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SCUOLA DEL DESIGN

OPEN DAY
LAUREE MAGISTRALI

DESIGN & ENGINEERING
PROGETTO
E INGEGNERIZZAZIONE
DEL PRODOTTO INDUSTRIALE

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School of Design_Master Degree Courses

http://design-engineering.polimi.it/

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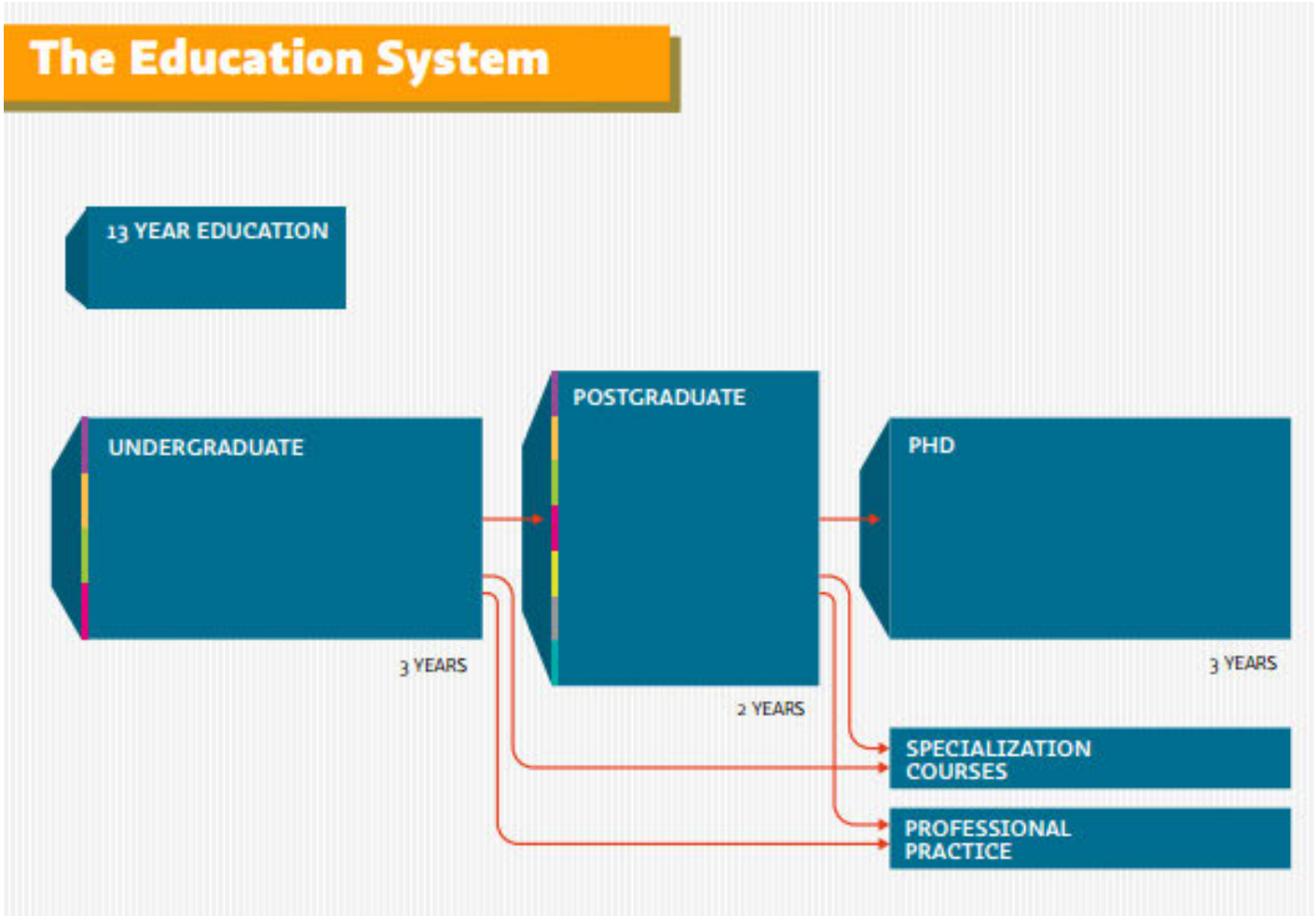
School of Design_Master Degree Courses



