Syllabus

Descrizione corso

Titolo insegnamento	Network Thinking and Agent-based modeling
Codice insegnamento	25556
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	NN
Lingua	Inglese
Corso di Studio	Corso di laurea magistrale in Imprenditorialità e Innovazione
Altri Corsi di Studio (mutuati)	
Docenti	prof. Roberto Gabriele, Roberto.Gabriele@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/48130
Assistente	
Semestre	Primo semestre
Anno/i di corso	1
CFU	2
Ore didattica frontale	15
Ore di laboratorio	-
Ore di studio individuale	-
Ore di ricevimento previste	6
Sintesi contenuti	This course will provide knowledge and understanding of complex adaptive systems and their properties, and how patterns are emerging in systems. In the context of innovation and entrepreneurship, emerging patterns are related to innovation. Students will be: • given a framework with which they can assess innovation phenomena as well as how to apply a complex adaptive system perspective; • introduced to agent-based modeling; • acquire knowledge of the NetLogo platform, which is a widely

	used, arguably, easy software with which they can further simulate and explore complex adaptive systems.
Argomenti dell'insegnamento	The course proposes an approach to understand different phenomena using a "complexity" lens and understand how current behaviors and patterns emerge. The course tackles the complexity of adaptive systems in the context of business (e.g., innovation and entrepreneurship). The lecturer will introduce the students to ABM thinking and to NetLogo as a simulation environment to describe and analyze open innovation phenomena.
Parole chiave	Complex system, Agent-based models, computational approach.
Prerequisiti	Basic knowledge of computer usage.
Insegnamenti propedeutici	
Modalità di insegnamento	In-Person "Mixed" sessions with theoretical tractation and laboratory applications of the topics covered
Obbligo di frequenza	75% mandatory presence
Obiettivi formativi specifici e risultati di apprendimento attesi	
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	This course will provide knowledge and understanding of complex adaptive systems and their properties, and how patterns are emerging in systems. In the context of innovation and entrepreneurship, emerging patterns are related to innovation. Students will be introduced to agent-based modeling via the NetLogo program, which is a widely used, arguably easy software with which they can further simulate and explore complex adaptive systems.
Modalità di esame	Written exam with three "open-answer questions about the topics covered during the course.
Criteri di valutazione	The written exam will consist of three open-answer questions and aims at checking the knowledge of the topic and of the models covered in the course. Clarity of the exposition is also evaluated.
Bibliografia obbligatoria	· *Wilensky, U., Rand W. (2015). An Introduction to Agent-Based Modeling: Modeling Natural, Social, and Engineered Complex Systems with Netlogo. The MIT Press. (selected chapters);*

Bibliografia facoltativa	*Optional readings:* · *Holland, J.H., 2014. Complexity: A very short introduction. Oxford;* · *Mitchell, M., 2009. Complexity: A guided tour. Oxford University Press.*
Altre informazioni	No exam for non-attending students.
Obiettivi di Sviluppo Sostenibile (SDGs)	Istruzione di qualità, Innovazione e infrastrutture, Buona occupazione e crescita economica, Parità di genere