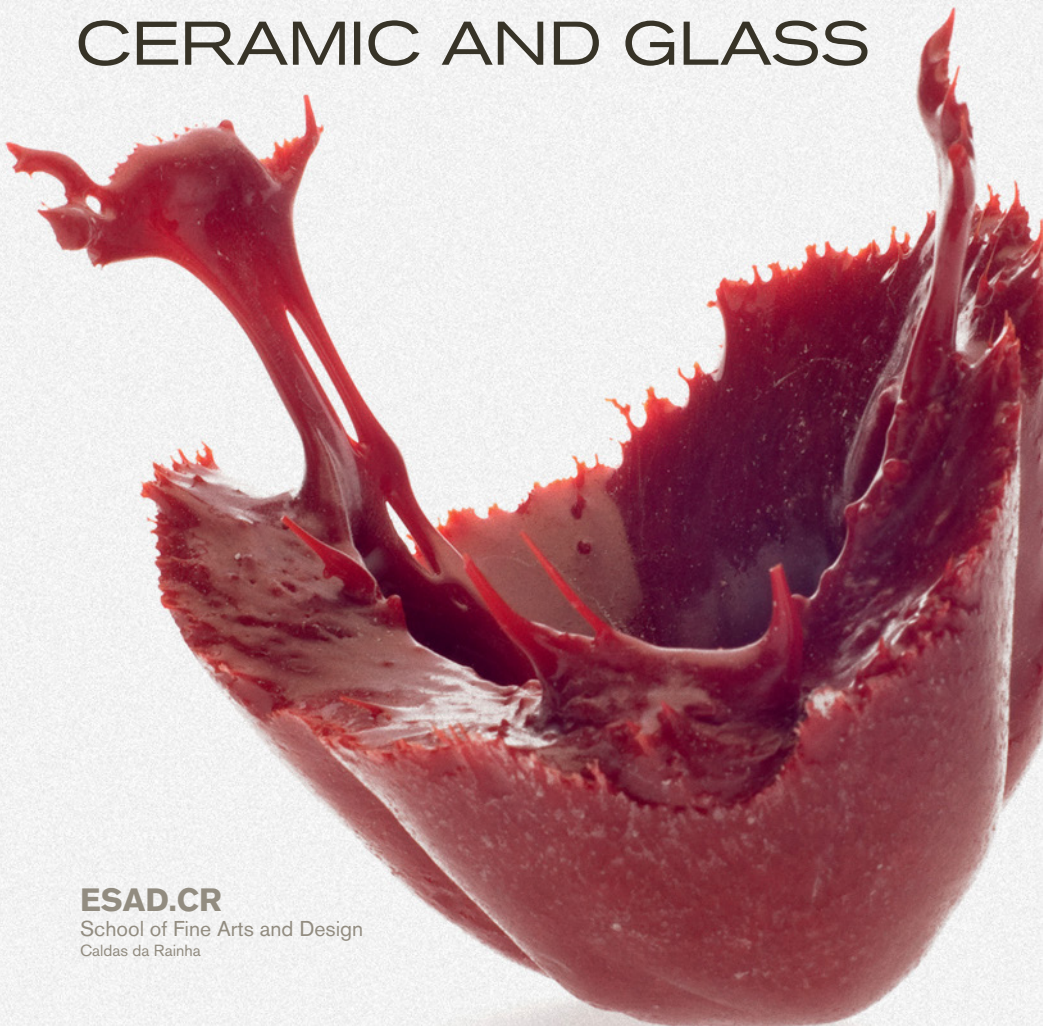


UNDERGRADUATE PROGRAMME

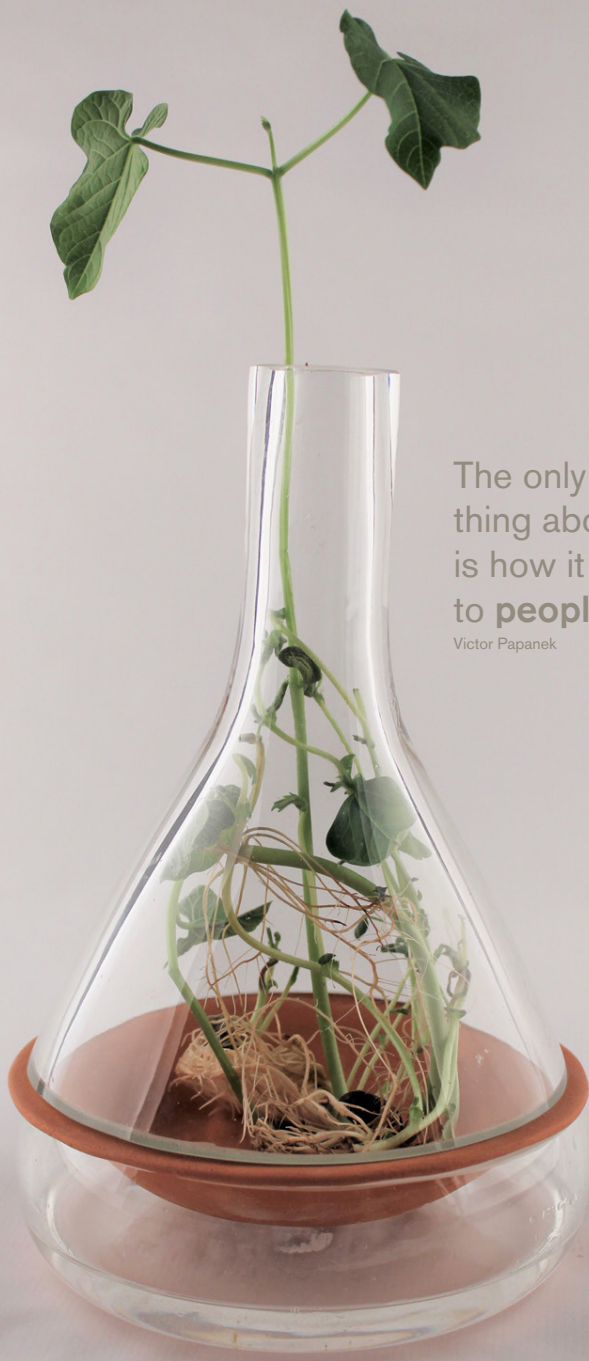
PRODUCT DESIGN

CERAMIC AND GLASS



ESAD.CR

School of Fine Arts and Design
Caldas da Rainha



The only important
thing about **design**
is how it relates
to **people.**

Victor Papanek

Why should you choose to study

PRODUCT DESIGN

CERAMIC AND GLASS

The course is recognised by the A3ES (*Higher Education Evaluation and Accreditation Agency*);

The curriculum and areas of study are adapted to students' professional expectations in the ceramics and glass industry and craft areas;

The course is centred on “learning by doing”;

The subjects are taught by highly trained professionals;

Good working relationship between students and teachers;

The well-equipped and diversified workshops enable practical experimentation;

Real time projects are developed with partner companies and institutions;

Students can undertake work experience in companies;

There is access to international exchange programmes such as Erasmus for example;

Parallel technical training is provided by specialised institutions;

Over 60 national and international awards;

Students may opt for accommodation in the Student. Halls of Residence;

The school is located in an historic town, near Lisbon, in pleasant surroundings and not far from local beaches.

THE UNDERGRADUATE COURSE

The undergraduate course in Product Design – Ceramic and Glass ensures a solid training in the area of Product Design and technological expertise in the areas of ceramics and glass. Focus is on design and development of ceramic and glass products for both industry and craft manufacture.

SKILLSETS

The structure of the Product Design curriculum provides students with theoretical and practical skills applied in developing concepts, communicating ideas, creating prototypes, understanding material behaviour and properties, and production techniques whether for industry or craft.

