Research Methods for Political Science Quantitatively
Summer Semester 2022 Universität Wien
Kolingasse 14-16, 1090 Wien, Seminarraum 5
Instructors: Ida Hjermitslev and Matthew Bergman

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Course requirements. Your grade will reflect the following components:

Active participation. Your attendance and active participation in class is required. You are expected to have the readings and discussion topics completed before class so that course time can be used to clarify concepts. You can only miss two out of 13 classes. Additional absences for reasons of illnesses, family emergencies, and so forth (without documentation) are not excused. Attendance will be through Zoom provided in the course moodle. (10% of the grade).

Homework assignments. You will receive 6 homework assignments and you **absolutely must hand in an attempt** for each assignment or you will receive a negative grade (5=fail). In these tasks, you will be asked to use the techniques learnt in class on a new set of problems. These tasks are due Tuesday **23:59 PM** the following week. Handing in late will be penalized with a 10 percentage point reduction for every 24 hours you are late. Assignments after 10 days are not accepted. The lowest assignment grade will be dropped. (40% of the grade)

Research outline. You will submit a **two-page outline** of your proposed research paper by **26 April 2022** – no late outlines will be accepted, so turn it in early! You will present this outline for feedback to the class on **28 April**. Examples and rubric will be provided. (10% of the grade)

Research paper. You will write a 4000-word paper (excluding bibliography, tables and figures) that fully discusses a topic of your choice within the **area of Political Science** that can be investigated using quantitative methods. To be submitted via Moodle by **21 July 2022** – no late papers will be accepted, so turn it in early! Examples and rubric will be provided (40% of the grade)

Plagiarism: the practice of taking someone else's work or ideas and passing them off as one's own. The final submission will be checked through Turnitin, a programme for plagiarism. *In cases of suspected plagiarism students may be called upon to reasonably demonstrate that any work they have submitted is their own.*

Books: The main book used in this course is:

- Kellstedt, P. M. and Whitten, G. D. (2018) The Fundamentals of Political Science Research, Cambridge University Press.
- Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press
- Bailey, Michael A (201X) Real Stats: Using Econometrics for Political Science and Public Policy, Oxford University Press

If you do not wish to purchase the books, they will be reserved at the Library: The required books will be on hold at the library reference collection of the Sociology and Political Science library in reading room #2, under the Surname: Bergman

In various weeks, other readings will be required. If possible, these will be available via Moodle.

CALENDAR

SESSION	DATE	TOPIC	Instructor	Assignments
1	10.03.2022	Introduction Part 1: Introduction to main aims & content Part 2: Introduction to R, fundamentals of statistical programming	Ida	HW1 (deadline 15.03.2022)
2	17.03.2022	Part 1: Concepts, Theory & Hypotheses, Asking Research Questions Part 2: Describing data using tables and summary statistics; transforming variables	Matthew (9:45-11:15) Ida (11:30-13:00)	
3	24.03.2022	Part 1: Causal inference: experiments, natural and quasi-experiments, and observational research Part 2: Describing bivariate relationships using cross-tabulations and comparisons of means and proportions	Matthew (9:45-11:15) Ida (11:30-13:00)	HW2 (deadline 29.03.2022)
4	31.03.2022	Part 1: Case studies and case selection in quantitative research; Measurement; Doing a literature review Part 2: Describing data using graphs (Bar charts, histograms)	Matthew (9:45-11:15) Ida (11:30-13:00)	
5	07.04.2022	Part 1: Getting Data; Gathering data: survey design; Obtaining and analyzing secondary data Discussion of Research Paper Outline Part 2: Describing bivariate relationships using scatterplots	Matthew (9:45-11:15) Ida (11:30-13:00)	HW3 (deadline 12.04.2022) Research paper outline (deadline 26.04.2022)
6	28.04.2022	Presentation of research outline	Matthew and Ida	
7	05.05.2022	Part 1: Inference: probability theory and confidence intervals. Hypothesis testing Part 2: T tests chi squared test	Matthew (9:45-11:15) Ida (11:30-13:00)	
8	12.05.2022	Bivariate regression models interpreting coefficients + Regression Diagnostics & Goodness of Fit	Matthew (9:45-11:15) Ida (11:30-13:00)	HW4 (deadline 17.05.2022).
9	19.05.2022	Multivariate regression analysis: logic of control variables	Matthew (9:45-11:15)	

			Ida (11:30-13:00)	
10	02.06.2022	Categorical Variables & Interaction terms	Matthew (9:45-11:15) Ida (11:30-13:00)	HW5 (deadline 07.06.2022)
11	09.06.2022	More Complex Data: Panel & Multi-level Models, Time-series	Matthew (9:45-11:15) Ida (11:30-13:00)	
12	23.06.2022	Logistic regression Q & A	Matthew	
13	30.06.2022	Logistic Regression in R Q&A	Ida	HW6 (deadline 05.07.2022)

