**PRESENTATIONS OF THE COURSE GUIDES FOR THE SUBJECTS
OF HIGHER EDUCATION IN DESIGN AT ESDAP CATALONIA**

1S_FB_Drawing 1

The Drawing 1 course is intended as a tool both for the representation and the interpretation of forms. The course runs in the first semester of the first year and focuses on the foundations of drawing, which provides a basis for other learning.

It addresses mainly the use of elements of graphic and plastic expression (line, plane, texture, colour, etc.) and their relations in composition. The course activities are focused on representing simple forms, objects, and natural shapes. It is therefore an instrument of knowledge that should provide a sound and useful basis for multidisciplinary design.

The main objectives of the course are:

- To train students in the perception, observation and analysis of the world that surrounds them.

- To provide resources and strategies for perception and observation and the credible representation of simple forms, proportions and volumes, and for creative interpretation using different techniques.

- To work on elements of graphic expression and the bases of plastic composition.

1S_FB_Digital photography and images 1

The Digital photography and images 1 course introduces students to the tools, resources and techniques of photography as a method of visual representation and communication.

It contemplates both the procedural aspects associated with capturing and processing fixed images and the expressive and communicative capacity of photographic language.

Course activities are designed to enable students to understand visual and communicative language and principally to learn how to:

- Control the use of a DSLR digital camera or equivalent.

- Edit and manipulate photographs with software.

- Evaluate the expressive dimension of photography for design projects.

1S_FB_History of art and design 1

The History of art and design 1 course introduces students to the conceptual and ideological framework and the twentieth century's most significant events and moments in design. It has the following initial objectives:

- To establish the historical context and focus on the political demands arising from the French Revolution, on social changes produced by the Industrial Revolution and the on appearance of major technological innovations.

- To study key events in the appearance of a new aesthetic that marked the beginning of modernity and laid the way for all the changes of styles in art and design that occurred in the twentieth century.

- To observe their constant mutual influence and interrelation through joint and parallel study of art and design.

Course activities are focused on the study of subjects, works, theories and/or phenomena through documentary research with a view to establishing comparison, outlines, a chronological timeline and, mainly, an introduction to critical reasoning.

1S_FB_Introduction to material science

The Introduction to Material Science course focuses on knowledge and analysis of different materials in the four specialities. The objective of this course is to understand materials as elements and conditioning factors of design.

An introduction to this scientific knowledge, will:

- Provide understanding from what, how and why designs are made and tools for selecting the materials best suited to each project.

- Promote awareness of the importance that materials have in the design process and of their influence on the aesthetics of everything designed. This involves consideration for their life cycle and the energy resources used in their production, with a view to establishing a more sustainable and energy-efficient world.

- Encourage students to seek answers to questions about the nature of materials, their environmental cost, how they behave, how much energy they consume, what their applications are, how they age, the meaning they convey, how they change, how they interact with light and how they are recycled, etc.

- Prompt experimentation with materials and greater exploration into them through touching, handling, and working with them.

Materials are living, dynamic and constantly changing elements. It is therefore important to keep up to date with new materials and with the latest trends and for contact to be maintained with companies.

When the course ends, students will have an overview of all materials and will understand their own responsibility as designers in the use of resources that are often not unlimited.

1S_FB_Design languages and applications 1

This Design languages and applications 1 course provides the theoretical and expressive bases and resources for representation and communication in design languages: structure, form, colour, and space.

These must be understood to comprehend, to interpret and, ultimately, to represent and to communicate visually. Students learn basic graphic expression and experimentation for the purpose of communicating graphically in the field of design. They also gain knowledge that they may apply in other subjects.

It is both a theoretical and practical course in which theoretical knowledge is applied and used to develop an understanding of the essential concepts involved in analysis of form, composition, and perception in two-dimensional and three-dimensional space.

Students are trained in design-related computer tools so that they may develop proposals for visual representation and communication.

1S_FB_Systems of representation 1

The Systems of representation 1 course offers an introduction to geometry applied to design and provides students of Higher Education in Design with graphic and visual tools and resources.

The main objectives of the course are:

- To produce a standard geometric drawing of analysis and representation -by hand and digitally- of complex flat surfaces and of low-medium complexity objects.

The course subjects are taught in parallel through training activities intended to provide students with a "polyhedral perspective" of how to represent and to communicate design.

To make learning on the course more meaningful, training activities involve the development of geometrical practices or models provided in Interior, Fashion, Product and Graphic Design, and the subsequent drawing of their technical plans.

1S_FB_Typography and composition

Typography is one of the basic components of any visual communication system. The essential characteristics of typography and composition are developed on this course so that students can use desktop publishing software for the following ends:

- To evaluate and apply the expressive dimension of typography.

- To undertake composition and layout in different media using vector-based publishing software.

- To create graphic and audiovisual presentations.

- To have acquired, upon completion of the course, the skills for applying the functional, aesthetic, and technical processes required to produce documents for printing or for the screen and that enhance legibility and comprehension.

2S_FB_Drawing 2

On the Drawing 2 course students expand upon what they learned in Drawing 1 and practise with elements of graphic and plastic expression and their relations in composition, with a view to organizing more complex forms and reinterpreting them.

The contents are intended both to enable students to organize complex forms and to use resources and devise strategies for the representation of interior and urban spaces, natural spaces, and the human figure.

The course focuses on the relations between formal and/or chromatic aspects and offers the option of working with influences, changes and proportional variables resulting from relations with other forms or elements that may arise, while encouraging, students' imagination, own interpretations, and creation of new forms.

2S_FB_History of art and design 2 (Friday proposal)

The History of art and design 2 course introduces students to the conceptual and ideological framework and to the most significant events and moments in design. It focuses mainly on the period from the start of the twentieth century to the nineteen-fifties.

The main objectives of the course are:

- To study art and design in parallel with a view to observing their constant mutual influence and interrelation and to establishing a common thread with which to observe the connections among works of art and design in their historical context, with consideration for all the technological innovations that have directly influenced them.

- To manage information and methodology from documentary research.

- To develop good skills of synthesis, expression, and communication in written language.

- To establish perceptive connections.

- To develop critical reasoning.

2S_FB_Introduction to design

The Introduction to design course, which is taught in the first year, is both theoretical and practical. It includes content on design, its terminology and its disciplines and analyses the relation of art, craft, neo-artisanal production, and design, as well as current design trends with reference to major benchmarks in the **four disciplines of design**. Students study the form, function, symbols and values they bring us. The course also involves work on creative processes based on different creativity strategies.

The main objectives of the course are:

- To provide the training necessary for students to become familiar with and understand what a design project entails.

- To use a design proposal to introduce the basic principles of design methodology, which we be developed on the Projects courses in subsequent years.

- To draw up a project simulation with which to work on different project phases: research and analysis, conceptualization, and alternatives, rendering and execution.

2S_FB_Design languages and applications 2

The Design languages and applications 2 course is taught in the second semester and follows on from Design languages and applications 1. The two courses together establish the theoretical and expressive bases and resources for representation and communication. Students are provided with the instrumental, conceptual tools they are required to use in design projects and in other courses on the syllabus.

Using concepts associated with volume and three-dimensional space, students work on analogue and digital techniques and processes of representation and visual communication to generate effective solutions. This course involves exploration and creation, and students are encouraged to integrate tools and resources, work with the project methodology used in design to develop forms and volumes, to employ techniques and materials for creating mock-ups and prototypes, etc. and to research and to produce qualities and textures for application to an object or space.

