

SYLLABUS

Name of the course:	Quantitative and Qualitative Methods - Track B- Agent Based Modelling			
Teacher:	Barbara Haas, Manuel Scholz-Wäckerle			
University / organisation:	Vienna University of Economics and Business			
Language of teaching:	English			
ECTS:	10			
Semester (S1, S2, S3 or S4):	<input type="checkbox"/> S1	<input checked="" type="checkbox"/> S2	<input checked="" type="checkbox"/> S3	<input type="checkbox"/> S4
Teaching method(s):	<input checked="" type="checkbox"/> Lecture courses		<input type="checkbox"/> Flipped classroom	
	Other:	group exercises, debates and interactive methods		
Type(s) of evaluation:	<input checked="" type="checkbox"/> Sitting exam		<input checked="" type="checkbox"/> Written report	
	<input checked="" type="checkbox"/> Oral defence		<input checked="" type="checkbox"/> Group project	
	Other / comments:	oral defence, written report, home assignments and blended learning		
Expected deadline(s) for the evaluation(s)	April (quantitative part) June (sitting exam - open book test for the qualitative part) Continuous home assignments and small oral presentations throughout the semester			
Expected date of final results:	July			
Summary of the content:	<p>This course on qualitative and quantitative research methods will provide a general introduction about 1) methodological underpinnings of research methods 2) research designs 3) different forms of methods 3) field analysis 4) modelling and simulation and finally about 5) the combination of quantitative and qualitative approaches. The course focuses on differences and similarities in both methods. Moreover, we discuss quality assessment and possibilities of potential synthesis among different approaches in a fruitful manner.</p> <p>On the one hand, students will get introduced into contemporary discourses on methods by carrying out and presenting literature reviews as well as results in own data analysis. On the other hand, they will carry out individual programming exercises in NETLOGO and experiment with some basic examples from field analysis and modelling/simulation (Computational Social Science), thereby building foundational knowledge.</p> <p>After successful completion of this introduction, students will be able to:</p> <ul style="list-style-type: none"> • understand different research methods and strategies • know how to draft various tools for empirical analysis 			

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	<ul style="list-style-type: none"> differentiate between a variety of top-down and bottom-up modelling techniques in economics acquire basic programming skills for agent-based modelling work with a simulation tool-kit and generate computational experiments with given models write a critical reflection on quantitative and qualitative methods
<p>Indicative list of lectures:</p>	<p>Week 1) Introduction to the course and assignments; Basic intro to complexity theory</p> <p>Week 2-5) Introduction to ABM with programming in Netlogo</p> <p>Week 6-7) qualitative interviews</p> <p>Week 7-8) qualitative focus groups</p> <p>Week 9-10) qualitative data collection, guide construction</p> <p>Week 11) Mixed Methods Design</p> <p>Week 12) qualitative data analysis</p> <p>Week 13) summary and outlook</p>
<p>Short bibliography:</p>	<p>Additional Literature for the Quantitative Part:</p> <p>Elsner W., Heinrich T. and Schwardt H. (2015), <i>The Microeconomics of Complex Economies: Evolutionary, Institutional, Neoclassical, and Complexity Perspectives</i>, Academic Press.</p> <p>Gilbert N. (2008), <i>Agent-based models</i>, Sage Publications, series: Quantitative applications in the social sciences.</p> <p>Gilbert N. and Troitzsch K.G. (2005), <i>Simulation for the Social Scientist</i>, Open University Press.</p> <p>Hamill, L. and Gilbert, N. (2016), <i>Agent-Based Modelling in Economics</i>, Wiley.</p> <p>Holland, J.H. (1998), <i>Emergence. From Chaos to Order</i>, Oxford University Press.</p> <p>Kauffman, S. (1993), <i>The Origins of Order: Self-Organisation and Selection in Evolution</i>, Oxford University Press.</p> <p>Miller J.H. and Page S.E. (2007), <i>Complex Adaptive Systems: An Introduction to Computational Models of Social Life</i>, Princeton University Press.</p> <p>Railsback St.F. and Grimm V. (2012), <i>Agent-Based and Individual-Based Modeling</i>, Princeton University Press.</p> <p>Simon H.A. (1962), The architecture of complexity, <i>Proceedings of the American Philosophical Society</i> 106 (6): 467-482.</p> <p>Wilensky U. and Rand W. (2015), <i>An introduction to agent-based modelling: Modeling natural, social, and engineered complex systems with Netlogo</i>, MIT Press.</p> <p>Literature for the qualitative part (available in CANVAS)</p> <p>Brinkmann, S., & Kvale, S. (2015). Seven Stages of an Interview Investigation (Part II). In S. Brinkmann & S. Kvale (Eds.), <i>InterViews. Learning the craft of qualitative research interviewing</i> (pp. 123-166). Los Angeles, London, New Delhi, Singapore, Washington DC: Sage.</p>

