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VP024_ECO

Visiting Professor Program
Academic Year 2023/2024

TEACHING COMMITMENT: 36 hours

COURSE TITLE
Complexity Economics

TEACHING PERIOD
2nd term

SCIENTIFIC AREA
Complexity Sciences

LANGUAGE USED TO TEACH
English

COURSE SUMMARY
The main idea behind the course is to show that the neoclassical economics assumption about perfectly rational agents who adopt optimal behaviour consistent with general economic equilibrium is challenged by an anti-conformist reality which, to be investigated, needs this same assumption to be relaxed and even removed. Complexity economics assumes agents' heterogeneity, endowed with imperfect information about other agents' beliefs and behavior. When acting under conditions of uncertainty and interdependence, in historical time, agents explore the environment as defined by interactions and learn to elaborate and modify strategies. Resulting outcomes are typically "emergent" phenomena, which cannot be analyzed by conventional equilibrium analyses.
The course will first explore this vision, and provide students with notions related to the original tools (agent-based models) employed in complexity economics, allowing economists to investigate decision making under uncertainty, to deal with nonlinear dynamics, and nonlinear stochastic

processes. Then, it will illustrate and discuss applications and case studies, considering socio-ecological systems as complex adaptive systems and focusing preferably but not exclusively on environmental issues.

LEARNING OBJECTIVES

Students will first learn that complexity economics as an approach within the economics discipline can provide a useful alternative to neoclassical economics' main tenets, as well as that some very basic ideas of complexity economics have a longer history in economics than it is thought. Second, they will acquire some basic knowledge about the main methods used in complexity economics, and to apply such methods to topics of general and specific interest.

TUTORSHIP ACTIVITIES

N/A

LAB ACTIVITIES

N/A

OTHER ACTIVITIES BESIDES THE COURSE

N/A

VISITING PROFESSOR PROFILE

The Visiting Professor should be a complexity economist, or a complexity scientist, willing to illustrate the complexity economics approach to a non-specialist audience or a historian of economic thought / economic methodologist with research interests in complexity economics.

CONTACT REFERENT

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