Upon completing the semester, the goal is for students to have a foundation and the theoretical and expressive resources for representation and communication with design languages, which they can apply throughout their studies and in their professional life.

2S_FB_Audiovisual media

The Audiovisual media course introduces students to the technique, processing, and application of audiovisual language. It contemplates both the procedural aspects associated with capturing and editing moving images and the expressive and communicative capacity of audiovisual language.

Upon completion of the course, students will:

- Be able to identify, use and evaluate the expressive and communicative characteristics of audiovisual creation.

- Be familiar with and able to use a camera to record and edit a short audiovisual (synthesis) with the acquired technical and technological resources, and subsequently use it as a tool of expression and communication on the design project courses and others on the syllabus.

2S_FB_Systems of representation 2

The core of the course is geometry applied to design. Students are expected to produce a standard drawing of analysis and representation —by hand and digitally— of medium-high complexity objects and of spaces in standard representation systems.

The course activities are intended to encourage students' knowledge, identification, analysis, classification, and construction of geometrical elements of surfaces and volumes. Students learn how to sketch medium-high complexity objects and become familiar with multi-view and conical systems of representation. The course also focuses on the organization of digital drawing elements and their respective printing.

3S_FB_Anthropometry and ergonomics

This course is designed to raise the awareness of future professionals of the importance of ergonomics and anthropometry and to lay the foundations for their application in projects.

Although design is conceived by people and for people, this truism is often forgotten by professionals more concerned about aesthetics or functionality than about the users of their designs. This is a key concept that students must learn and value so they may incorporate it as an intrinsic part of their design.

The general course contents are user-oriented, from both a physical and psychological perspective. Familiarity with the basic characteristics of the human body and its bio-mechanical potential is essential. Equally important is an understanding of user needs and desires, with consideration for user diversity, and, of course, study of the principles of ergonomics and anthropometry and of their application in design.

3S_FB_Design and society

The Design and society course focuses on the connection between design and the social and cultural context in which it arises.

It therefore requires minimum knowledge of the disciplines that study these matters, such as anthropology and sociology and involves analysis of the role design has traditionally played and the function it should fulfil in today and tomorrow's society. The course is set out as a journey that starts with anthropology and analyses of matters such as culture, the imaginary and tradition. It then moves on to sociology and looks at how mass media have taken the place of religious tradition in conveying social models. Lastly, the circle closes with ethics and an approach to what a designer's role should be in today's society.

The aim is not for students to specialize in these disciplines, but rather to prompt debate and show students the need to reflect and take a conscious, well thought-out stance regarding the matters raised.

3S_FO_GRA_Digital tools for Graphic Design 1

The Digital tools for graphic design 1 course is intended to provide students with the skills they need to use specific tools and media in Graphic Design and to offer them more resources for expression, representation and communication and subsequently apply them in their projects.

Work with resources for representing and communicating graphic design ideas and projects is based on learning programs for the infographic representation of vector-based drawing, layout and editing.

Students are provided with a theoretical foundation that will help them to place their learning in context and to undertake practical activities for exemplifying the subject matter dealt with in each session. The course activities entail the instrumental learning of tools and resources and are based on solving problems with multiple solutions and aesthetic and visual criteria.

Students are expected to experiment with the selected resources by performing varying difficulty-level training activities.

3S_FB_Digital photography and images 2

Photography is not solely a particularly important part of visual communication, but also the medium most widely used for publishing the results of any creative process. The course therefore focuses on the relationship between photography and design from two perspectives: as a resource involved in the design process itself and as a tool for documenting and disseminating the results of any design assignment through different channels.

Most of this essentially practical course takes place in the photographic studio, where students use specific equipment, and learn techniques for taking photographs that involve accurate light measurement, control of studio flash and light modelling with a range of accessories. It also explores image processing using editing programs and incorporates the principles of colour management.

3S_FO_GRA_Graphic design projects 1

The Graphic design projects 1 course introduces students to areas of visual identity design and advertising design. Its combination of theory and practice provides students with the necessary skills to analyse cases and complete beginner's projects and meanwhile gradually familiarizes them with the characteristic methodology of graphic design. Students organize and interpret documentation for defining project goals and conditioning factors and come up with a proposal that conceptually and graphically best suits the context of the exercise.

In developing their own solutions, students learn the value of work based on the proposed methodology and understand the significance of graphic design in our society.

3S_FO_GRA_Theory of graphic communication

Meaning, communication, and interpretation all have an important social function and provide the bases for the subject of Semiotics. This course focuses on the meanings of signs and on the main authors and theories associated with them. Students also learn to use a series of tools, techniques, and strategies for good visual communication. These resources enable them to interpret and produce messages using both verbal and non-verbal language, which are extremely important in graphic communication.

The course is organized in two blocks, the first is more theoretical and the second practical. Having learned the more theoretical aspects of communication and signs, students can then apply this knowledge in graphic design media while working on design in visual communication.

3S_FO_INT_Models

All interior design projects require basic consideration of the interaction of different spatial elements. This course provides a practical overview based on three-dimensional models in the research process and the creation of an interior design project.

The course entails the production of experimental, conceptual, and investigative volumetric mock-ups that help students to develop preliminary ideas, to understand three-dimensional space, to specify concepts and to define their qualities based on perception, colour, form, and light. This involves experimentation with rigid and malleable materials of a complex, new, and alternative nature.

Students also produce more detailed presentation mock-ups featuring highly precise textures and a simulation of real materials and/or perceptive qualities of the proposed interior design project.

3S_FO_INT_Materials and final fittings

The Materials and final fittings course conveys a necessary technological, formal and functional approach to the materials that shape the design of interior space. It focuses not only on materials for covering walls,

ceilings, and floors, but also on the carpentry, glasswork and furniture that ensure designers' success in their interior design projects.

The course emphasizes the importance of criteria in choosing, using, and evaluating the finishes that play a key role in the eventual appearance of a space. Finish materials influence both the visual appearance and users' sensory perception and understanding of space. This requires extensive knowledge of the local and global context and therefore a basic understanding of materials and technology applied in a designer's professional practice.

3S_FO_INT_Computer modelling and rendering 1

The second-year Computer modelling and rendering 1 course introduces students to digital tools for interior design, and modelling work in 3D environments while reinforcing and extending the knowledge of 2D acquired the previous year.

Mastery of tools for volumetric comprehension and generation is one of the basic components of representation and communication of interior design projects. Skill in working with three dimensions is essential to accurately convey a project's graphic information.

Learning involves gradual steps: initially, simple objects are created and modelled in isolation and, thereafter, they are transformed and modified to yield complex forms. Also important are the management and organization of the elements created and the use of strategies -such as making use of 3D blocks or dynamic components- to streamline the process. Lastly, the initial work must also be completed with texts, auxiliary lines, and textures to strengthen and heighten precision in the final presentation of the graphic documentation.

3S_FO_INT_Interior design projects 1

The Interior design projects 1 course introduces students to the essentials of project methodology in interior design.

This mainly practical course offers students non-complex training exercises that require them to perform a series of assignments in which they learn to draw from case analysis and reflection to undertake the different projects posed.

Students gradually incorporate and improve their mastery of representation and communication tools in all project phases so they may present their project in an attractive and comprehensible way. Visual, two-dimensional and, particularly, three-dimensional representation and communication tools are essential for obtaining an overview of reality, which, towards the end of the course, becomes slightly more complex when students undertake an interior design project for a small apartment or similar.

3S_FO_INT_Construction technology 1

The Construction technology 1 course offers an introduction to the world of construction and provides students with the knowledge they require for the successful performance of projects. It is important to establish buildings' characteristics and construction systems and their architectural elements to ensure that the design process best suits the needs and requirements of the interior space.