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- Clark, V., L. Plano, & Badiee, M. (2010). Research Questions in Mixed Methods Research. In A. Tashakkori & C. Teddlie (Eds.), *Mixed Methods in Social & Behavioral Research* (pp. 275-304). Los Angeles/London/New Delhi/Singapore/Washington DC: Sage Publications.
- Finch, H., & Lewis, J. (2012). Focus Groups. In J. Ritchie & J. Lewis (Eds.), *Qualitative Research Practice. A guide for Social Science Students and Researchers* (pp. 170-198). Los Angeles, London, New Delhi, Singapore, Washington DC: Sage.
- Gerold, S. & Nocker, M. (2018). More Leisure or Higher Pay? A Mixed-methods Study on Reducing Working Time in Austria. *Ecological Economics*, 143, 27-36
- Goerres, A., & Prinzen, K. (2012). Using mixed methods for the analysis of individuals: a review of necessary and sufficient conditions and an application to welfare state attitudes. *Qual. Quant.*, 46(2), 415-450.
- Leech, N., L. (2010). Interviews with the early developers of mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Sage Handbook of Mixed Methods in Social & Behavioral Research* (pp. 253-272). Los Angeles/London/New Delhi/Singapore/Washington DC: Sage.
- Lueger, M., Sandner, K., Meyer, R., & Hammerschmid, G. (2005). Contextualizing Influence Activities: An Objective Hermeneutical Approach. *Organization Studies*, 26(8), 1134-1168.
- Ritchie, J., Spencer, L., & O'Connor, W. (2012). Carrying out Qualitative Analysis. In J. Ritchie & J. Lewis (Eds.), *Qualitative Strategies. A Guide for Social Science Students and Researchers* (pp. 219-262). London, Los Angeles, New Delhi, Singapore, Washington DC: Sage.
- Scheibelhofer, E. (2008). Combining Narration Based Interviews with Topical Interviews: Methodological Reflections on Research Practices. *International Journal of Social Research Methodology*, 11(5), 403-416.
- Silverman, D. (2011). Data Analysis. In D. Silverman (Ed.), *Interpreting Qualitative Data* (pp. 57-86). London/Thousand Oaks/New Delhi/ Singapore: Sage Publications.
- Trinczek, R. (2009). How to Interview Managers? Methodical and Methodological Aspects of Expert Interviews as a Qualitative Method in Empirical Social Research. In A. Bogner, B. Littig, & W. Menz (Eds.), *Interviewing Experts* (pp. 203-216). Houndsmills /Basingstoke: Palgrave Macmillan.
- Vanderstoep, S., W, & Johnston, D., D. (2009). *Research Methods for Everyday Life*. San Francisco: Jossey-Bass.
- Von Soest, C. (2023): Why do we speak to experts? Reviving the strength of the expert interview method. *Perspectives on Politics* 21.1: 277-287.
- Witzel, A. (2000): The Problem-Centered Interview. *Forum Qualitative Social Research*, Vol 1 (1) Art 22, 1-9

Literature for mixed methods workshop:

- Edmonds, Bruce (2015) 'A Context- and Scope-Sensitive Analysis of Narrative Data to Aid the Specification of Agent Behaviour' *Journal of Artificial Societies and Social Simulation* 18 (1) 17 doi: 10.18564/jasss.2715
- Tubaro, P. and A. A. Casilli (2010): "An Ethnographic Seduction": How Qualitative Research and Agent-based Models Can Benefit Each Other. *Bulletin de Méthodologie Sociologique* 106: 59-74.