

Corso: **SYSTEM DESIGN FOR SUSTAINABILITY (SDS)**

Docente: PROF. CARLO VEZZOLI

Semestre: 2°

Lingua di erogazione: INGLESE

N° max studenti ammessi: 60

Modalità d'esame per non frequentanti: SI

Note: /

Prodotto	Interni	Comunicazione	Fashion	D&E	PSSD
✓	✓	✓	✓	x	✓



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## **SCOPE OF THE COURSE**

**TO TEACH ABOUT THE THEORY AND THE PRACTICE OF SYSTEM DESIGN FOR SUSTAINABILITY (SDS)**

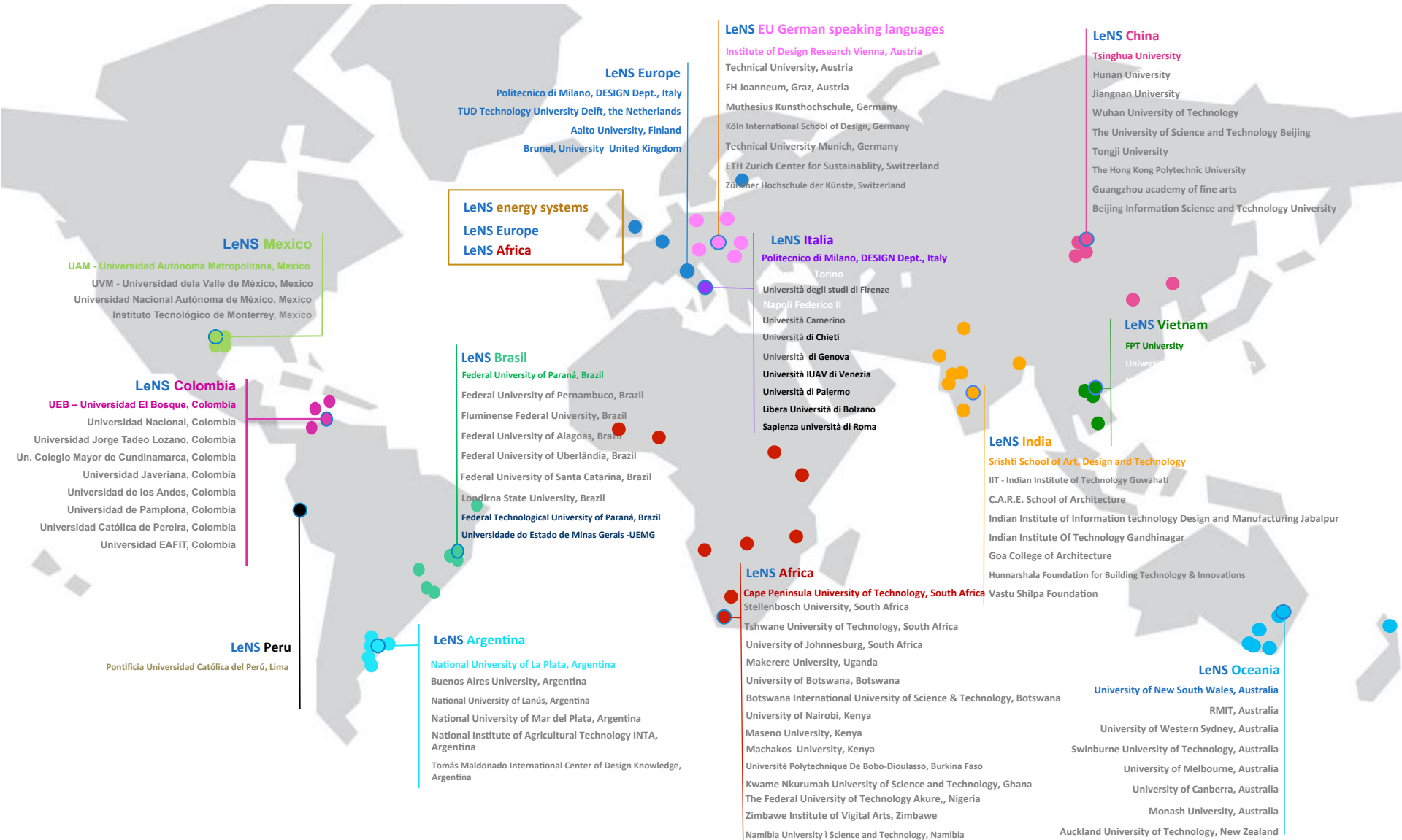
***or PRODUCT-SERVICE SYSTEM DESIGN (PSSD) FOR SUSTAINABILITY.***

## **COURSE INTERNATIONAL FRAMEWORK**

**the course is framed into the LeNS international network of more than 100 universities from all continents, aiming at the diffusion of design for sustainability with an open and copyleft ethos (info at [www.lens-international.org](http://www.lens-international.org))**



# LeNS international open and multipolar networks to diffuse Design for Sustainability (~ 100 UNIVERSITIES in 13 regional + 1 thematic networks)





# SUSTAINABLE DEVELOPMENT?

# PREMATURE DEATH/YEAR IN THE WORLD FOR AIR POLLUTION

(FINE PARTICLES, O<sub>3</sub>, NO<sub>2</sub>, ...)