This more technical vision of construction systems and of the technological criteria that need to be considered enables students to develop a more accurate understanding of the construction of spaces, and to recognize and know how to implement regulations applicable to interiors.

The course objective is to determine the potential and the limits of construction so that students can use that knowledge in any project or commission that they may perform.

3S_FO_MOD_Drawing for fashion design

The Drawing for fashion course provides students with concepts and tools to create their own personal representation of a clothed human figure and involves both a study of existing clothing and a medium for expressing their own aesthetic ideas and creations.

The course explores the preliminary concepts of figure drawing such as proportion and differentiation of typology and stylization to provide students with the tools for developing their own language through exercises of simplification, geometrization, exaggeration and deformation, while training them how to capture the gesture and movement that underlie expressiveness in drawing.

The objective is to avail of good resources and good tools for the visual representation and communication of wardrobe and of looks for all kinds of fashion design projects, and of accessories and prints, etc. through the definition of the colour ranges, shapes, and textures of fabrics.

On this course, students learn flat sketch representation and how to draw clothes on a figurine or model, while focusing of the coherent appearance of collections. Students are encouraged to research creators, illustrators, and designers, to whom they may refer in their work.

3S_FO_MOD_Pattern design and tailoring 1

The Pattern design and tailoring 1 course introduces students to techniques for developing patterns for the female body and offers essential knowledge of the processes of construction, tailoring and verification of basic garments.

The main objectives of the course are:

- To correctly apply measures in developing patterns for basic women's garments and assembly techniques.

- To develop a pattern from both warp and weft and circular knit fabrics with which to make any basic item of clothing.

- To produce a pattern from measurements and use the fabric to cut the item, test it and adjust it to produce the prototype, with consideration for proportions, tailoring and finish techniques.

The Pattern design and tailoring 1 course also focuses on basic patterns in dressmaking and their industrial production. Students also learn how to work responsibly with a focus on sustainable fashion and therefore how to avoid negative environmental impact.

3S_FO_MOD_Clothing design projects 1

The course contemplates different conceptual and technical aspects in the design of clothing and the acquisition of resources with a view to applying personal language in fashion design and design

methodologies when undertaking a fashion design project. It provides students with tools so they may represent their own aesthetic ideas and clothing creations.

The knowledge acquired on the course should enable students to solve problems and rise to challenges in clothing design projects, through the conceptualization and formalization of blueprint projects based on the study and application of project methodologies.

The initial training activities are crucial as students acquire and use the languages of visual representation and communication in fashion design, flat sketching, representing the human body and the figurine, nomenclature and types of garments, types, and characteristics of garments by period and culture, and colour in undertaking a clothing design project.

3S_FO_MOD_Industrial garment manufacturing technology

The Industrial garment manufacturing technology course provides students with knowledge of the technical aspects of manufacturing processes.

Students therefore learn about the use of specific fashion industry tools and techniques in the processes of garment making and tailoring.

The main objectives of the course are for students:

- To know how to correctly apply manufacturing processes based on knowledge of the industry's tools and techniques, while differentiating mass tailoring from dressmaking.

- To learn about new industrial tailoring technologies, about computer applications in patterns and about pattern placing and grading.

- To analyse and study the technical aspects of joints between parts, the operations entailed in garment assembly, the tailored garment's forms, and the planning of fabric cuts to minimize consumption.

Students learn how to work responsibly with a focus on sustainable fashion and therefore how to avoid negative environmental impact.

3S_FO_MOD_Textile technology 1

The Textile technology courses provide a technical foundation and a broad knowledge of materials, textile processes, linear textile structures, technical textiles and smart textiles, textile processing and finishing operations.

The Textile technology 1 course focuses on the study of textiles. It covers fibres, yarns, and warp and weft knit fabrics and the corresponding processes, machinery, properties of materials and applications, and features an introduction to textiles and the production of a textile dossier that can be used for consultation and study in this and in other courses.

Upon completion, students are expected to be able to recognize, understand, select, and use textile materials and products, technical textiles, and smart textiles and to design and provide a reasoned justification for the use of technologies and materials suited to a specific purpose.

3S_FO_PRO_Industrial technical drawing

The Industrial technical drawing course offers students the visual representation and communication resources necessary to convey a project —using plans and drawings in accordance with applicable regulations— and the graphic documentation involved in a design project that allow for the manufacture and industrialization of objects and their parts.

The course contents focus on the convergence of communication and creative development throughout the project process and their expression in the sections integrated in the project's graphic documentation.

Standardized representation, graphic symbolism, finishes, and presentations are part of the visual language involved in the learning process.

3S_FO_PRO_Models and prototypes 1

The Models and prototypes 1 course is a practical subject the main goal of which is for Product Design students to know how to make both working and volumetric models.

Working/exploratory models are an essential tool in a project's initial idea phase and can be used to explore a concept, to view the resulting ideas in 3D and then to gradually develop them. These models are made with materials such as card, board, soft woods, and some plastics (PVC foam, polystyrene, methacrylate) with which models can be made quickly using relatively simple tools and procedures.

Volumetric models allow students to investigate the formal qualities of a design: proportion, form, balance, mass, dynamism, etc. as well as ergonomic matters.

3S_FO_PRO_Materials and technology 1

The Materials and technology 1 course is part of the scientific and technical subject Technology applied to Product Design. It focuses on the field of materials and their production processes so that students may incorporate them in decision-making during the initial process of design, construction, manufacture, presentation, and other project phases.

Students are introduced to the general and specific characteristics of materials and to their properties and applications. Students observe, analyse, and identify the properties and behaviours of materials and choose the technological resource best suited to the established goal from materials used in the graphics industry and the packing and packaging industry: cellulose (paper and card), glass and ceramic, plastic and metals.

3S_FO_PRO_Computer modelling and rendering 1

The course introduces students to digital tools for product design and focuses on graphic representation using basic computer tools, computer modelling and rendering.

Learning is gradual: it initially involves simple operations and gradually moves on to operations for generating more complex forms and to modelling and assembly. Emphasis is also on the production of graphic technical documentation such as plans on different scales, the mimetic digitalization of products, and the parametrization of elements and sets.

Students learn how to use educational versions of the main software used in modelling (Autodesk Inventor, Fusion, Solid Works and Rhino, etc.) and in rendering (Keyshot and 3D Studio, etc.). There is continuity to the course in the second semester with Computer modelling and rendering 2.

3S_FO_PRO_Industrial design projects 1

The Industrial design projects 1 course introduces students to project methodology and requires them to undertake a design project of low technical complexity in order to internalize the mechanisms and tools presented.

Students learn to recognize and to apply different documentary research strategies for obtaining significant data. They are also required to organize and to interpret documentation obtained for defining the project's objectives and conditioning factors and how to propose the idea best suited to the context of the exercise.

The course focuses on different methods of research and experimentation used in projects so that students may propose and evaluate ideas, concepts, and solutions. This course immerses them in the world of brands through the study of benchmarks so that they may understand the characteristic values of each company, design, or designer.

4S_FB_Eco-efficiency and sustainability

The course uses case analyses of items of design (using conventional materials and processes) to identify the main problems of design upon consideration for economic, social, and environmental parameters and defines the main concepts of sustainability and de-growth.

The main objectives of the course are:

- To raise students' awareness and thus to encourage them to consider models of human interaction with the environment and humanity's ecological footprint.

- To perform a critical evaluation of our society's environmental problems.

- To use examples of significant cases associated with eco-efficiency and sustainability as values incorporated into design processes.