PRODUCT DESIGN

CERAMIC AND GLASS

TRAINING

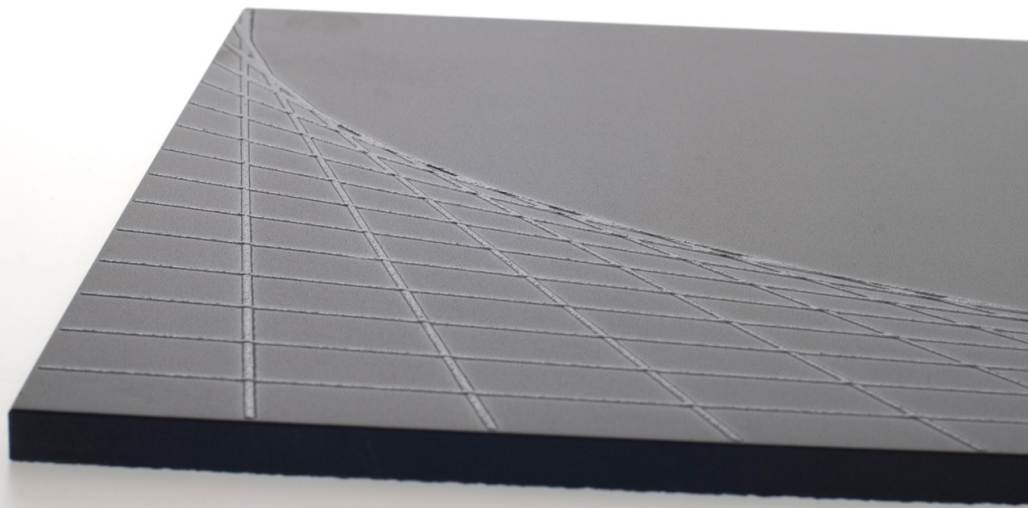
Design and development of products encompasses the following:

Tableware, Cookware, Architectural and Urban Planning (such as (floor and wall claddings. Sanitary equipment, and urban furniture), jewellery and fashion accessories.

COURSE OBJECTIVES

Based on the essential connection between Design and Technology, the course's main objectives are to train students to have a high level of creative, technical, scientific, ethical and professional skills, and to be capable of rationalizing the use of resources as well as managing systems and processes in an effective, integrated, and innovative way.







PRODUCT DESIGN

CERAMIC AND GLASS

PHYSICAL RESOURCES

Housed in an architectural award winning building designed by a renowned Portuguese architect, the school is well equipped to respond to the students' requirements and offers the following facilities:

Ceramics, glass and plaster studio and atelier;

Woodworking shop;

Metalworking shop;

Digital prototyping laboratory;

Printmaking and silkscreen studio;

Photography laboratory and studio;

Audio-visuals studio;

Digital studio.

JOB OPPORTUNITIES

Design Studios;

Design Consultancy;

Architectural offices;

Urban planning offices;

Landscaping;

Cultural and artistic heritage;

Coordination of multidisciplinary teams for product and environmental development;

Members of research groups and the development of Sustainability initiatives;

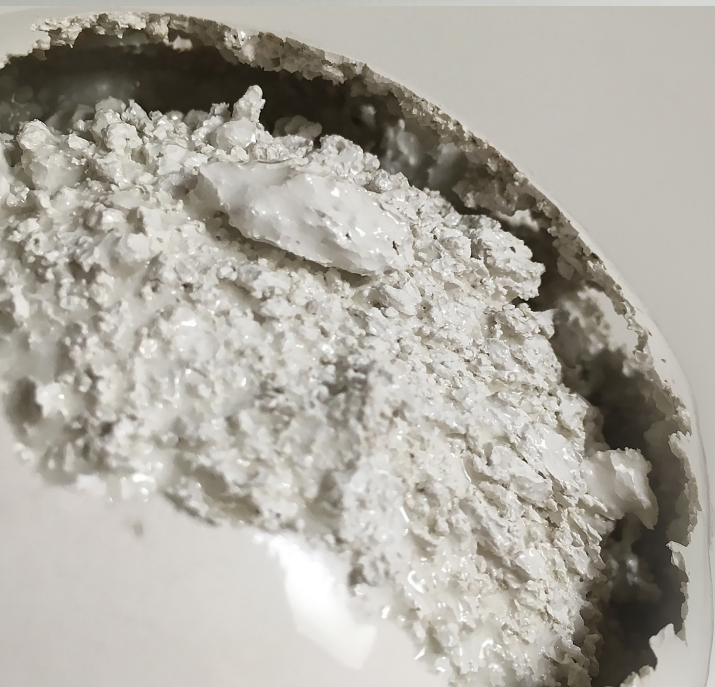
Professional craftsperson;

