

Master in Design through New Materials



How are materials shaping
the world we live in?

Master in Design Through New Materials

Start date
September

ECTS credits
60

Course duration
400 hours

Language
English

Degree
Master's Degree in Design through New Materials, awarded by Universitat de Vic – Universitat Central de Catalunya (UVic –UCC).

Schedule
Tuesday, Thursday, Friday afternoons.

Director
Laura Clèries

Admission Requirements
Professionals from the design sphere: product design, industrial design, automotive design, textile design, activewear. Engineers and architects. Marketing and forecasting professionals in search of specialisation in their sector. Hybrid science and creative profiles. Professionals and entrepreneurs who want to seize the opportunity to innovate through materials.

If you have doubts about whether you would be a good fit for this programme, please submit your request for a case-by-case evaluation.

Welcome to the redefinition of materials

Could materials define the way our future is built?

Everything around us is materials; they are now at the core of innovation, impacting the industry, society and even cultural values. They are no longer defined at the end of the design process, but are part of the early development. Moreover, consumers pay more attention to the materials they surround themselves with; they are far more literate and interested in innovation than before. Material-driven innovation produces new industries, more sustainable solutions and more creative design processes.

The evolution of humanity has been intimately tied to the development in materials: from concrete and the newly built skyscrapers transforming the face and social life of cities to plastics and synthetic colours, allowing for the birth of pop culture.

Material-wise we are currently at a turning point in history. The growing dichotomy between an explosive potential in materials and technological advancements pushing incremental and disruptive innovations on the one hand, and compression of natural resources and its increasing environmental concerns, on the other hand, call for a new paradigm in both sustainable solutions and mindset.

Design and engineering are fusing with materials development as a core focus and common denominator of its intent. Material selection becomes a driving catalyst and epicentre in the innovation wave —a front-end claim upon which all other differentiations, including brand aesthetics, business models, sourcing and craft to industry processes, are rooted in the effort of creating new circular economies of scope and scale. The industry's future will thrive and depend heavily on skilled professionals, defined by those who understand the importance of materials-driven innovation and design.

In this context, the Master in Design through New Materials aims to generate a new breed of 'materials design specialists' in transdisciplinary fields, providing a working knowledge and active mastery of new materials as agents in innovation.

Summing it up, this Master's course aims:

- To train professionals on new creative ways of making and communicating.
- To prepare professionals for the new opportunities arising from the consolidation of materials and related technologies as innovation boosters.
- To train professionals in developing projects with social, environmental and technological concerns.

Programme

1. Materials foundations

This course will analyse materials, why they are selected for any specific user and their application in various industries. We will organise your knowledge of the different material families, from the traditional to the newest discoveries and creations. We will also provide scientific and creative views on their physical properties and processing.

2. Materials innovation

We will immerse ourselves in current views on materials innovation, materials research, and materials development trends to get an overview and the necessary tools to detect innovation opportunities.

3. Digital materiality

A series of workshops on materials making and processing through digital additive technologies, exploring the future of crafts.

4. Material-driven design studios

We will immerse ourselves into the role of a materials-driven designer with application in different sectors, from automotive to health, through a series of hybrid scientific and design formalisation stages.

5. Materials and sustainability

Starting with a theoretical basis for sustainability and circular economy and continuing with experimentation, we will help you discover materials production in the 21st century and understand its effect on the environment by experimenting with new natural biological processes.

6. Materials languages

Materials express themselves through colour, aesthetic trends, design. We will discover their languages and narratives, how to create visual storytelling, styling, media, and the emotionality of materials, sensory qualities and tangible and intangible properties.

7. Material cultures

We will be immersed in understanding the sociocultural aspects of materials with a critical and alternative experimental approach.

8. Material strategies

How to guide storytelling, positioning strategy and communication and dissemination of the project.

9. Final Master Thesis

The final master thesis is developed by dedicating weekly sessions with tutors and runs in parallel to course modules. Research begins in Module 2. The value proposition is made by Module 4, followed by the development, evaluation, communication and the development of a portfolio.

The project will develop a materials-derived product and/or strategy focusing on innovation and sustainability. The Project can be orientated and/or done in collaboration with an industrial partner.

Recommended project focus:

- Automotive - Transportation
- Circular economies - Cradle to cradle
- City - Building
- Health - Well-being
- Home - Workspace
- Accessories - Activewear
- Cosmetics
- Packaging

Methodology

The contents and methodology of the course allow you to experience theory of materials and hands-on workshops, envision innovation from research to industry, from speculative to applied projects, and adopt a scientific, creative and multidisciplinary attitude on the field. The professional orientation of the master allows textile designers, product designers, engineers, architects or interior designers to produce a Final Master Thesis —on an entrepreneurial basis or for an industrial partner— that results in a new material, a new product collection, or a new architectural project with a focus on materials, sustainability, innovation, creativity and near-future inspired solutions. The course is structured in two layers that run parallel and nurture each other:

The eight modules provide the necessary theoretical and practical knowledge through lectures & debates, hands-on workshops, materials discovery capsules, design tools sessions and guest speakers sessions (Materials Talks). Lessons are usually followed by seminars and discussion group sessions, debates and Q&A for subject acquisition.