Readings

1	10.03.2022	**Introduction** https://rc2e.com/gettingstarted Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 1
2	17.03.2022	**Part 1: Concepts, Theory & Hypotheses, Asking Research Questions** Kellstedt, P. M. and Whitten, G. D. (2018) The Fundamentals of Political Science Research, Cambridge University Press, Chapters 1-2 **Part 2: Describing data using tables and summary statistics; transforming variables** Imai, K. (2018) Quantitative social science: An introduction. Princeton University Press. Chapter 1 pp. 1-31 (focus especially on page 10-28) https://assets.press.princeton.edu/chapters/s11025.pdf https://rc2e.com/somebasics
3	24.03.2022	**Part 1: Causal inference: experiments, natural and quasi-experiments, and observational research** Gerring, J. and D. Christenson (2017) Applied Social Science Methodology, Ch. 7 Kellstedt, P. M. and Whitten, G. D. (2018) *The Fundamentals of Political Science Research*, Cambridge: Cambridge University Press, Ch 3, 4 **Part 2: Describing bivariate relationships using cross-tabulations and comparisons of means and proportions** https://rc2e.com/generalstatistics Imai, K. (2018) Quantitative social science: An introduction. Princeton University Press.

		Chapter 2 pp. 32-54 https://assets.press.princeton.edu/chapters/s2-11025.pdf
4	31.03.2022	**Part 1: Case studies and case selection in quantitative research; Doing a literature review; Measurement;** Gerring, J. and D. Christenson (2017) Applied Social Science Methodology, Ch. 9 and 11 Kellstedt, P. M. and Whitten, G. D. (2018) The Fundamentals of Political Science Research, Cambridge University Press, Ch 5 Boese, Vanessa (2019) How (not) to measure democracy. International Area Studies Review. Vol 22(2): 95-127 {if you are interested, this provides greater detail to the democracy discussion in the main text} **Part 2: Describing data using graphs (Bar charts, histograms, scatterplots)** https://rc2e.com/graphics Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 2
5	07.04.2022	**Part 1: Getting Data; Gathering data: survey design; Obtaining and analyzing secondary data;** Gerring, J. and D. Christenson (2017) Applied Social Science Methodology, Ch. 13 Kellstedt, P. M. and Whitten, G. D. (2018) The Fundamentals of Political Science Research, Cambridge University Press, Ch 6 Discussion of Research Paper Outline **Part 2: Difference-in-difference designs** Imai, K. (2018) Quantitative social science: An introduction. Princeton University Press. Chapter 2 pp. 54-74 https://assets.press.princeton.edu/chapters/s2-11025.pdf https://rc2e.com/graphics
6	28.04.2022	Presentation of research outline
7	05.05.2022	**Part 1: Inference: probability theory and confidence intervals. Hypothesis testing** Kellstedt, P. M. and Whitten, G. D. (2018) The Fundamentals of Political Science Research, Cambridge: Cambridge University Press, Ch 7 & 8 **Part 2: T tests chi squared test** https://rc2e.com/probability https://rc2e.com/generalstatistics Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 8

8	12.05.2022	**Bivariate regression models: Interpreting coefficients + Regression Diagnostics & Goodness of Fit** Kellstedt, P. M. and Whitten, G. D. (2018) *The Fundamentals of Political Science Research*, Cambridge: Cambridge University Press, Ch 9, 11.4 https://rc2e.com/linearregressionandanova Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 9
9	19.05.2022	**Multivariate regression analysis: logic of control variables** Kellstedt, P. M. and Whitten, G. D. (2018) *The Fundamentals of Political Science Research*, Cambridge: Cambridge University Press, Chapters 10, 11.5 Bailey, Michael A (2016) *Real Stats: Using Econometrics for Political Science and Public Policy*, Oxford University Press, Chapter 5 https://rc2e.com/linearregressionandanova Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 10
10	02.06.2022	**Categorical Variables & Interaction terms** Kellstedt, P. M. and Whitten, G. D. (2018) *The Fundamentals of Political Science Research*, Cambridge: Cambridge University Press, Chapters 11.1, 11.2, and 11.3 Bailey, Michael A (2016) *Real Stats: Using Econometrics for Political Science and Public Policy*, Oxford University Press, Chapter 13 Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 11
11	09.06.2022	**More Complex Data: Panel & Multi-level Models, Time-series** Kellstedt, P. M. and Whitten, G. D. (2018) *The Fundamentals of Political Science Research*, Cambridge: Cambridge University Press, Chapters 12.3 and 12.4 Bailey, Michael A (2016) *Real Stats: Using Econometrics for Political Science and Public Policy*, Oxford University Press, Chapter 8, 13, 15 https://rc2e.com/timeseriesanalysis
12	23.06.2022	**Logistic regression** Kellstedt, P. M. and Whitten, G. D. (2018) *The Fundamentals of Political Science Research*, Cambridge: Cambridge University Press, Chapter 12.2 Bailey, Michael A (2016) *Real Stats: Using Econometrics for Political Science and Public Policy*, Oxford University Press, Chapter 12 Meffert, Michael F., and Thomas Gschwend. "Strategic coalition voting: Evidence from Austria." Electoral Studies 29, no. 3 (2010): 339-349. (skim for methods implementation and analysis) Q & A
13	30.06.2022	**Logistic Regression in R** Kellstedt, P. M. and Whitten, G. D. (2021) A R Companion for the third editions of The Fundamentals of Political Science Research, Cambridge University Press, Chapter 11 Q&A