- To reappraise the profession from an ethical standpoint.

- To exert cross-disciplinary influence on future projects and professional practices.

4S_FB_History of art and design 3

The History of art and design 3 course introduces students to the conceptual and ideological framework and to the most significant moments of mass culture and of Pop Art until the present day.

The main objectives of the course are for students:

- To learn about and evaluate the great icons of design of recent years until the present day.

- To be able to establish common threads associating creations of art and design with consideration for their historical context and the social and cultural events and technological innovations, etc., that have most influenced the contemporary world.

- To manage information on works and documents: classification, documentation, identification, and selection based on reasoned criteria.

- To apply bibliographical references, using APA style and citations according to established models.

- To analyse and identify core and secondary ideas and indicators from the historical context.

- To evaluate the function and meaning of art and design in society.

- To use written language expressively to set forth their own and others' ideas.

- To develop critical reasoning and in-depth exploration.

4S_FB_Eco-efficiency and sustainability

The course introduces case analyses of items of design (using conventional materials and processes) to identify the main problems of design. It features consideration for social, economic, and environmental parameters and defines the main concepts of sustainability and de-growth.

The objectives of the course are:

- To raise students' awareness and to encourage them to consider models of human interaction with the environment and humanity's ecological footprint.

- To evaluate our society's environmental problems critically.

- To use examples of significant cases associated with eco-efficiency and sustainability as values incorporated into design processes.

- To reappraise the profession from an ethical standpoint.

- To exert cross-disciplinary influence on future projects and professional practices.

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4S_FB_History of art and design 3

History of art and design 3 introduces students to the conceptual and ideological framework and to the most significant moments of mass culture, from Pop Art until the present day.

The main objectives are:

- For students to learn about and to evaluate the great recent and present-day benchmarks of design.

- To be able to establish common threads associating creations of art and design with consideration for their historical context and the social and cultural events and technological innovations, etc., that have most influenced the contemporary world.

- To manage information on works and documents: classification, documentation, identification, and selection based on reasoned criteria.

- To apply bibliographical references, using APA style and citations according to established norms.

- To analyse and identify core and secondary ideas and indicators from the historical context.

- To evaluate the function and meaning of art and design in society.

- To argue and to use written language expressively in setting forth their own and others' ideas.

- To develop and learn more about critical reasoning.

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4S_FO_GRA_Typographic design

Typography is a basic tool in visual communication and therefore essential in performing graphic design projects. On the course in Typographic design, students will acquire historical, cultural, aesthetic, and functional knowledge of typography, resources, and expressive and communicative skills. They will also experiment with and create new typographies.

This knowledge will enable them to place typographic forms in context and to establish a reasoned selection of typography to suit to a project's communicative needs. It will also help them to understand and associate the social, artistic, and cultural contexts that determine typographic diversity with a view to applying it with critical and reasoned criteria, to learn about and to use fonts in typographic solutions that fulfil the objectives and characteristics of any given project.

4S_FO_GRA_Digital tools for graphic design 2

Digital tools for graphic design 2 provides students with the skills required to use specific tools and media in the speciality of graphic design. This will offer them more resources for expression, representation, and communication for subsequent application in their projects. These are based on learning about programs for the infographic representation of image processing and animated and interactive presentations.

The course objectives are:

- To provide students a theoretical foundation that will help them to place their learning in context, combined with practical activities for exemplifying each session's subject matter. The activities performed by students involve instrumental learning of tools and resources, oriented at solving problems with multiple solutions and aesthetic and visual criteria.

- For students to experiment with the selected resources in different activities with varying degrees of difficulty.

4S_FO_GRA_Materials and systems of reproduction and printing

This scientific-technical course features as part of the subject Technology applied to graphic design. It is intended to familiarize students with the field of the behaviour of form, materials, and space.

The course offers a technical perspective and will enable students to solve problems and to make technical decisions in their design projects.
The Materials and systems of reproduction and printing course is divided into three main blocks: preprint, print and postprint. Students explore these phases and the work involved in each.

The course objectives are:

- To set up files properly for printing.

- To differentiate industrial and analogical print techniques and their specific characteristics.

- To interpret the characteristics of graphic projects to choose the print system, prepare originals and files for reproduction.

- To acquire the specific terminology associated with printed graphic production.

- To make students aware of different print media and their features.

- To evaluate new technologies in industrial graphic production and environmental aspects implicit in undertaking each project.

4S_FO_GRA_Graphic design projects 2

Graphic design projects 2 provides continuity to Graphic design projects 1 in which students acquired a design methodology that they must continue developing in order progress with their learning. Graphic design projects 2 introduces students to the speciality area of graphics in new study areas such as periodic publications, information design and advertising campaigns.

The design of periodic publications will involve defining the specific nature of each medium, origin, evolution, current trends, technical, functional, and communicative conditioning factors of this specific field. In their practical work, students will focus on the use of typography, compositional elements, layout, photographic images, and illustrations applied to publications, project management, presentation materials and finishes.

They will lastly be required to undertake two projects: an information design project in which information is conveyed graphically, and an advertising campaign to be run in different media (online and offline).

The course is intended to make students aware that the importance of design lies not only in the (necessary) tools and technical skills but also, essentially, in the concepts that are implicit in any design

project. It will also arouse interest in the social environment where the work is implemented, and curiosity to learn about the cultural, political and economic aspects involved.

4S_FO_INT_Furbishing interiors and introduction to installations

Furbishing interiors and introduction to installations is part of the subject Technology applied to interior design.

This course provides students with the knowledge and tools required to transform interior spaces to improve their comfort and safety.

The course mainly entails work on the strategies necessary to create spaces with good lighting, acoustics, accessibility, fire safety, and air quality (temperature, humidity, and ventilation). It therefore focuses on the various compulsory regulations and technological innovations in the sector. Part of the goal is for students to understand the need to implement everything they plan in accordance with the requirements.

4S_FO_INT_Interior construction details

The course teaches the contents and trains students in the procedures they will require to establish a good executive definition of an interior design project.

The course objectives are:

- To enable students to execute technical instructions more precisely, in the form of construction details drawn using technical means (computer).

- To enhance students' capacity to explain construction without the need for computer equipment and with only a pencil and a surface upon which to draw.

The course introduces concepts gradually. It starts with simple, short-duration activities and ends with more complex tasks that combine everything learned and practised in the previous activities.

Freehand and CAD (2D or 3D) representation techniques alike are used in accordance with the activity and the criteria of the teacher taking the course.

4S_FO_INT_Computer modelling and rendering 2

On the Computer modelling and rendering 2 course students acquire exhaustive graphic representation skills in the field of interior design and explore in-depth the tools of representation, expression, and communication necessary to convey their design ideas accurately.

The course is intended not only to present the main functions of the programs dealt with, but also to show students a way of working oriented towards obtaining orderly and clear models and images. Its methodology therefore always prioritizes file organization. It seeks to rationalize the work process and facilitate tasks of lighting, mapping, and rendering.

The combination of the programs presented, and their broad potential generates the great diversity of project presentations currently observable in professional practice. Students are expected to be able to

continue extending their knowledge on their own. Vray-, Arlantis-, Revit- and Lumium-type rendering programs are used. Photo processing software such as Photoshop is used for post-production while layout and page design software such as InDesign will be used for the final activity.

4S_FO_INT_Interior design projects 2

On the Interior design projects 2 course, students develop their creative and entrepreneurial skills using knowledge hitherto acquired in small design project tasks taken to blueprint design level.

The main objectives of the course are:

- To introduce students to planning and managing an interior design project and its phases.