Recognised artisan status;

Curator/Administrator –

Museums and galleries.









CURRICULUM

The course curriculum is organized into 6 semesters

option: **Final Project**

option: **Company Internship and Participation**

1ST YEAR

S1

Material, Form, and Colour Laboratory
Creative Thinking
Drawing
Materials for Design I
Design History and Theory

S2

Product Design Project I
Technologies I
Drawing for Design
Materials for Design II
Art and Design Studies I

2ND YEAR

S3

Product Design Project II
Technologies II
Human Factor
2D Digital Presentation Techniques
Art and Design Studies II

S4

Product Design Project III
Technologies III
3D Digital Presentation Techniques
Interfaces, Interaction and Usability
Conditional Elective I

3RD YEAR

S5

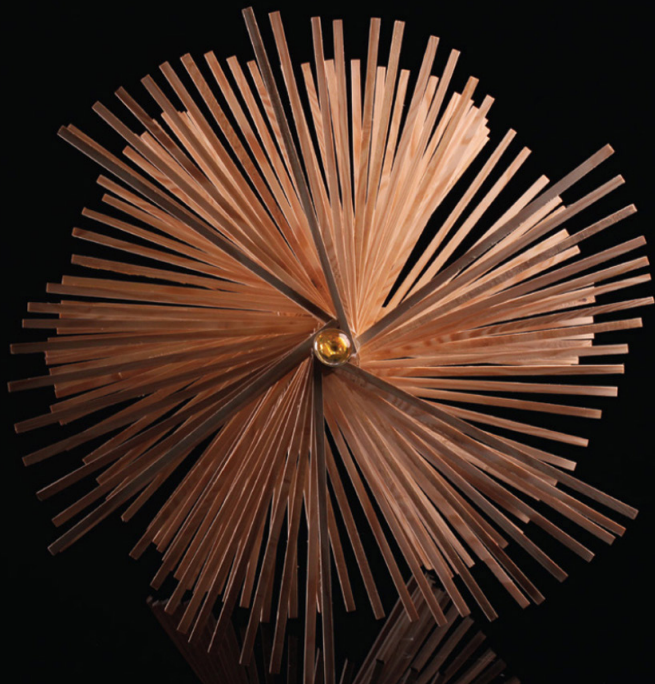
Product Design Project IV
Virtual Prototyping and Additive
Manufacturing
Consumer Trend and Behaviour
Sustainable Design & Development
Elective I

S6

OPTION: FINAL PROJECT
Final Project
Innovation and Entrepreneurship
Project Management
Seminar
Elective II

OPTION: ENTERPRISE INTEGRATED
PROJECT
Integrated Project
Seminar
Conditional Elective II







1ST YEAR . S1

SYNOPSIS

Material, Form, and Colour Laboratory | 9 ECTS

The aim of Material, Form, and Colour Laboratory is to provide students with an understanding of 3 dimensional form, become familiar with a range of materials through experimentation, and have an understanding of the use of colour related to form and the environment.

Creative Thinking | 6 ECTS

Develop strategies and methods of creativity. The focus is on methodologies of creative thinking in Design; students are expected to integrate and apply these strategies in their own design process.

Drawing | 6 ECTS

Drawing combines the skills and practices used by designers. This subject is the first of two interdependent subjects over two semesters. In the first semester students learn to address questions of scale, proportion and composition, materials, light and shadow.

