Course details

Course title:	Agent Based Modelling of Social Systems
Aims:	To present the fundamental concepts of agent-based modelling using Anylogic software tool on a case of dissemination of fake news in a social network

Contents:	• Day 1
	  ○ What is simulation, what is a model?
	  ○ What and how to model?
	  ○ Simulation modelling methodologies
	  ○ Agent based modelling (ABM) vs. DES and SD methods
	  ○ Advantages and disadvantages of ABM
	  ○ When to use ABM?
	  ○ ABM for social sciences
	• Day 2:
	  ○ Anylogic ABM Tutorial
	  ▪ Examples of ABM models
	  ▪ Anylogic UI
	  ▪ ABM library
	  ▪ Adding an agent population to the model
	  ▪ Modelling agent logic
	  ▪ Agent networks and interaction
	  ▪ Data gathering and visualisation
	• Day 3:
	  ○ Work on student projects
	  ○ Project / model feedback, possible enhancements
	  ○ Discussion on student's future use of ABM

Recommended reading:	Grigoryev, I. (2024) AnyLogic in Three Days, 6th Ed., AnyLogic North America. Railsback, S.F., Grimm V. (2019) Agent-Based and Individual-Based Modeling: A Practical Introduction, 2nd Ed., Princeton University Press. Gilbert, N. (2019), Agent-Based Models, 2nd Ed. (Quantitative Applications in the Social Sciences), SAGE Publications.
Teaching methods	Presentation with slides, practical examples, discussion, tutorial
Assessment methods	Project (simulation model with short presentation)