- To encourage knowledge of formal and stylistic references of speciality projects.

- To document and undertake the interior design project by applying techniques of representation and presentation for a complete definition and communication of the design, in the blueprint phase.

- To initiate students in teamwork and in presenting ideas.

The types of projects performed will be as follows:

- Workspace projects: renewal of the image/configuration of a workspace using items of furniture and light partitioning. (Maximum floorspace of 140 m^2).
- Business premises projects: renewal of the image/configuration of simple business premises. (Maximum floorspace of 140 m^2).

4S_FO_INT_Construction technology 2

Construction technology 2 provides students with essential knowledge of technology in spatial design with which to undertake their projects successfully in their future profession.

The course objectives are:

- To provide students with technology-based construction systems and solutions to develop a general understanding of technology, a notion of the language of technology, and to devise technical construction solutions in their design projects.

- For students to acquire an awareness of and the ability to adapt to and incorporate the technological changes and innovations taking place in the interior design sector.

- To train students in decision-making on appropriate technical solutions, construction methods, specifications concerning detail and finishes in keeping with the aesthetic nature and values of their design project.

This course is taken in parallel with Interior design projects 2 to enable students to adopt a suitable technical approach in their design project.

4S_FO_MOD_Digital tools for fashion design 1

Digital tools for fashion design 1 trains students to convey their ideas using different digital graphic representation and communication techniques.

This essentially practical course introduces students to representation and communication in fashion design, which is essential for different professionals to be able to communicate with one another.

The main objective of the course is:

- To provide students with a broad enough range of tools both for drawing figurines and for fashion illustration, and rather technical representation, by means of flat sketches and technical sheets. To do so, they explore the potential offered by fashion-related vector and bitmap drawing software.

4S_FO_MOD_Moulage

The Moulage course offers students a knowledge of techniques for expressing ideas in volume.

The course introduces them to the moulage, dressmaking and tailoring technique used in the creative process of fashion design: design and pattern are applied directly to a dummy or a body.

The course objectives are:

- To discover and explore the moulage technique by developing a pattern, its adjustment, cutting the cloth, assembly and tailoring with finishes.
- For students to understand procedure through the search for forms and volumes on the body.
- To understand modelling and draping techniques.
- To learn by observing how the fabrics used are handled.

4S_FO_MOD_Pattern design and tailoring 2

Pattern design and tailoring 2 introduces students to techniques for transforming basic patterns for women and the processes of constructing transformations of basic patterns. The course specifically introduces students to transformations of dressmaking patterns, such as the two-piece sleeve, and involves the production of a prototype and its verification. It also involves an introduction to zero-waste pattern design with a view to producing zero waste in the manufacturing process.

The main objectives of the course are:

- For students to correctly apply measurements in developing patterns based on the pattern transformation system and assembly techniques.

- To develop a pattern and transform it to make any garment of clothing.

- To produce patterns using measurements, selecting the most suitable fabrics, cut garments, test, and adjust to produce prototypes, with consideration for proportion and tailoring and finishing techniques.

- To learn zero-waste design, thus encouraging the creative process.

4S_FO_MOD_Clothing projects 2

Clothing projects 2 introduces students to the design blueprint. Students use different methodologies to gradually learn about categories and fabric in fashion design, while analysing market sectors and current trends.

Upon completing the course, students will be able:

- To recognize and obtain significant information to devise a design proposal based on analysis of clothes brands.

- To undertake fashion design projects in phases based on concepts of personal perception, with consideration for the current context and brand philosophy.

- To present the creative proposal before other people and/or professionals.

- To compare, measure and consider how closely students' own ideas relate to those proposed by their classmates.

4S_FO_MOD_Textile technology 2

On the Textile technology 2 course, students learn the technical essentials through an extensive knowledge of knitted fabrics and everything offered by technology, processes, machinery, and the technical specifications involved in the design of a knitted garment.

Students will also be introduced to technical knowledge on ennobling fabrics, sizing and finishing and printing operations, pastes, machinery, and processes.

The main objectives are:

- To learn about and explore materials, textile processes and structures, fabrics, and textile processing and finishing operations.

- To provide a reasoned justification for the use of technologies associated with textile products and processes.

4S_FO_PRO_Bionics

The course on Bionics combines with the Science applied to design course and involves studying and acquiring scientific knowledge and the necessary basic tools for analysing, modelling, calculating, and solving technical problems in professional practice.

The course gradually introduces a background to Bionics, its definition, and areas of reference. Students will also acquire basic knowledge of the concepts of nature's forms and structures, fractals, colours in nature, microcosms and macrocosms, with examples and references in nature.

Its main objectives are:

- To make students aware of the relationship between the act of designing and its impact on the environment.

- To show students that the environment and nature's millions of years of experience can provide efficient, sustainable benchmarks and solutions for incorporation as references in the design process.

- To apply the bionic method in the study of these natural references.

4S_FO_PRO_Ergonomics 1

Ergonomics 1 is intended to encourage students, as future design professionals, to adopt a responsible attitude towards the end users of products.
It features methodologies that place people first throughout the design process to ensure that objects meet their needs and suit their physical parameters.

The general contents focus on the relations between human beings and objects, which refers both to perceptual and cognitive and to physical relations. Thus, the course focuses on how human beings interact with tools, elements of lighting and computing and control devices.

The course objectives are:

- For students to analyse and distinguish elements, devices, and environments in accordance with users' ergonomic needs.

- To apply ergonomic criteria in design.

- To observe and study the population's anthropometric data.

- To define possible conditions caused by a design or its use.

4S_FO_PRO_Models and prototypes 2

Models and prototypes 2 explores presentation mock-ups to enable students to present a 3D project to a future customer and accurately represent the different components of a design, with a focus on construction detail, on materials and on finishes. The course is practice-based.

The knowledge acquired will enable demonstrating formal qualities (proportion, form, balance, mass, dynamism, etc.), as well as functional, usage and ergonomic aspects.

The course objectives are:

- For students to make real-scale presentation mock-ups and functional prototypes.

- To expand students' knowledge of materials (machinable board, silicone, polyurethane resin).

- To introduce the use of workshop machines and more specialized tools to yield more professional finishes.

- To make functional prototypes in wood to evaluate formal qualities, to test functional aspects, aspects of use and ergonomic matters, and to detect assembly and manufacturing problems.

4S_FO_PRO_Materials and technology 2

Students are introduced to the general and specific characteristics of materials and to their properties and applications. The focus is specifically on the contents of materials used in the product design and furniture industry.

The course objectives are as follows:

- For students to observe and analyse materials used in the product and furniture industry: wood, ceramics, and plastics.

- To introduce students to digital manufacturing technologies (rapid prototyping), which are increasingly widespread in society, and produce objects with their own stamp.

- To use applications to understand production processes, costs and technical considerations involved in their use.

4S_FO_PRO_Computer modelling and rendering 2

Computer modelling and rendering 2 explores graphic representation at a more advanced level using computer tools, modelling and computer rendering.
Students learn how to use educational versions of one of the main programs used in modelling (Autodesk Inventor, Fusion, Solid Works, or Rhino, etc.) and in rendering (Keyshot or 3D Studio, etc.).

The course objectives are:

- For students to learn and master digital tools for product design. Computer modelling and rendering.

- To solve problems of expression and communication using the speciality area's infographic programs.

- To represent complex items graphically using curves and surfaces.

4S_FO_PRO_Industrial design projects 2

Industrial design projects 2 focuses on the design of packing and packaging,

Students explore aspects of project methodology with a focus on identity, symbolism and language, and their communication. Students undertake a long project and do short exercises, with consideration for the requirements of the project, product for packaging, consumer habits and market expectations.

