During the 3-years program, students will attend lectures and seminars both at the University of Palermo and at our Partner Universities: Bergen (Norway), Nijmegen (the Netherlands), and Bogotà (Colombia).

Syllabus

	1st Semester	2nd Semester
1st Year	• Dynamic Performance Management I – Planning & Control Systems • Dynamic Performance Management II – Business Strategy • Dynamic Performance Management in the Public Sector	• System Dynamics I • System Dynamics II
notes	(Students from the partner University must take the courses stated above at the University of Palermo)	(Students from the University of Palermo will take the courses stated above at the University of Bergen. If they have at least a 2- years study background in System Dynamics, they will focus their semester in Bergen on Applied Projects under Supervision of the University of Bergen Faculty).
2nd Year	• Advanced Dynamic Performance Management	• Group Model Building I • Group Model Building II
notes	(Applied Projects under Supervision of Faculty, and seminars on focused Public Management topics)	(Students from the University of Palermo will take the courses stated above at the university of Nijmegen or other partner University)
3rd Year	Thesis writing	
notes	Under the supervision of a professor from the University of Palermo and a professor of the partner University, and based on a 'co- tutelle' agreement)	

More information

For information regarding the application procedure, please visit:
ced4.com/education/ph-d-program/#Info

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CED⁴
System Dynamics Group

2ems

Doctoral program in
Model-based Public Planning, Policy Design & Management

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Background

The doctoral program in "**Model Based Public Planning, Policy Design and Management**" is focused on applying System Dynamics modeling to foster a learning-oriented approach in public sector performance management, for the design and implementation of sustainable policies.

By attending the program, students will learn how system dynamics modeling and simulation can support collaborative governance, to manage 'wicked' social issues and to pursue sustainable community outcomes. They are characterized by dynamic complexity, involving multi-level, multi-actor and multi-sectoral challenges.

Examples of such problems include: traffic congestion, societal aging, unemployment, youth disengagement, education, social cohesion, domestic violence, child abuse, crime, corruption, terrorism, poverty, migration flows of refugees, homelessness, climate change, and natural disasters. Such policy areas underlie a multitude of dynamic complex problems that today's societies are expected to deal with, to pursue resilience and to improve quality of life. Failing to consider the dynamic complexity of such problems, involving different policy makers (from not only the public, but also non-profit and the private sector) increases the risk of policy resistance and of counterintuitive, unpredictable behavior of the systems that a public agency may try to affect through its own individual actions.

Outcomes of the program

The doctoral program adopts a methodological framework that combines System Dynamics modeling with Planning & Control systems, to support decision-makers in managing and assessing organizational and community performance, to foster sustainable socio- economic development and monitor crisis prevention.

At the end of the program, students will defend their doctoral thesis, to receive a double degree with the University Jorge Tadeo Lozano, Bogotà (Colombia).

Main professional outcomes from attending our program are:
 - starting a career in Universities and Research institutions, or even "think tanks";
 - working in Public Administration (e.g.: state and local government, public utilities, health care organizations);
- working in NGOs, non profit and business sectors
- supporting, as consultants, organization decision makers in better assessing the quality and sustainability of their policies and strategies.

Research areas

System Dynamics, Performance Management and Collaborative governance

To implement collaborative governance, to enhance coordination in public policy design and implementation, and to support stakeholders to find possible answers to the previous questions, system dynamics modeling methods may play a crucial role. It may boost the capability of a leading public sector organization to map 'wicked' social problems' stakeholders and to involve them – through forums supported by a learning facilitator – to pursue a common shared view of the hidden feedback structure underlying the behavior of desired policy outcomes over time. It may support policy makers to outline the boundaries of the relevant system to investigate, and to adopt a common 'language' to analyze dynamic and complex social problems, so to sketch a bridge between different disciplines focusing such problems on only sectoral perspectives. It may also help each involved agency to outline a set of intermediate and organizational outcomes which are consistent with the inter-institutional, community outcomes

How to foster the development of networks of public sector organizations that may lead to sustainable community outcomes? How to model such sustainability? What are its key-components and drivers? How to model community outcomes? How to set agency outcomes which are consistent with community outcomes? What are the drivers and the behavioral implications associated with this process? How to foster an interdisciplinary approach in designing and implementing sustainable governmental reforms aimed at generating community outcomes and public value?

Study Program

The doctoral program consists of three academic years, during which students will attend seminars, lectures, focused modeling and simulation sessions, class discussion sessions, computer based training sessions. The teaching strategy is based on the active and continuous participation of students. It also aims to increase students' attitudes to frame a scientific problem, develop research hypotheses, implement proper research methodologies to test them, and evaluate results.