

Corso: **VIRTUAL PROTOTYPING**

Docente: PROF.SSA MONICA BORDEGONI

Semestre: 2°

Lingua di erogazione: INGLESE

N° max studenti ammessi: 40 POLITECNICO + 20 ERASMUS

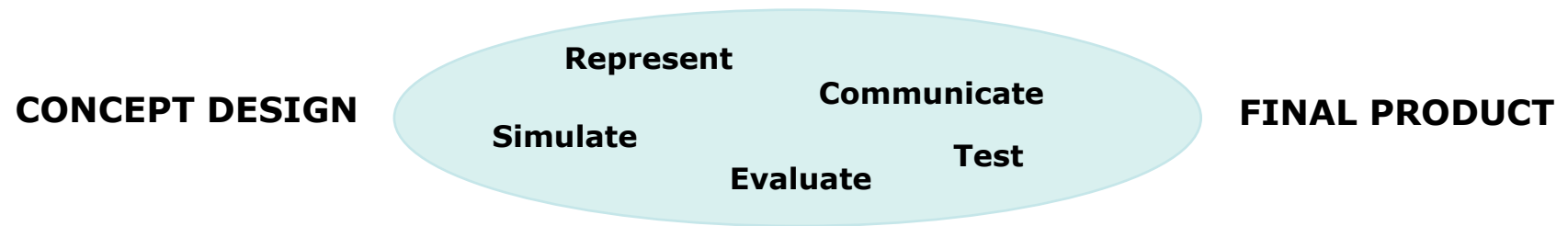
Modalità d'esame per non frequentanti: NO

Note: /

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

VIRTUAL TECHNOLOGIES FOR PRODUCT DESIGN

The Course aims to teach methods and tools for the virtual representation and simulation of new products, to use before the production phase.



What students will learn:

- Virtual representation and simulation of products
- Advanced design methods for functional simulation of products
- Methods for designing user experience
- Rapid prototyping products using physical and virtual components
- 3D printing

Lab activities:

3D Modeling (SolidWorks, Clo3D, ...)

Interaction Design (Arduino boards)

Interactive VR/AR (Unity3D, Vuforia)

3D printing (PoliFactory)

VIRTUAL TECHNOLOGIES FOR PRODUCT DESIGN

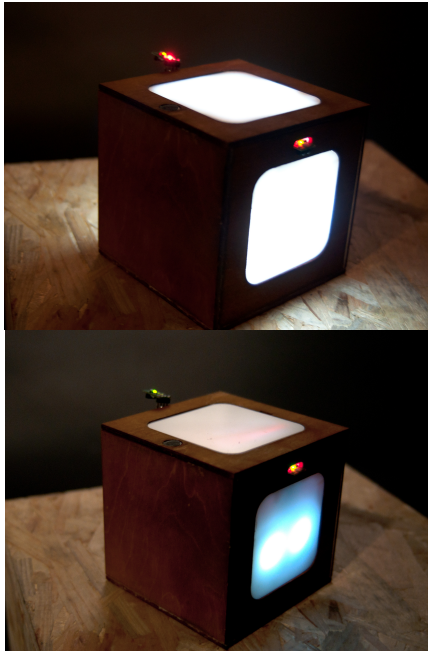
CRITERI DI VALUTAZIONE

- Quality of the projectwork development
- Ability and creativity to solve problems
- Quality of the projectwork presentation

MODALITÀ D'ESAME

- Development and presentation of a projectwork

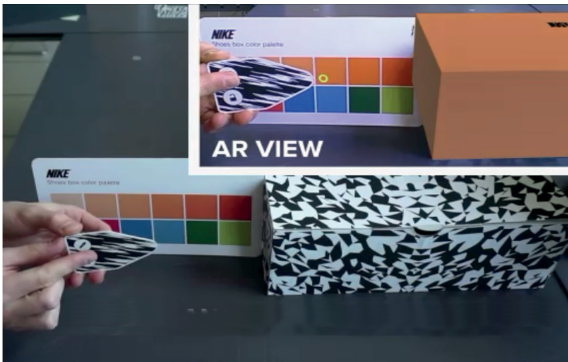
EXAMPLES OF PROJECT WORKS



Emotional Lamp: Prototyping the product using 3D printing and Arduino board and sensors



Interaction with a Virtual environment using an immersive visualization system (Oculus Rift) and Leap motion sensor



Design a box in AR: Prototyping products in an AR environment developed in Unity3D and Vuforia



System to display tangible data about surfing: Prototyping the product using 3D printing and Arduino board and sensors

EXAMPLES OF PROJECT WORKS



Simulation of the design of a new place using Unity 3D



Furnish a house using a tangible AR application



Modeling and simulation of cloths using Clo3D



Driving environments to test using the driving simulator (I.DRIVE lab)

LABS

Virtual Prototyping Lab



I-DRIVE Lab: inter-departmental Lab aiming at studying the Interaction between **Driver** **Road-Infrastructure** **Vehicles** and **Environment**