Materials for Design 1 | 6 ECTS

Have an overall understanding of the properties of different materials used in Design and Manufacturing taking into consideration availability, cost, and ecological and aesthetic factors. Materials studied include metals and alloys, plastics (thermoplastics, thermosets and elastomers), wood and wood derivatives and composites.

Design History and Theory | 3 ECTS

This course aims to provide students with an understanding of Design through historic references.



1ST YEAR . S2

SYNOPSIS

Product Design – Project 1 | 9 ECTS

The Product Design Project aims to apply the knowledge and skills developed in the other curriculum subjects.

The content introduces the student to the fundamentals of good design practice based on the development complex objects.

Project Drawing | 6 ECTS

The combination of drawing practice and communicating ideas. As a second drawing subject of two Drawing based units, students learn to address issues essential for the designer – such as proportion and composition, representation of materials, and overall drawing competency.

Materials for Design 2 | 6 ECTS

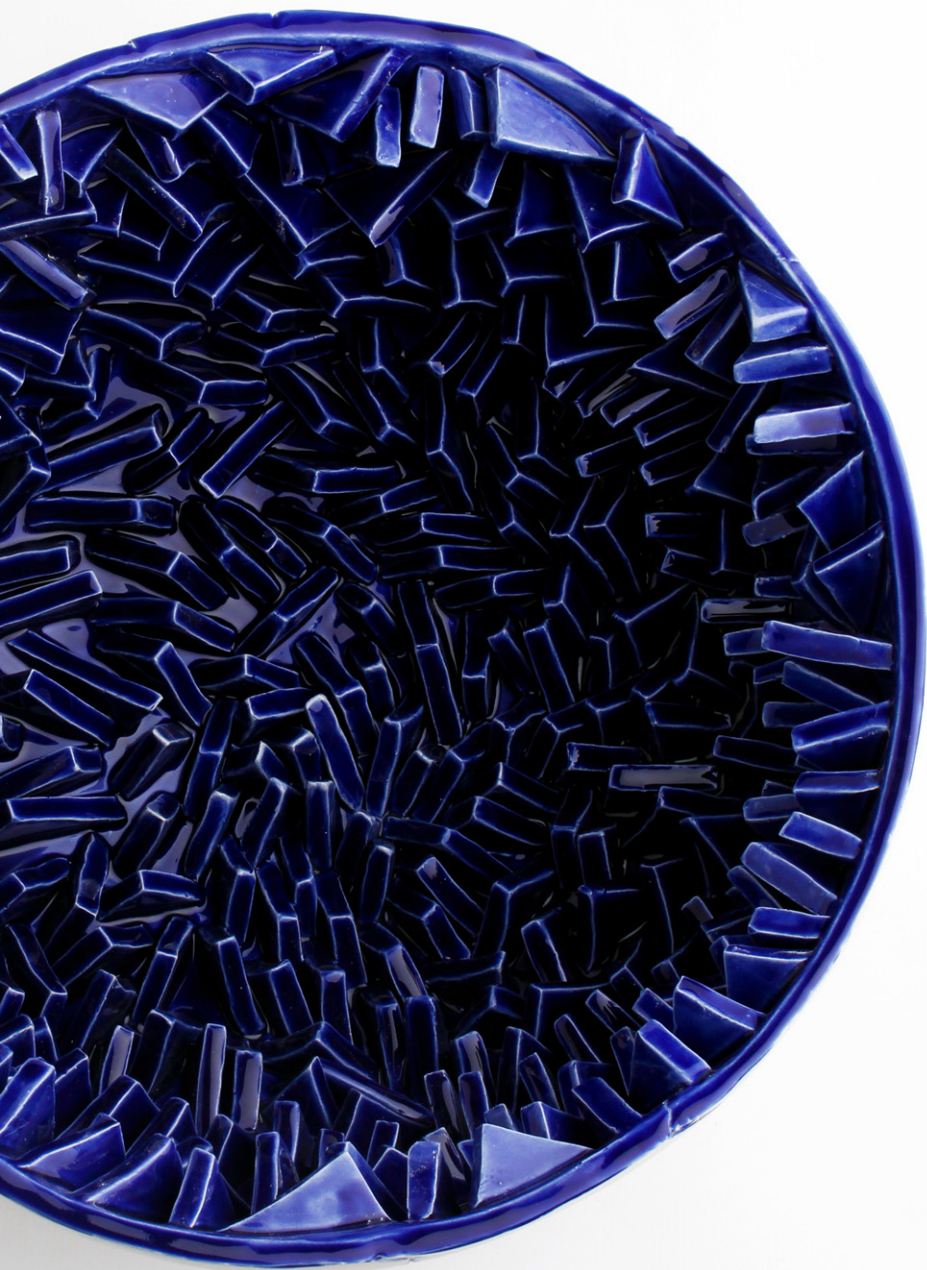
Become competent in the making, application and use of Ceramics and Glass. This includes various subclasses such as: traditional ceramics, technical ceramics, glass, ornamental stone, cement, mortar and concrete. Prices and availability. Properties and Functions. Ecological attributes, aesthetic, sensory characteristics of these materials. Applications. Manufacturing processes and finishing. The materials and technologies as a source of inspiration for the development of creative products. Potentialities and limitations of ceramics and glass. Selection of ceramics and glass design.