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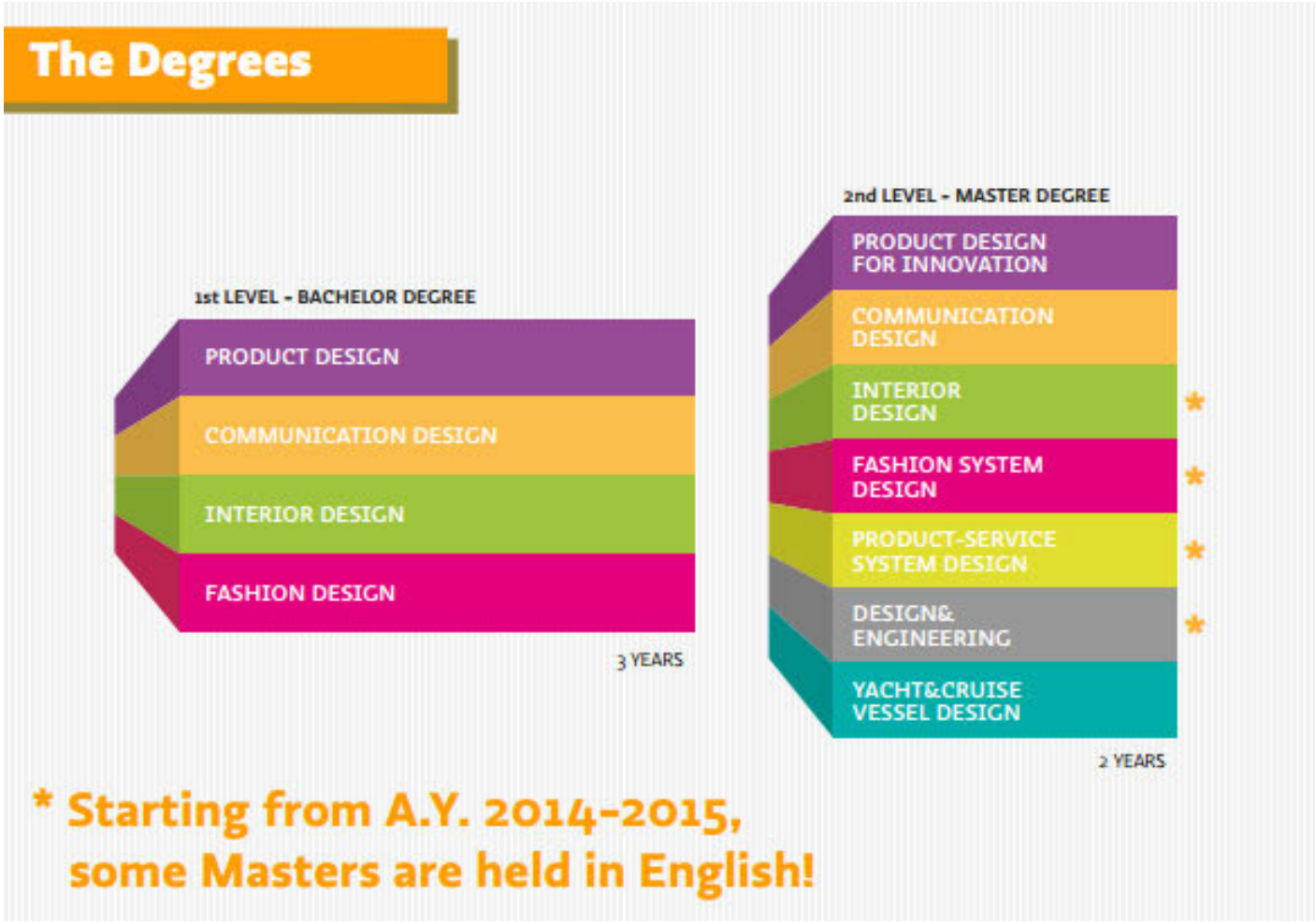
School of Design_Master Degree Courses



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School of Design_Master Degree Courses

Master degrees	Places for EU students	Places for extra EU students	Of which reserved for chinese students	Total places EU + extra EU students
Design & Engineering	55	35	10	**100**

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Master Degree Course in Design & Engineering

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Master Degree Course in Design & Engineering

Aim

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Aim

The aim of the Master Degree Course in Design & Engineering is to train **new professional figures** who hybridize design and engineering competences.

