Bachelor's degree in Industrial Design and Product Development
Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT)

On the **bachelor's degree in Industrial Design and Product Development** you will train to be a qualified professional who will carry out industrial design activities and create new products, concepts and services that add value to the production process. You will acquire the necessary experience in design to plan and develop the entire lifecycle of a product, as well as key competencies in establishing and developing operational, functional, technical, constructive, aesthetic and communicative aspects of production and commercialisation. You will learn to generate virtual and physical models and prototypes, use manual and computer tools for calculation and artistic and industrial expression, process graphic information, and analyse and assess the social and environmental impact of technical solutions.

GENERAL DETAILS

Duration
4 years

Study load
240 ECTS credits (including the bachelor's thesis). One credit is equivalent to a study load of 25-30 hours.

Delivery
Face-to-face

Language of instruction

Check the language of instruction for each subject (and timetable) in the course guide in the curriculum.

Information on language use in the classroom and students' language rights.

Fees and grants
Approximate fees per academic year: €1,107 (€2,553 for non-EU residents). Consult the public fees system based on income (grants and payment options).

Location
Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT)

Official degree
Recorded in the Ministry of Education's degree register

ADMISSION

Places
60

Registration and enrolment
What are the requirements to enrol in a bachelor's degree course?

Legalisation of foreign documents
All documents issued in non-EU countries must be legalised and bear the corresponding apostille.

DOUBLE-DEGREE AGREEMENTS

Double-degree pathways at a single school

- Bachelor's degree in Industrial Design and Product Development Engineering / Bachelor’s degree in Mechanical Engineering
- Bachelor's degree in Industrial Design and Product Development Engineering / Bachelor's degree in Textile Technology and Design Engineering

PROFESSIONAL OPPORTUNITIES

Professional opportunities

- Analysis and diagnosis of products and processes in companies in any industrial sector; technical, design, research and project departments; and new product development departments.
- Market analysis and identifying opportunities for new products; diagnosis in business innovation and strategy.
- Composition and formal analysis; modelling, simulation and development of models and prototypes.
- Ergonomics and aesthetics of industrial products and processes.
- Consultancy and advice.
- Freelance work: provision of consultancy and advisory services in design companies.
- Public administration.
- Teaching and research.

ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

Academic calendar

General academic calendar for bachelor’s, master’s and doctoral degrees courses

Academic regulations

Academic regulations for bachelor’s degree courses at the UPC

Language certification and credit recognition

Queries about language courses and certification

Terrassa School of Industrial, Aerospace and Audiovisual Engineering (ESEIAAT)

This bachelor’s degree is also taught at

- Vilanova i la Geltrú · EPSEVG · Show degree

CURRICULUM

Subjects	ECTS credits	Type
FIRST SEMESTER		
Chemistry	6	Compulsory
Environmental Technologies and Sustainability	6	Compulsory
Graphic Expression in Engineering	6	Compulsory
Mathematical Methods I	6	Compulsory
Physics I	6	Compulsory
SECOND SEMESTER		
Economics and Business Administration	6	Compulsory
Foundations of Computing	6	Compulsory
Materials Science and Technology	6	Compulsory
Mathematical Methods II	6	Compulsory