The Final Master Thesis, where the modules' knowledge is constantly applied. The project is co-supervised by the Elisava lecturers and the external project tutors, professionals and specialists in their sector (product, packaging, automotive, fashion, accessories, architecture, interiors). It is developed by reserving sessions with tutors (monthly, biweekly or weekly, depending on the stage of the project) and runs in parallel to the course modules.

Criteria for the project validation are:

- Degree of Innovation.
- Degree of Sustainability.
- Degree of Creativity.
- Potential of feasibility.
- Potential for personal and professional development.

Values

Analysis

We want to provide you with the critical apparatus to recognise present-day materials design and development problems. This will be the basis that will allow you to come up with solutions applicable to different socio-cultural scenarios and contextualise new materials in a global context.

Sustainability in innovation

Sustainability and care for the environment are essential in creating new materials and recycling old ones. We want to make this a requirement for all the processes you will learn throughout the master degree.

Creative solution searching

Imagination and pushing all the boundaries of creativity are a fundamental part of this course. You will learn to unleash your potential and that there are no wrong answers, just new ways.

The experience

The master joins rigorous and applied university knowledge in design through new materials (Elisava) with industrial materials innovation (materials designers platform and library at Elisava). It is held in Barcelona, home of social and technological innovation. With an international spirit, the programme includes one European Material Exploration field trip to a selected city, up-to-date insights from relevant international materials-driven design experts, and a network of leading materials-related innovation hubs and industries.

Visits

There will be visits to or from some technological centres, innovation hubs or companies conducted during modules and phases of the project development.

Mentoring

Active mentoring during the duration of the master, to optimise your evolution and professional interests.

Career opportunities

You will have the expertise to work in transdisciplinary environments, including marketing, innovation, development and management departments of automotive, activewear, product, home, health, architecture, packaging, manufacturing industry.

Hands-on workshops

Brief workshops (8h), medium-length (12h) and long workshops (20h). The workshops are experimental, hands-on and promote the creative development of the projects focusing on the subject matter of the specific module.

Materials discovery capsules

An exploration of innovative materials through on-site sessions.

Guest lecturers' sessions and workshops

You will share your experiences with multi-sectoral professionals related to the module's contents.

Different spaces

Elisava: classrooms, laboratories (Materials Science, Prototyping, Media), and workshops in other distributed places, such as the Ateneu de Fabricació de Gràcia (Fab Lab).

Design tools sessions

Capsule sessions to acquire competencies such as materials characterisation, art direction or storytelling.

Team

Directors

LAURA CLÈRIES

Laura has both creative and scientific backgrounds: she obtained her BA in Physical Chemistry and her PhD in Materials Science from the University of Barcelona and then pursued degree studies in Industrial Design. Laura has worked internationally as a designer in leading design companies (Zara Home) and design studios and as a researcher for prominent forecasting publications and think tanks (Pantone Colour Planner, WGSN). As a materials innovation consultant, she has worked for Eurecat electronic textiles division, for Jean Paul Gaultier's headquarters architects. She has curated materials innovation and forecasting (Materfad - textile area- and 'Materiality') exhibitions. Nowadays, she is the Director of Elisava Research, focusing her present research work on futures research methodologies and materials innovation.

Professors

PERE LLORACH. Head of the Sustainability area of the Undergraduate Degree in Industrial Design Engineering (Elisava).

CLARA GUASCH. Director (Girbau Lab), previously Materials, Sustainability & Innovation (IKEA).

MARIA BOTO. Microbiologist. Leader of the Color Biolab (University College Ghent).

SAÚL BAEZA. Product and Fashion Designer with focus on Materials Culture. Founder (Does Work), Editor (Visions By magazine).

RAÚL NIEVES. Creative technologist, specialist in digital materiality.

CRISTINA NOGUER. Researcher, Designer and Strategist, specialist in Material Languages.

LUIS ESLAVA. Head of the Product Design area at the Undergraduate Degree in Design (Elisava), Head (Luis Eslava Studio).

SARA GONZALEZ DE UBIETA. Research and Development (Nanimarquina).

Invited speakers to the Materials Talks:

CHRISTOPHE GUBERAN. Industrial designer, visiting researcher (MIT).

KLARENBEEK & DROS. Material designers (Studio Klarenbeek & Dros).

SEETAL SOLANKI. Founder (Ma-tt-er Studio).

RUTH JONSARA, Director of the Healthy Materials Lab (Parsons School of Design).

WHY GO BEYOND?

→ You can find out more about the Master in Design through New Materials at mastersbeyond.elisava.net

- If you are a Bold Category Member of Elisava's Alumni Association, you may enjoy a 15% discount on our Master's tuition.
- There may be some changes to the faculty for reasons beyond the course programme.
- Elisava will make the necessary and appropriate changes in the programme or, in exceptional circumstances, cancel the programme altogether if the course has not reached the minimum number of students to ensure its proper functioning two weeks before its initiation. Elisava will only refund the amounts already paid by the students.
- According to their specific necessities, the Master schedules may include additional hours, including during the weekend.