New professionals who are able to **manage the design activity throught the whole product development process**, that is: from the conceptual phase up to the material selection, mechanical engineering studies and manufacturing documentation.

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Aim

These new professionals are able to:

make a synthesis of design complexity;

manage processes, functions and materials;

make the technical documentation for production.

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Contents

Integrated education on three disciplines:

Design;

Materials Engineering;

Mechanical Engineering.

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Design

It provides a deeper knowledge about design culture and processes. The aim is to develop skills to design innovative products based on the understaning of: context, users needs and experieces, industrial and manufacturing processes.

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Materials Engineering

It provides designers with specific operational skills in:

- materials properties for D&E applications
- criteria for material selection
- surfaces finishing
- nanotechnologies & functional materials

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Mechanical Engineering

The aim is to provide knowledge on methods and skills for mastering digital tools to perform engineering studies of product designs, including:

- building digital prototypes of products through 3D modeling and reverse modeling,
- performing analysis and simulations through virtual prototyping and finite element analysis techniques
- testing manufacturability

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Sections

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Sections

The master degree course has **3 Sections**, where:

- **Teoretical courses** are the same;

- **Design Studios** differ: 2 options are available (see next page);

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Sections

Design Studio options

Section	Language Section	Languages elective courses	Focus of Design Studio
DE1		 	Product Development Design Studio for product feasibility
DE2		 	Product Development Design Studio for product feasibility
DE3		 	Product Development Design Studio for product interaction

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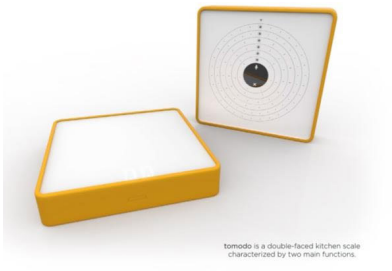
Sections

Design Studio options

Section	Focus of Design studio	Product examples
DE1	Product development Design studio for product feasibility	  
DE2	Product development Design studio for product feasibility	
DE3	Product development Design studio for product interaction	 

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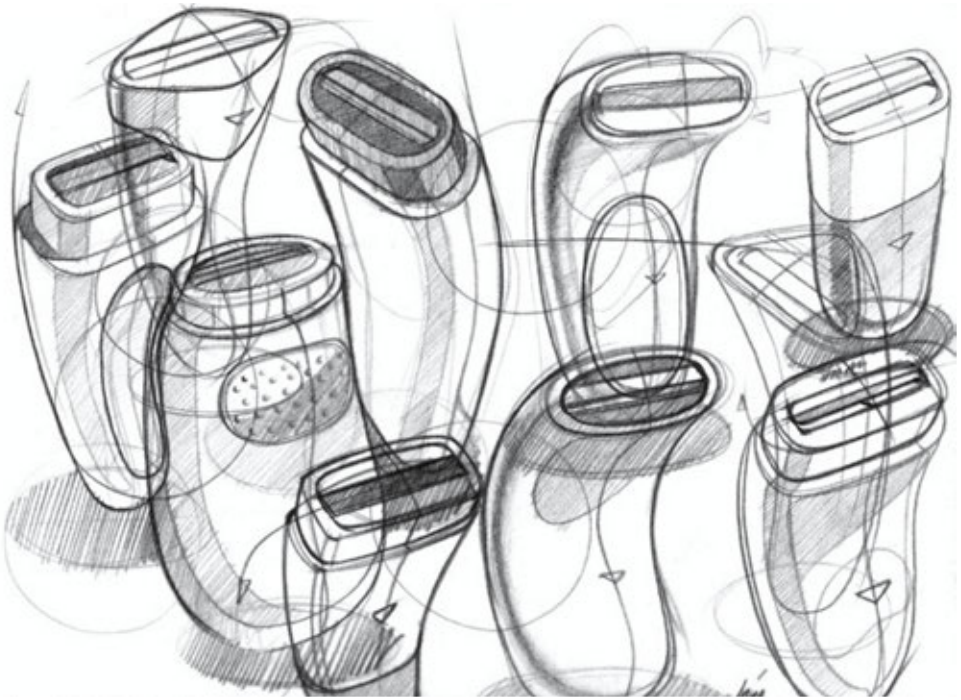
What you will learn *(product feasibility)*

To analyze and synthetize the aesthetic, mode of use and technical feasibility of industrial products.