Technologies 1 | 6 ECTS

To provide fundamental understanding of processes and production technologies. Produce conceptual pieces in small and large-scale ceramics. Understand and apply technological processes to different ceramic materials using the acquired skills in the execution of ceramic pieces.

Art and Design Studies 1 | 3 ECTS

The Study of Art and Design I and II, aim to provide students with a critical global framework around specific themes of Art and Design, or related subjects such as (Anthropology, Ethnography, Technique, Aesthetics, Sociology, Philosophy, Ethics), through which they are able to understand the importance of Design Theory and Practice in the 20th and 21st century.



2ND YEAR . S3

SYNOPSIS

Product Design Project 2 | 12 ECTS

In this subject, students continue those acquired skills in Product Design Project I, introducing students to design practice in solving complex problems related to man and context.

Development of two design projects and products in ceramic or glass, craft or industrial production, one in simulated context and the other in a real context, in partnership with business.

2D Digital Representation Techniques | 6 ECTS

This unit aims at making the students acquire basic abilities in technical drawing regarded as an instrument of thorough representation of project solutions.

This unit also aims at introducing the student to the competent use of the computer as a drawing tool through the use of vector drawing and image editing software employed in processes of conception and visual communication of the project.

Human Factors | 3 ECTS

Human factors is based on multidisciplinary knowledge focusing on man and their interactions, such as ergonomics, anthropometry, biomechanics, physiology, psychology, ...

These skills can help guide designers to apply theories, principles and design methods in developing products tailored to the characteristics and limitations of being human.

Technologies 2 | 6 ECTS

This subject aims to continue the implementation of the processes and techniques of shaping models in ceramic materials.

It is intended through the applied technological processes, that students use ceramic materials in combination with the various processes.

Art and Design Studies 2 | 3 ECTS

Study of Art and Design I and II, aim to provide students with a critical global framework around specific themes of Art and Design, or related (Anthropology, Ethnography, Technic, Aesthetics, Sociology, Philosophy, Ethics), through which they are able to understand the importance of theories and practices related to material culture of the 20th and 21st century.



2ND YEAR . S4

SYNOPSIS

Product Design Project 3 | 12 ECTS

The contents of this unit continue those acquired skills in Product Design Project II, The project, now with higher level of complexity, aims to promote school/local community interaction. Students are involved in the process through dialogue and active participation in economic, social and environmental issues.

3D Digital | 6 ECTS

This unit aims at introducing the student to the use of the computer as a design tool and the 3D modeling of objects and complementary training among different modeling software and image synthesis.