The main objectives of the course are:

- For students to learn about and explore product packaging design.

- To learn about and explore key factors of innovation and competitiveness in differentiation.

  - To observe and analyse both social and economic factors (protection, preservation, promotion, presentation, choice of materials and systems of production, sustainability, etc.) as benchmark variables in communication and marketing (identification and differentiation in a segmented market, user-oriented studies of trends and consumption).

  - To experiment with, posit and evaluate ideas, packing and packaging concepts and solutions.

  - To communicate and defend a design project.

  - To work in a team and manage teamwork.

5S_FO_GRA_History of graphic design

History of graphic design explores different key authors in design, places them in the cross-disciplinary historical context and reflects on the influence of design on the social, economic, and productive evolution of contemporary society.

The course objectives are:

- To learn and use research methodologies.

- To consult reference sources in different languages.

- For students to set forth their own and others' ideas critically.

- For students to summarize their own ideas clearly and concisely.

- To reflect on the positive influence of design.

- To display an optimal level of written expression.

5S_FO_GRA_Graphic design projects 3

Graphic design projects 3 involves developing projects within the areas of editorial design, visual identity design and the design of signage systems. The boundaries between one speciality and another are nonetheless often vague, and it is therefore often necessary to work on design proposals involving several areas of graphic design.

The areas of editorial design and visual identity design are already introduced in the previous course. This course will require students to undertake projects that are more complex conceptually, functionally, and insofar as technique and production are concerned. As a new feature, editorial design will also entail the design of digital editorial products.

In signage design, graphic design makes space comprehensible to users while also giving it identity. These projects are based on a thorough study of space and of usage flows and of the types of information to be conveyed to users. The system must contemplate the design of the basic elements (typographies, pictograms, colour codes, materials, etc.), and their combinations and distributions in space to ensure efficient implementation. The technical approach to their installation must also be considered.

Students must undertake specific projects that may vary in number and complexity. A minimum of four projects is envisaged. These will be undertaken in accordance with the guidelines set out in the subject Projects. Students will also have the option of working on complex projects that cover more than one of the design specialities in the course.

5S_FO_GRA_Traditional graphic techniques

Traditional graphic techniques introduces students to contents, resources and techniques to render graphic work, an engraving or a sign on a surface, to its stamping and reproduction.

Students will use traditional graphic engraving techniques, applied also to binding and to two-dimensional and three-dimensional graphic designs.

The objectives of the course are:

- For students to acquire knowledge of different graphic techniques based on analysis and study of real cases.

- To learn how to integrate knowledge in processes of creation, printing and graphic reproduction and also to interpret them as means of expression and communication in the practical production of design proposals using guided practices.

- To acquire a broader, more flexible vision better suited to the needs of design and based on a combination of technical and practical knowledge with the practice and application of the formal and expressive resources of graphic communication to solve problems.

5S_FO_GRA_Audiovisual and animation technology 1

Audiovisual and animation technology 1 provides an introduction to animation and to animation and audiovisual post-production techniques in a field known as motiongraphics. Video and sound resources, images, bitmap and vector graphics all come together in a single project.

The main objective of the course is to generate and process images that move and develop in time. The course introduces students to animation language and explores expressiveness in techniques that draw from cinema and television. At a time when moving image is commonly used in social media, motiongraphics is an essential communication tool for graphic designers.

5S_FO_GRA_Technology of information networks

Technology of information networks introduces students to the principles, strategies, techniques and procedures used in conceiving, designing, producing and publishing different types of webpages, including their different content types (texts, graphics and multimedia).

It offers a practical approach by combining capsules of theoretical, technical contents and procedures with the practice and performance of meaningful activities for students.

The main objectives are:

- For students to analyse and study real cases and to adapt to technological changes in the sector.

- To work using the main tools in this area (code editors, content editing software and other network resources for generating and editing contents).

- To undertake activities that cover the entire process from the original idea to the publication of the end product.

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5S_FO_INT_History of interior design

History of interior design explores different key authors in design, places them in the cross-disciplinary historical context and reflects on the influence of design on the social, economic, and productive evolution of contemporary society.

The course objectives are:

- To learn and use research methodologies.

- To consult reference sources in different languages.

- For students to set forth their own and others' ideas critically.

- For students to summarize their own ideas clearly and concisely.

- To reflect on the positive influence of design.

- To display an optimal level of written expression.

5S_FO_INT_Installations

On the Installations course students explore the necessary technological and formal knowledge of the installations involved in an interior space project.

Knowledge of the technical aspects of installations is a field that students should master so they may undertake their projects successfully in the real world. Without this know-how, it would be impossible to

integrate installations networks in an interior space project. Students therefore need to acquire knowledge in this field.

The main goal is for students to be aware of and learn how to select the system best suited to each situation, to assign the necessary space, and to establish proper layouts and rights of way, in coordination with functionalities and appearance, in order to ensure the success of their interior design project.

5S_FO_INT_Interior design projects 3

Interior design projects 3 integrates the knowledge and skills acquired in the first and second courses with an interior design project to the level of basic design and introduction to the implementation project in any of the following types of public space: commercial, public access, administrative and cultural amenities.

The basic design project involves a precise and exhaustive definition of the general characteristics of the work based on the adoption and justification of general solutions. By way of an introduction to the implementation project, specific, detailed solutions will be developed in accordance with the technical-construction definition, the construction details, hygrothermal conditioning criteria, the acoustics and lighting of the space and finishes and materials.

The main objectives are:

- To introduce students to the study of the interrelations of the formal, functional, and conceptual definition of a project and their technical and constructive expression.

- For students to devise viable professional solutions for interior design proposals.

- To work on a real commission or simulation applied to existing visitable spaces, with a view to capturing their essence on site and performing the necessary measurements and inspections.

- To undertake a medium-complexity project both as regards its objectives and the area of work* *(maximum floorspace of 200 m^2)*. It will include a study of vertical communication and of the relation among different levels or floors.

5S_FO_INT_Refurbishing

The Refurbishing course provides students with tools and knowledge to refurbish interior spaces. Refurbishment is defined as any construction or building initiative performed to improve any of its characteristics: habitability, structural and building safety, protection, the presence of pathologies, installations, accessibility, energy efficiency, lighting, etc.

The main objectives are:

- To adapt to new technologies and new materials with a view to generating innovative design proposals.

- To explore, identify, classify, and design and provide justification for the use of materials and finishes based on technical criteria in an interior design proposal.

- To understand and know how to implement regulations applicable to interior spaces, using knowledge of the professional skills required by interior designers.

5S_FO_INT_Resistance of materials and structures

Resistance of materials and structures mainly focuses on a basic knowledge of the resistance of materials and structures in building in general and in interior design specifically.

The main objectives of the course are:

- To introduce the practical application of the concepts of stability, resistance, and deformation in interior design.

- For students to be aware that elements designed are subject of the laws of physics and, therefore, are part of the design. They must also bear in mind that their interior design interventions will be in spaces (buildings, ephemeral structures, etc.) that are subject to these laws of physics and that it is not possible to defy them.

- Students should understand and apply the basic behaviour of materials and structures in their interior designs, with an awareness of the professional skills required by interior designers.

5S_FO_MOD_Styling, fashion and communication

On the Styling, fashion and communication course, students work on theoretical and practical contents with a view to acquiring the concepts and tools necessary to create a personal aesthetic style and to be able to detect and anticipate responses and solutions to future aesthetic trends and to the new needs of the fashion market.