Subjects	ECTS credits	Type
Physics II	6	Compulsory
THIRD SEMESTER		
Basic Design	6	Compulsory
Electric Systems	6	Compulsory
Graphic Representation Techniques	6	Compulsory
Mechanical Systems	6	Compulsory
Probability and Statistics	6	Compulsory
FOURTH SEMESTER		
Aesthetics and Design	6	Compulsory
Control and Guidance of Mobile Robots	6	Optional
Design Methodology	6	Compulsory
Elasticity and Strength of Materials	6	Compulsory
Electronic Systems	6	Compulsory
Engineering Graphics	6	Compulsory
Uav Research & Development	3	Optional
Uav Research & Development Project	3	Optional
FIFTH SEMESTER		
Artistic Expression	6	Compulsory
Computer-Aided Design	6	Compulsory
Graphic Design and Communication	6	Compulsory
Mechanism Design	6	Compulsory
Product Design I	6	Compulsory
SIXTH SEMESTER		
Advanced Programming Oriented Towards Goals	3	Optional
Autonomous Vehicle Programming	3	Optional
Big Data Tools and Applications	3	Optional
Characterization Techniques for Metallic Alloys	3	Optional
Creative Lab	6	Optional
Creative Programming with Processing	3	Optional
Critical Thinking for 3D Printing	6	Optional
Decision Criteria - Engineer as Employee or Engineer as Entrepreneur	3	Optional
Ecodesign	6	Optional
Economic Factors and Marketing	6	Compulsory
Electromobility and Electrical Aircraft Systems	3	Optional
Energy Efficiency Systems	3	Optional
Energy Storage and Conversion Application	3	Optional
Experimental Design	3	Optional
Experimental Design Workshop Product	6	Optional

Subjects	ECTS credits	Type
Finite Elements in Structural Analysis	3	Optional
Fundamentals of Robotics	3	Optional
Highly Automated Production Systems	3	Optional
Hospital Engineering	6	Optional
Information and Communication Technology	3	Optional
Introduction to Big Data	3	Optional
Introduction to Dynamical Systems and Ergodic Theory	3	Optional
Introduction to Forensic Expert for Technique Dispute Resolution	3	Optional
Introduction to Object-Oriented Programming	3	Optional
Introduction to Reverse Engineering	3	Optional
Leadership and Professional Development in Engineering	3	Optional
Lightweight Materials for Engineering Applications	3	Optional
Manufacturing Processes	6	Compulsory
Mathematical Models in Engineering	3	Optional
Mathematics and Computing Engineering	3	Optional
Mobile Programming	6	Optional
Motorbikes Design and Secrets	3	Optional
Product Design II	6	Compulsory
Product Presentation	6	Compulsory
Professional Communication for Engineers Through Virtual Reality	3	Optional
Real-Time Programming and Database Systems	3	Optional
Robotics and Automation	3	Optional
Safety Robotics and Automation for Industry 4.0	3	Optional
Surface Chemistry for Industrial Applications Design	3	Optional
Technology, Society and Globalization: the Sustainability Challenge in the XXIth Century	6	Optional
Uav Generative Design	6	Optional
Validating and Communicating Innovative Ideas	6	Optional
Vibroacoustics	3	Optional
Web Applications	3	Optional
Written Academic Skills for Engineering	3	Optional
SEVENTH SEMESTER		
Advanced Programming	6	Optional
Applied Robotics	6	Optional
Initiation to Paper and Graphic Industrial Tecnologies	6	Optional
Integral Design Management	6	Compulsory
Internship	12	Optional
Material Selection in Industrial Design	6	Optional
Modelisation, Complexity and Sustainability	6	Optional

Subjects	ECTS credits	Type
Practical Design of Goods and Equipment	6	Optional
Programming of Mobiles Android	6	Optional
Project Oriented Methodology	6	Compulsory
Textiles for Product Design	6	Optional
Workshop in Plastic Objects Design	6	Optional
EIGHTH SEMESTER		
Agrivoltaics: Photovoltaic Solar Energy for Sustainable Development	3	Optional
Basic Robotics	6	Optional
Digitalization Applied to Energy Systems	3	Optional
Electrical Project Design with Eplan	3	Optional
Hydrogen'S Future: Technologies and Applications	3	Optional
Integral Design of Product	6	Optional
International Projection of Design	6	Optional
Introduction to Robotics and Automation	3	Optional
Numerical Methods for Engineers	6	Optional
Photonics. Optics Applied to Engineering	6	Optional
Professional Communication for Engineers Through Virtual Reality II	3	Optional
Technological Projects I	6	Optional
Technological Projects II	6	Optional
Bachelor's Thesis	24	Project