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What you will learn *(product feasibility)*

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What will you learn *(product feasibility)*

To describe the industrial feasibility of products through the detailed design.

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What will you learn *(product feasibility)*

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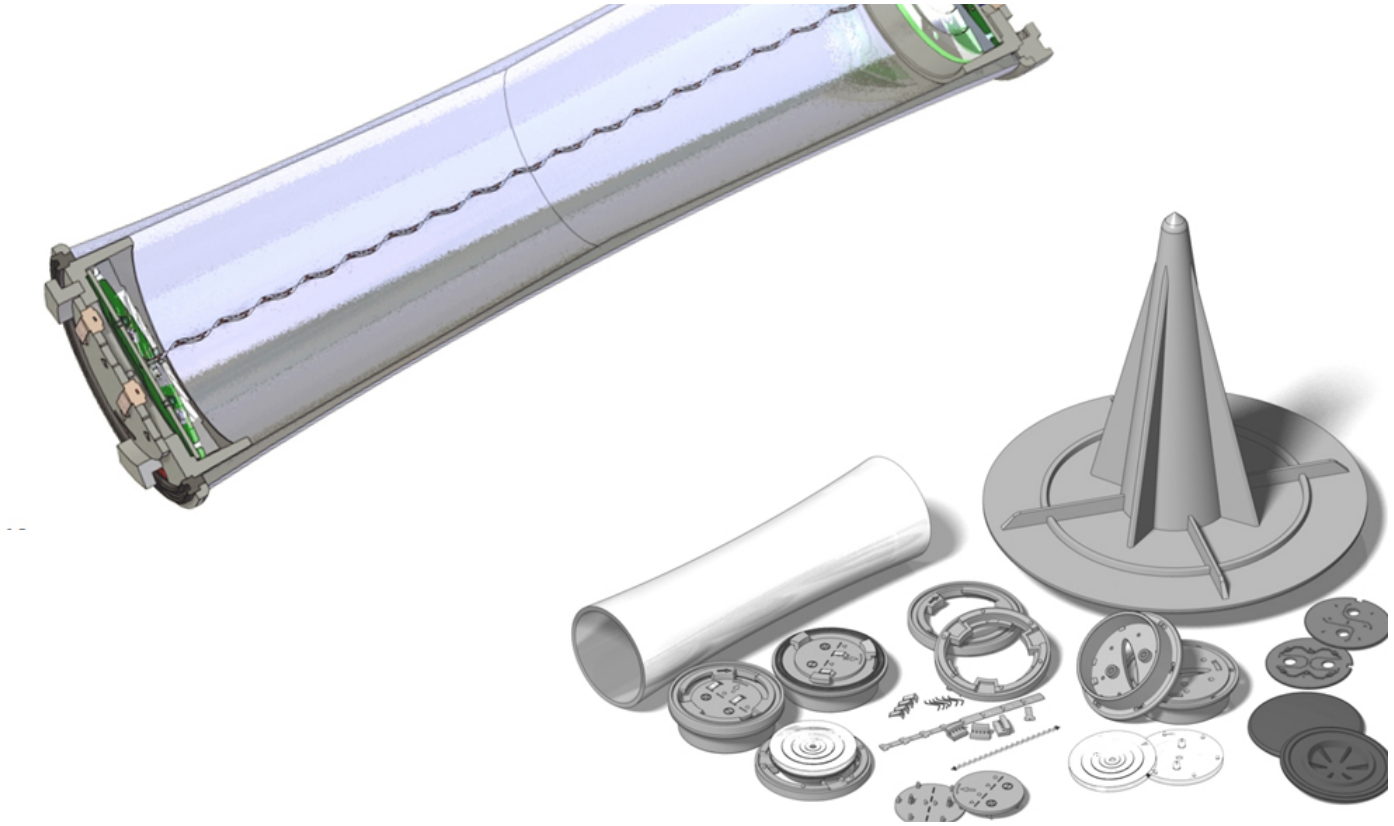