## 6,5 MILLIONS PEOPLE

[INTERNATIONAL ENERGY AGENCY – IEA, 2016]

### THESES ARE NUMBERS OF A WORLD WAR!





# 2015: FAO FOOD INSECURITY IN THE WORLD

The changing distribution of hunger in the world: numbers and shares of undernourished people by region, 1990-92 and 2014-16





**SUSTAINABLE DEVELOPMENT?**

**WE ARE VERY CLOSE TO THE COLLAPSE!**

**WE NEED RADICAL CHANGE**

**PROMOTE (DESIGN!)  
SUSTAINABLE SYSTEM  
INNOVATIONS**

**BROADER THAN SINGLE  
PRODUCT OR PROCESS INNOVATION**



# **THE GOOD NEWS**

**PROMISING BUSINESS MODEL DO EXISTS**

**THEY ARE CALLED SUSTAINABLE PRODUCT  
SERVICE SYSTEM**

**AND DISTRIBUTED ECONOMIES**

**THESE ARE MODEL WHERE THE PRODUCER AND  
PROVIDER IN ECONOMICALLY INTERETED TO  
REDUCE THE ENVIRONMENTAL IMPACT WHILE  
REACHING EVEN LOW AND MIDDLE INCOME  
PEOPLE (IMPROVING THIER QUALITY OF LIFE)**





## **THE GOOD NEWS 2!**

**THE DESIGNER MAY PLAY A KEY ROLE**

**A ROLE IN DESIGNING NOT ONLY PRODUCTS BUT  
THOSE PARTICULAR MIX OF PRODUCT AND  
SERVICES WHICH ARE AT THE SAME TIME  
ECONOMIMICALLY, ENVIRONMENTALLY AND  
SOCIOETHICALLY SUSTAINABLE**



## **SYSTEM DESIGN FOR SUSTAINABILITY (SDS)**

**DURING THE COURSE YOU WILL LEARN ABOUT  
THOSE MODELS AND HOW TO DESIGN THEM**



## SYSTEM DESIGN FOR SUSTAINABILITY (SDS)

### THE COURSE ADDRESSES THE FOLLOWING QUESTIONS:

- . what are the **scenario** to radically reduce the environmental impact and improve social equity and cohesion in an economically profitable way?
- . what is a **role** a **designer** may play?
- . what a designer should design?
- . what a designer should know (the **knowledge-base**)?
- . what are the method and tools a designer may use (the **know-how**)?



# Corsi a scelta Laurea Magistrale - 2° semestre

## **THE COURSE IS STRUCTURED INTO 2 PARTS:**

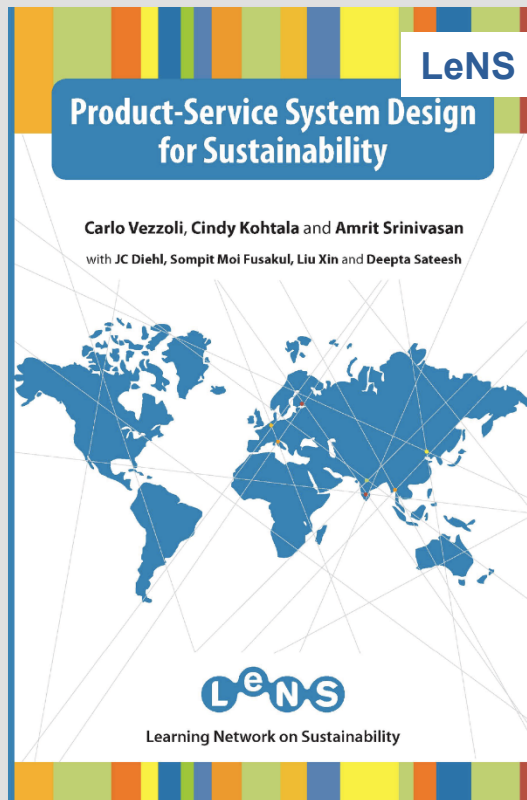
- **THE THEORETICAL PART (5 lectures)**
- **THE DESIGN EXERCISE (8 lectures)**



# Corsi a scelta Laurea Magistrale - 2° semestre

## THE THEORETICAL PART:

All the Learning Resources (book, slides, videos, etc.) of the course lectures can be viewed or downloaded for FREE from [www.lens-europe.eu](http://www.lens-europe.eu)



**Slides**

course System Design for Sustainability (SDS)

learning resource 0.0  
System Design for Sustainability (SDS) course and LeNS/LeNSes introduction

carlo vezzoli  
politecnico di milano · DESIGN dept. · DIS · School of Design · Italy

[Learning Network on Sustainability \(EU asia-link\)](#)  
[Learning Network on Sustainable energy systems \(EU edulink\)](#)

**Videos**

course System Design for Sustainability  
subject 1. Sustainable development and design: the reference framework

learning resource 1.1  
Sustainable development and system innovation

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politecnico di milano · DESIGN dept. · DIS · School of Design · Italy

[Learning Network on Sustainability \(EU asia-link\)](#)  
[Learning Network on Sustainable energy systems \(EU edulink\)](#)

**Clip slide**



**LeNS ES** Carlo Vezzoli Politecnico di Milano / DESIGN dept. / DIS / School of Design / Italy 



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## **DESIGN EXERCISE: THE BRIEF**

**design an EATING system for a UNIVERSITY CAMPUS, based on the promising models of Sustainable Product-Service Systems (S.PSS) applied to Distributed Economies (e.g. Distributed Renewable Energy - DRE)**