We intend to ensure the control of techniques and directions that allow the use of 3D modeling and image synthesis software in the virtual representation of objects and environments.

Technologies 3 | 6 ECTS

This unit aims to address and enable an elementary knowledge of the processes and technologies of printing on ceramic surfaces.

It is intended to, by the practice of the subjects covered, and technological processes applied to teach students to relate the different media with different technological processes.

Interfaces, Interaction and Useability | 3 ECTS

Provide concepts of Interface, Interaction and usability exploring concepts of learning, memorization, effectiveness, flexibility, efficiency and satisfaction. Provide assessment tools that will allow testing and data interpretation. Transmit issues such as design experience, sustainable design and new technologies of communication and information.

Conditional Elective I | 3 ECTS

To be defined every year by the scientific board



3RD YEAR . S5

SYNOPSIS

Product Design Project 4 | 15 ECTS

Development of two exercises that allow students to define their working methods. The first exercise promotes relations of partnership between school and industry; the second promotes the ability of self-initiative and autonomy. To define the contest, students must establish decision criteria, according to personal goals and strategies.

Virtual & Additive Fabrication Prototyping | 3 ECTS

This unit will allow the student to articulate and develop advanced abilities in the field of virtual prototyping technologies and additive manufacturing.

We intend that the student use 3D modeling techniques as a cognitive design tool, exploring the 3D construction and modification flexibility as a materialization of a concept.

Consumer Trends and Behaviour | 3 ECTS

This unit aims to provide students with the techniques used in Advertising and Marketing, such as the observation and study of consumer behavior, and simultaneously, to understand the factors that influence consumer decisions by analyzing the relationship between design the “lifestyle”.

Sustainable Design & development | 3 ECTS

What defines Sustainability and its importance in the practice of Design. From assumptions that go beyond the limits of recycling and sustainability, incorporating cultural aspects and behavior, students will develop a holistic approach to the design process, from the choice of material and its processing until disposal.

Elective I | 6 ECTS

To be defined every year by the scientific board



3RD YEAR . S6

option:
FINAL PROJECT

SYNOPSIS

Final Project | 15 ECTS

The “Final Project” is in the form of a personal project that can generate an opportunity for individual career opportunities or integrated into industrial production context. In parallel, students will participate in partnerships and national and international competitions.

At the end of the semester an exhibition of the results takes place.

Entrepreneurship | 3 ECTS

Studying the problem of job creation and economic and strategic importance of innovation, and the concept of entrepreneurship.

Ability to identify key issues in the world that surrounds it for future actions; Examine the socio economic realities facing the knowledge acquired and use benchmarking tools. Demonstrate critical spirit in formulating strategies.

Project Management | 3 ECTS

Design Management complexity grows with the production of goods in contemporary societies.

The Designer can only operate effectively if they are trained as professionals capable of managing complex projects based on needs which are often contradictory. The aim is to present sustainable solutions for each unique design situation.

Seminar | 3 ECTS

The Seminar Programme comprises presentations and debates, practical and speculative exercises, based on different themes relevant in Design contexts, enabling the identification of new approaches and new areas of research.

Elective II | 6 ECTS

To be defined every year by the scientific board.



3RD YEAR . S6

SYNOPSIS

option:
**COMPANY INTERNSHIP
AND PARTICIPATION**

Company Internship and Participation | 24 ECTS

Company Internship and Participation is based on the development of project/s that can generate integrated career opportunities in industrial production.

The syllabus provides the basis on which students will develop the proposals submitted to industry and evaluate the scientific and educational components.

Seminar | 3 ECTS

The Seminar Programme comprises presentations and debates, practical and speculative exercises, based on different themes relevant in Design contexts, enabling the identification of new approaches and new areas of research.

Conditional Elective II | 3 ECTS

To be defined every year by the scientific board.



PRODUCT DESIGN

CERAMIC AND GLASS

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DE LEIRIA**

ESCOLA SUPERIOR
DE ARTES
e DESIGN