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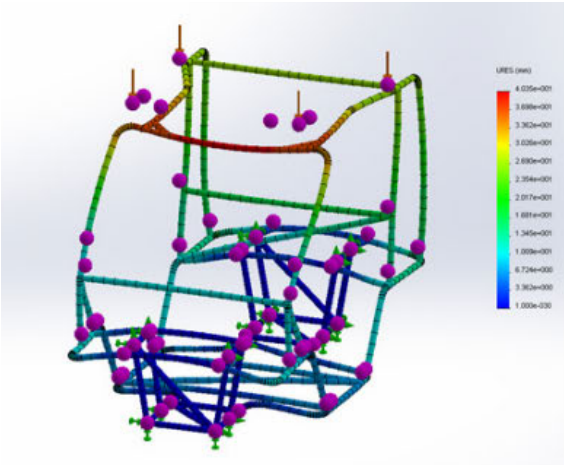
What will you learn *(product feasibility)*

To master digital tools to perform engineering analyses of product designs (i.e., ergonomic issues, material deformation, manufacturability, …)



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What will you learn? *(product interaction)*

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What will you learn? *(product interaction)*

To approach the design of an **interactive product** with the right tools, from the methodological and practical viewpoints.
To build the **user experience** addressing both meaning and aesthetics and to structure the **user's interactive process**.

[topic examples: home appliances,
desing4resource saving]

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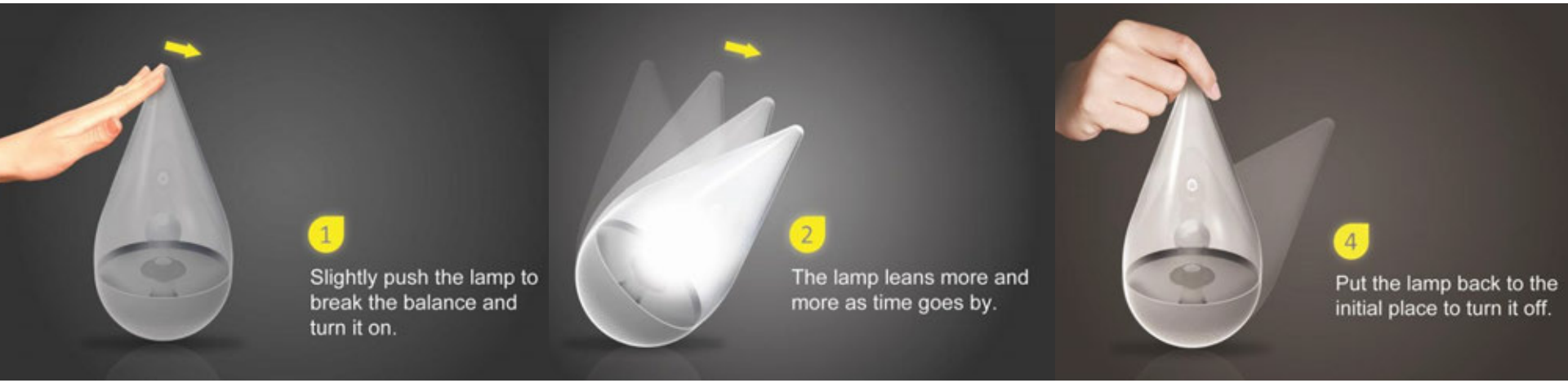