The main objectives of the course are:

- For students to acquire the knowledge to connect demands and needs through different media: specialist press publications, fashion shows, catalogues, shop windows, points of sale, advertising, and cinema.

- To develop analytical and critical thinking.

- To master research techniques and to generate projects and ideas with a view to analysing fashion image.

5S_FO_MOD_History of fashion design

History of fashion design explores different key authors in design, places them in the cross-disciplinary historical context and reflects on the influence of design on the social, economic, and productive evolution of contemporary society.

The course objectives are:

- To learn and use research methodologies.

- To consult reference sources in different languages.

- For students to set forth their own and others' ideas critically.

- For students to summarize their own ideas clearly and concisely.

- To reflect on the positive influence of design.

- To display an optimal level of written expression.

5S_FO_MOD_Pattern design and tailoring 3

Pattern design and tailoring 3 introduces students to processes for developing tailored patterns for the male body: basic shirt and suit garments.

Both handcrafted and industrial tailored procedures are currently adapting to changing consumer needs. The challenge for tailoring is to preserve the technical quality and value of crafted work.

The main objectives of Pattern design and tailoring 3 are:

- For students to learn about methods of craftship, both from a technical and a conceptual perspective.

- To work with technical criteria in the tailoring processes involved in developing patterns, cutting, fitting, and refining garments (such as interlinings, inner pockets, armholes, sleeve, sides, length, neck, fabric weight, etc.).

- To work responsibly with a focus on sustainable fashion and therefore prevent a negative impact on the environment.

5S_FO_MOD_Clothing design projects 3

Clothing projects 3 integrates the knowledge and skills acquired in the first and second courses with the performance of different projects, one of which is a real commission.

The main objectives are:

- For students to classify, organize and manage the search for information.

- To experiment with, posit and evaluate ideas, concepts, and solutions.

- To explore different areas and methodologies of fashion design, in accordance with the type of company, workshop or designer and based on personal concepts and/or general trends.

- To analyse channels of communication, promotion, product marketing and sale.

- To evaluate the roles and current context of fashion design.

5S_FO_MOD_Textile technology 3

Textile technology 3 focuses on the technical essentials and offers a broad knowledge of materials, textile processes, linear textile structures and non-woven fabrics (technical textiles and smart textiles), textile processing and finishing operations.

The main objectives of the course are:

- For students to study dyeing operations, processes, and machinery.

- To study technical and smart textiles and take part in external collaboration (EURECAT, etc.).

- To analyse the textile industry's sectoral environment.

- To learn about, understand, and be capable of selecting and using textile materials and products, technical textiles, and smart textiles.

- To design and provide a reasoned justification for the use of technologies associated with textile products and processes.

5S_FO_PRO_History of product design

History of product design explores different key authors in design, places them in the cross-disciplinary historical context and reflects on the influence of design on the social, economic, and productive evolution of contemporary society.

The course objectives are:

- To learn and use research methodologies.

- To consult reference sources in different languages.

- For students to set forth their own and others' ideas critically.

- For students to summarize their own ideas clearly and concisely.

- To reflect on the positive influence of design.

- To display an optimal level of written expression.

5S_FO_PRO_Materials and technology 3

Materials and technology 3 focuses on the field of materials and their production processes so that students may incorporate them in decision-making during the initial process of design, construction, manufacture, presentation and other project phases, while focusing on materials used in the product design and furniture industry.

The course begins with students familiarizing themselves with the general and specific characteristics of materials and of their properties and applications.

The main objectives of the course are:

- For students to observe and analyse materials used in the product and furniture industry: metals, binders and binding agents, natural materials (stone and fibre), glass and composite materials.

- To learn about the applications, processes, costs, and technical considerations involved in their use.

- To explore digital manufacturing processes (introduced in Materials and technology 2).

5S_FO_PRO_Industrial design projects 3

Industrial design projects 3 integrates the knowledge and skills acquired with the performance of design projects that focus on the design of a collection or family and on the design of a system or program.

The course objectives are:

- For students to learn how to create the DNA of a collection and establish a system for it to work in a program.

- To analyse and study cases of collections of product families and systems.

- To develop the capacity to connect a series of items and to make them recognizable, while emphasizing the collection's differential identifying features.

- To acquire the capacity to generate solutions with a group of similar elements in different situations.

The course explores the family design concept, which entails using a series of variable laws that are repeated in each object. It could be based on a common concept, a common idea, context, use of the same material, or a similar production process or a detail visible in a shape or invisible detail in a gesture. Creating a collection yields a series of objects that belong to the same family.

The course also examines programs, which are systems for organizing, programming and systematizing series of variables, elements, or materials. Students undertake three projects during the semester: a long project, a medium-duration project, and a fast exercise.

5S_FO_PRO_Resistance of materials and structures

Resistance of materials and structures offers students an introduction to basic concepts of physics such as: magnitudes, dimensions and their units, forces, and moments of forces. Students develop a technical knowledge of structures using vectors and simple structure calculation operations necessary for applying them to design. The course also revises basic mathematical concepts such as geometry, trigonometry, and calculus.

The objectives of this course are:

- For students to have a knowledge base about the forces that influence the materials of which products are made.

- To know how materials behave in response to forces.

- To predict how objects deform with use.

- To calculate resistance and simple structures.

Lastly, students must be aware of the field of materials and their production processes with a view to incorporating them in decisions made during the initial process of design, construction, manufacture, presentation, and other project phases.

6S_FB_Professional and economic context of design

Professional and economic context of design introduces students to employment and economics for their future professional career.

The course presents the legal framework for professional activities associated with design, sources of employability, the tools for finding work, and knowledge of the business world and its resources.

The course objectives are:

- For students to acquire skills associated with personal, social, strategic, tactical, and operational skills in entrepreneurship, the economic system, and the regulatory and legal framework.

- To analyse market research and its impact on the development and execution of design projects.

- To analyse, evaluate and verify the productive feasibility of projects using business management and market demand criteria.

It is both a theoretical and practical course in which theoretical knowledge is applied and used to develop an understanding of the course's fundamental concepts.

6S_FO_GRA_Graphic design projects 4

Graphic design projects 4 comprises two areas of graphic design currently of great significance in professional graphics: interactive design and packing and packaging design. The first involves the use of digital devices, and the second, volume and its content. In both areas, graphic design is applied to improve the user's relation with the product and introduces communication. Usability is crucial for successfully resolving the projects posed.

The main objectives are:

- To introduce students to interactive design, working on capacity to organize content in various digital devices (adaptive design), in non-linear speech, and based on standard codes (HTML, CSS, JavaScript, etc.) and adaptation to digital media.

- For students to study the type of item for packaging, its requirements regarding protection, information, ergonomics, communication, location in the sales outlet, user experience and sustainability.

- To discover and undertake packing and packaging design projects while devising suitable technical solutions.

- To integrate, apply and consolidate previously acquired knowledge and skills, and implement project design methodologies while making innovative contributions in realistic and rather complex circumstances.

- For students to present their solutions in an understandable and convincing way.

6S_FO_GRA_Audiovisual and animation technology 2

The course explores animation and audiovisual techniques through complex tasks that enhance students' skills in graphics.

The methodology focuses on experimenting with techniques and resources such as animation in a three-dimensional space, the use of cameras and different effects.

Its main objectives are:

- For students to explore and adapt to changes and to industrial and digital technological evolution.

- To master and choose the most suitable visual communication technological resources.

- To produce proposals to solve graphic problems.

- To devise, prepare and plan an animated graphics task using suitable terminology.

