist statistical inference  
- basic understanding of Bayesian statistical inference  
- basic understanding of executing and interpreting multiple regression  
- preliminary understanding of logistic regression</p>

<span class="subHeadCB">Indicative Module Content:</span>  
<p>Accessing and visualising data  
Simple regression  
Descriptive statistics  
Multiple regression  
Categorical independent variables  
Writing up regression results  
Interaction models  
Sampling distribution & Central Limit Theorem  
Hypothesis tests & confidence intervals in regression  
Model specification and fit / statistical vs causal inference  
Logic of Bayesian inference  
Logistic regression</p>

## How will I learn?

<span class="subHeadCB">Student Effort Hours:</span>

Student Effort Type	Hours
Lectures	15
Computer Aided Lab	12
Autonomous Student Learning	200
<b>Total</b>	<b>227</b>

## Am I eligible to take this module?

<div class="subHeadCB">Requirements, Exclusions and Recommendations</div>

<p>Not applicable to this module.</p>

<div class="subHeadCB">Module Requisites and Incompatibles</div>

Not applicable to this module.

# How will I be assessed?

<span class="subHeadCB">Assessment Strategy</span>

Description	Timing	Open Book Exam	Component Scale	Must Pass Component	% of Final Grade
Assignment: Homework assignment	Week 3	n/a	Graded	No	25
Essay: Course paper	Coursework (End of Trimester)	n/a	Graded	No	30
Assignment: Homework assignment	Week 7	n/a	Graded	No	25
Assignment: Homework assignment - preparation for course paper	Week 10	n/a	Graded	No	20

<div class="row">

<div class="col-sm-6"><span class="subHeadCB">Carry forward of passed components </span>

Yes</div>

</div>

# What happens if I fail?

Resit In	Terminal Exam
Spring	No

# Assessment feedback

<div class="subHeadCB">Feedback Strategy/Strategies</div>

<p>\* Feedback individually to students, post-assessment

</p>

<div class="subHeadCB">How will my Feedback be Delivered?</div>

<p>Feedback will be provided within 20 days from submission, as per university guidelines. Feedback on Homework 3 in particular will also count as formative assessment in preparation of the course paper.</p>

# Reading List

<div class="pageBreak"><nav class="white-box no-left-arrow zero-top-margin">

<h1 class="printOnly"> UCD Course Search

Quantitative Methods I (CORE) (TCD) (POL50070) </h1><h3 class="printOnly">Academic Year 2019/2020</h3><p class="printOnly"><em>The information contained in this document is, to the best of our knowledge, true and accurate at the time of publication, and is solely for informational purposes. University College Dublin accepts no liability for any loss or damage howsoever arising as a result of use or reliance on this information.</em></p>

<h4 class="noPrint">Quantitative Methods I (CORE) (TCD) (POL50070)</h4>

<dl>

<dt>Subject:</dt>

<dd>Politics</dd>

<dt>College:</dt>

<dd>Social Sciences & Law</dd>

<dt>School:</dt>

<dd>Politics & Int Relations</dd>

<dt>Level:</dt>

<dd>5 (Doctoral)</dd>

<dt>Credits:</dt>

<dd>10.0</dd>

<dt>Trimester:</dt>

<dd>Autumn</dd>

<dt>Module Coordinator:</dt>  
<dd>Assoc Professor Jos Dornschneider-Elkink</dd>  
<dt>Mode of Delivery:</dt>  
<dd>Blended</dd>  
<dt>Internship Module:</dt><dd>No</dd>

<dt>How will I be graded?</dt>  
<dd>Letter grades </dd>

</dl>  
<div class="noPrint" style="text-align:center; margin-top:10px;"><button class="menubutton" onclick="window.print()"><i class="fa fa-print fa-fw"> Print  
Page</button>  
<span style="font-size:0.8em"><em>(<a href="https://www.google.com/chrome/" target="\_blank">Google Chrome</a> is recommended when printing  
this page)</em></span></div>

</nav>  
</div>