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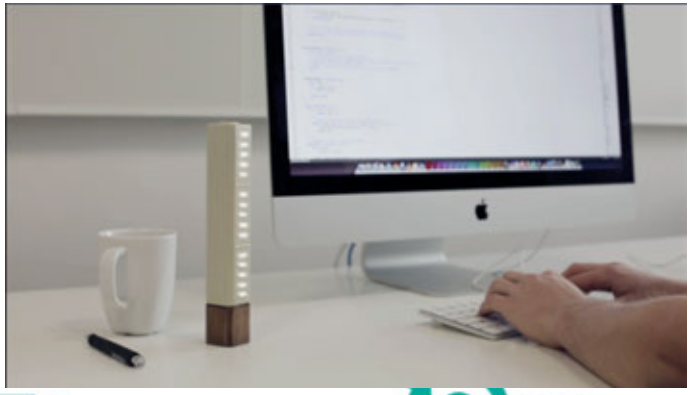
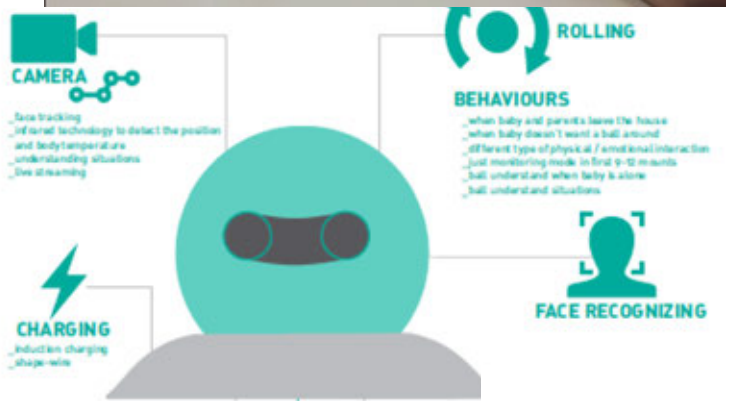
What you will learn *(product interaction)*

to **“design”** ***user experience*** through the analysis and the understanding of ***how the product interacts*** (communicates) with users, ***the user groups*** and ***the context*** in which the product will be used. [working space, smart home, well-being etc..]





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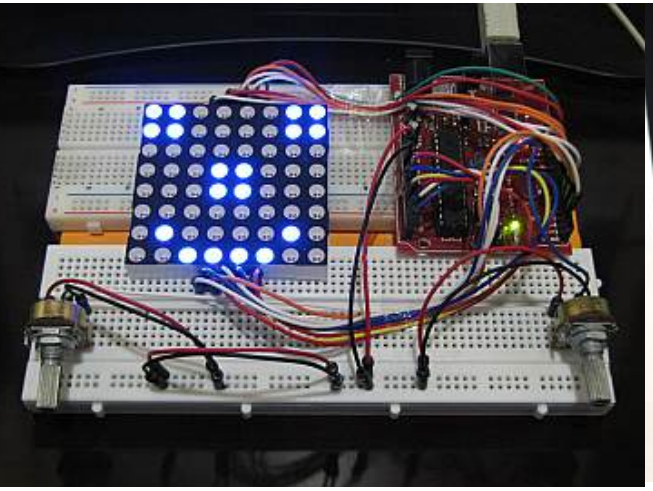
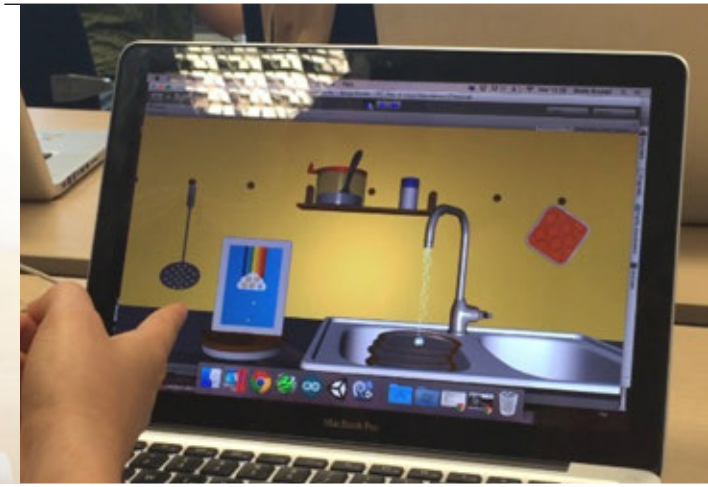
What will you learn? *(product interaction)*

To handle the basics of physical computing.
To use the tools and platform for applied interaction (Arduino, Unity 3D, Leap Motion)





