

SYLLABUS

Name of the course:	Complexity Economics			
Teacher:	Magda Fontana			
University / organisation:	University of Torino			
Language of teaching:	English			
ECTS:				
Semester (S1, S2, S3 or S4):	<input type="checkbox"/> S1	<input checked="" type="checkbox"/> S2	<input type="checkbox"/> S3	<input type="checkbox"/> S4
Teaching method(s):	<input checked="" type="checkbox"/> Lecture courses		<input checked="" type="checkbox"/> Flipped classroom	
	Other:			
Type(s) of evaluation:	<input checked="" type="checkbox"/> Sitting exam		<input type="checkbox"/> Written report	
	<input checked="" type="checkbox"/> Oral defence		<input type="checkbox"/> Group project	
	Other / comments:	<p>The course is held in the informatics laboratory. The instructor provides the theoretical tools and then, together with students, develops examples of models.</p> <p>All the models and materials used in class are made available for students for further applications and exercises.</p>		
Expected deadline(s) for the evaluation(s)				
Expected date of final results:				
Summary of the content:	<p>The course covers the fundamental theories and methods of Complexity Economics. A particular emphasis will be given to Agent-based modelling (ABM).</p> <p>In details, lectures will deal with:</p> <ul style="list-style-type: none"> - When and why to use ABMs: the economy as a complex adaptive system. - How to design an ABM: emergent properties, stochasticity. - Programming models and conducting simulation experiments in Netlogo: parametrization and calibration. - How to analyse and ABM: simulated time series, sensitivity analysis, robustness analysis, uncertainty analysis. <p>NetLogo is freely available from the NetLogo website: http://ccl.northwestern.edu/netlogo/download.shtml</p>			
Indicative list of lectures:	Steven F. Railsback and Volker Grimm (2019), Agent-based and Individual Based Modeling - A practical Introduction, Princeton University Press			
Short bibliography:				