Course Title:	INTRODUCTION TO AGENT-BASED MODELS
Instructor	Salvatore Miccichè
N of hours	20,0
Description	Basic concepts about agent-based models, their origin, their applications and the contribution from statistical physics.
Syllabus	Part 1: Introduction to Agent-Based models 2,0 Agent-based model in sociology 2,0 Agent-based models in finance and economics 4,0 Agent-Based models in transportation systems Part 2: Statistical Physics and Agent-Based models 3,0 Statistical Physics of minority game 1,5 mean-field theories and agent-based models 1,5 The Ising model and its social interpretation. Part 3: Applications 1,5 Netlogo 1,5 calibration and validation Review of popular ABMs: epidemic spreading, predator-prey systems, schelling model, voter model, sznajd model, kim- 3,0 markowitz model,
Bibliography	Agent-Based and Individual-Based Modeling: A Practical Introduction, Railsback, Grimm, ISBN: 978-0691136745 Complex Agent-Based models, Mauro Gallegati, ISBN: 978-3-319-93858-5 N. Gilbert, Agent-Based Models, Sage Publications 2008. J.H. Miller and S.E. Page, Complex Adaptive Systems: An Introduction to Computational Models of Social Life, Princeton University Press 2007. C. Castellano, S. Fortunato, and V. Loreto, Statistical physics of social dynamics, Rev. Mod. Phys. 81 (2), 591, http://arxiv.org/pdf/0710.3256.pdf scientific papers provided by the instructor