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Study Plan

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Plan 1° Year _Section DE1 e DE2

1° sem	Product development Design Studio 1 (*product feasibility*) (Methods and tools for detailed design)	6 CFU
	Design Thinking and Processes	6 CFU
	Criteri di scelta e impiego dei materiali *or* Materials selection criteria in design & engineering	12 CFU
	Fondamenti di progettazione meccanica *or* Mechanical Design	12 FCU
2° sem	Product development Design studio 2 (*product feasibility*) (Materials for design)	12 CFU
	Design and Corporate Economics	6 CFU
	Design for Manufacturing	6 CFU
1° / 2° sem.	An optional course between: Reverse modeling Metodi di rappresentazione parametrica Virtual prototyping Nanotecnologie e materiali funzionali per il design Il Metodo degli elementi finiti	6 CFU

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Plan 1° Year _Section DE3)

1° sem	Product development Design studio 1 (product interaction) (Engineering design for interaction)	6 CFU
	Design Thinking and Processes	6 CFU
	Criteri di scelta e impiego dei materiali *or* Materials selection criteria in design & engineering	12 CFU
	Fondamenti di progettazione meccanica *or* Mechanical Design	12 FCU
2° sem	Product development Design studio 2 (product interaction) (Design for interaction)	12 CFU
	Design and Corporate Economics	6 CFU
	Design for Manufacturing	6 CFU
1° / 2° sem.	An optional course between: Reverse modeling Metodi di rappresentazione parametrica Virtual prototyping Nanotecnologie e materiali funzionali per il design Il Metodo degli elementi finiti	6 CFU

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Plan 2° Year _Section DE1 e DE2

1° sem	Final project work	18 CFU
	Semiotics	6 CFU
2° sem	Internship	15 CFU
	Degree Examination	9 CFU
1° / 2° sem.	An optional course between (not chosen in the 1st year): Reverse modeling Metodi di rappresentazione parametrica Virtual prototyping Nanotecnologie e materiali funzionali per il design Il Metodo degli elementi finiti	6 CFU

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Opportunity of International Exchange

Double Degree

Erasmus Programme

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Opportunity of International Exchange

Double Degree_Les Ecoles Centrales

Double Master Degree: 180 CFU (France)

2 diplomas (Polimi + Partner school)

Selection during first year of Master Degree

Max. 5 students IN e 5 students OUT

› PARIS

› LILLE

› LYON

› MARSEILLE

› NANTES

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Opportunity of International Exchange

Double Degree_Les Ecoles Centrales

	Polimi students	**Les Ecoles students (Design & Engin.)**
Sem 1	Italy	France
Sem 2	Italy	France
Sem 3	Italy	Italy 1st LM
Sem 4	France	Italy 1st LM
Sem 5	France + Thesis	Italy 2nd + Thesis

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Opportunity of International Exchange

Erasmus Program

7 EU partners for D&E

Germany - University of Applied Science, Aachen
France - Ecole Nationale Supérieure Des Mines De St Etienne
Norway - Norwegian University of Science and Technology
Netherlands - Delft University of Technology
Netherlands - Eindhoven University of Technology
Sweden - Chalmers University Of Technology, Goteborg

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Opportunity of International Exchange

Erasmus Program

11 Extra EU partners for D&E

Argentina - Univesidad Nacional De Córdoba
Australia - Queensland University of Tecnology, Brisbane
Australia - University - Royal Melbourne Institute of Tecnology
Australia - University of Tecnology, Sydney
South Korea - Korea Advanced Institute Of Science And Technology
Japan - Chiba University, Chiba
Japan - Tokyo Institute Of Technology, Tokyo
Israel - Bezalel Academy Of Arts And Design, Jerusalem
Israel Technion - Israel Institute Of Technology, Haifa
PRChina - Jiangnan University, Wuxi
Taiwan - National Taiwan Univeristy Of Science And Technology, Taiwan

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Opportunity of International Exchange

Erasmus Program

At D&E you can leave during 2nd Semester of 2nd Year

You will do your 15 intership credits.

Apply first year to leave the second!

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Find all enrolment information on the Design School website
www.design.polimi.it

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Welcome to D&E!

http://design-engineering.polimi.it/