6S_FO_INT_Organization and control of the execution process for interiors

Organization and control of the execution process for interiors prepares students to undertake a professional interior design project. This is defined as a unique series of tasks from the initial commission until completion of construction, with specific emphasis on the aspects of technical definition and of financial control, management, and planning.

The course contents deal with the work of professionals in interior design management, including the management of resources, planning, organization, project control, works planning techniques, measurements, and budgeting. This focuses on how interior design professionals operate, and how a project is developed, managed, organized and its cost is controlled.

The main objectives are:

- For students to learn about the current economic and legal framework: concepts of units, prices, percentages, taxation, and administrative relations of an interior design project.

- To master skills and be familiar with regulatory and legal frameworks in the work of professional interior designers.

- To devise suitable solutions in works planning, measuring, and budgeting an interior design project.

6S_FO_INT_Interior design projects 4

Interior design projects 4 requires students to comprehensively accomplish an executive project for which they are issued with a commission sheet that is as realistic as possible.

Students undertake the tasks they have been presented by exploring all aspects of interior design and detailing materials and finishes and all elements that shape the space and the environment, in an area of no more than 300 m^2.

The main objectives of the course are:

- For students to reflect on a complex space destined for a variety of possible hybrid uses, on sites for either public or private collective use such as hotels, offices, services, commercial premises and food and catering.

- For students to analyse the location, the client's needs, and any relevant legislation.

- To devise, plan and undertake an comprehensive project in accordance with technical, functional, aesthetic, and communicative requisites and conditioning factors.

- To provide advice, manage and plan in the entire interior design sector, drawing from thorough knowledge of furnishings for spaces destined for collective use (furniture, lighting, textiles, facilities, etc.)

6S_FO_MOD_Clothing projects 4

Clothing projects 4 focuses on production and wardrobe design in the performing arts.
This course involves undertaking different clothing design projects associated with the performing arts. Students explore the language of performance, theatre, and film.

Its main objectives are:

- For students to learn about and explore the different languages of the performing arts through research and case studies.

- To undertake projects such as the artistic garment in conjunction with other course subjects.

- To understand the agents involved in making a film and, particularly, the part played by the fashion designer.

- To devise and develop a proposal for an artistic design of garments for the theatre or film.

- Students must therefore devise a performance design proposal, which involves different elements such as clothing, sounds, smells, stage material, etc. in a specific space and time.

6S_FO_MOD_Prototypes

Prototypes focuses on the planning phase in the creative process of design projects whereby students observe, analyse, modify, validate, etc., their proposal.

Students develop a prototype based on their design proposal in the Clothing projects 4 course.

The course objectives are:

- To learn and identify properties and behaviours of materials: perception and behaviour of form, matter, space, and colour.

- To experiment with real materials and possible techniques.

- To verify prototypes.

- To give technical justification for the use of materials and critically evaluate the result.

6S_FO_PRO_Life cycle analysis

Life cycle analysis introduces students to ecodesign and expands their insight into product development beyond the phases of conceptualization, production and use to show them that a product or service is part of a broader system that requires evaluating all the stages through which the product passes from its conception until its demise.

The main objectives of the course are:

- For students to learn about and explore the field of materials and their production processes so that they may incorporate them in decisions made during the initial process of design, construction, manufacture, presentation, and other project phases.

The course is divided into three thematic blocks:

- Introduction to the concepts of ecological footprint, life cycle analysis and product as a system.

- Regulatory framework and methodology and tools of life cycle analysis.

- Evaluation of strategies for environmental improvement, ecobriefing, and application of environmental improvements in the design of products and services, ecodesign.

6S_FO_PRO_Industrial design projects 4

Industrial design projects 4 focuses on the design of interfaces or, in other words, design applied to human-machine interaction (or between user and product), with to view establishing effective, precise, secure, swift operation and user satisfaction.

The concepts of user-centred design, usability, user experience and innovation are the core areas of this course. It therefore focuses very closely on ergonomic aspects and human factors.

Students also undertake a technically complex project that will lead them to understand products with a technological part or with electronic components based on the analysis and study of and work on the element's interior (structure) and exterior (skin) parts. This involves understanding the interior and the exterior parts as a whole and incorporating methodologies to meet the user's real needs.

6S_FO_Interdisciplinary projects

Interdisciplinary projects focuses on a type of design project based on interrelated teamwork featuring contributions from different disciplines with a view to achieving a single and, if possible, real project, within the local, current social and cultural context.

The main objectives are:

- To work in interdisciplinary groups from either within or outside the centre.

- To share specific knowledge from other disciplines.

- To learn how to take part in a participatory process, in which different members are required to produce a joint response to a real challenge, while assuming the roles and functions that arise in group dynamics.

- To plan, manage, and establish strategies for resolving any issues that may arise in teamwork with a view to reaching group decisions to achieve successful results.

- To work on and improve communicative skills.

- To value the contributions of others.

7S_FB_Research methodology

On the Research methodology course students explore the research context of their speciality so they may define questions that will lead them to data compilation, its analysis, formulation of the hypothesis, value proposition and the briefing that will help them in performing their End-of-degree Project.

The objectives of the course are:

- For students to determine, analyse and evaluate their personal interests and/or what drives them professionally and define areas of interest.

- To define problems or needs in a specific context.

- To choose the right research methodology for the established goals, with a considerable degree of independence.

- To analyse and evaluate research results.

- To focus on detecting a problem or a significant design need or an opportunity.

- To publicly present and give a briefing on the value proposal before the course teachers and, if possible, the specialist area's End-of-degree Project tutors.

7S_FO_Management for design

Management for design presents strategic, tactical, and operational knowledge of the professional and social environment in which designers work, as well as knowledge associated with the conceptual framework of enterprise and the economic system in which professional design takes place.

The course objectives are:

- To define the main functions and workflows and provide an overview of the current context in which designers work and the roles they can play.

- To demonstrate ethnographic design approaches (Design thinking, user-centred design, etc.) with a view to understanding projects and to identifying opportunities.

- To familiarize students with the main tools and techniques of project management used to establish a logical order at the different levels of intervention in the management and execution of a design project (Scrumb, Trello, Canvas, Asana, etc.).

8S_FO_Internships

Internships introduce students to the real working world so they can transfer the knowledge acquired as they begin their professional practice.

Both the Internships and the End-of-degree Project come at the end of students' studies. The Internships are the result of an agreement with collaborating work centres in which students perform activities associated with their chosen speciality.

During their Internships students are required:

- To complete, expand and consolidate knowledge and skills acquired throughout their studies.

- To manage and plan work efficiently, responsibly, and enthusiastically.

- To take independent decisions, following the guidelines of the company or design studio.

- To be involved in real work teams.

- To reflect critically on the practice and the experience acquired and relate it to matters of interest such as improving quality of life and of the environment and its capacity to generate identity, innovation, and quality in production.

8S_FO_End-of-degree Project

The main goal of the End-of-degree Project course is for students to undertake an original design project with a considerable degree of independence. This project therefore represents culmination of students' training and a compilation of everything they have learned and incorporated while following the subjects on the syllabus. In the last semester of their studies, students defend and present their Project before an evaluation committee to demonstrate that they have acquired the abilities and skills required to practice their chosen speciality professionally or to continue with post-graduate research and studies.

One of the main objectives is therefore to communicate the results, contributions, and conclusions of the student's End-of-degree Project in an organized, clear and precise fashion.

The End-of-degree Project complies with specific legalization, the End-of-degree Project guidelines and the evaluations procedures published on the website of ESDAP Catalonia.