COURSE DESCRIPTION – ACADEMIC YEAR 2024/2025

Course title	**Laboratory of Product Design**
Course code	42610
Scientific sector	NN
Degree	Professional Bachelor in Wood Technology (LP-03)
Semester	1
Year	1
Credits	6
Modular	No

Total lecturing hours	---
Total lab hours	60
Attendance	Attendance is recommended but not mandatory. Exam modalities for non-attending students are indicated below, in the fields "Assessment" and "Evaluation criteria and criteria for awarding marks".
Prerequisites	---
Course page	**Microsoft Teams** / **OLE** https://ole.unibz.it/course/view.php?id=11550

Specific educational objectives	The course aims to provide the student with the basic critical tools for the formation of their own project methodology in the field of product design, treating wood as the main theme. The student will be gradually introduced into the discipline, supported by the analysis of real case studies. The assignment of theoretical-practical exercises, which will present problems of increasing complexity, will see the course "42610 Laboratory of Product Design" integrated with the course "42609 Product Design", for the practical application of the theoretical methodologies addressed during the semester. Wood will be the main material with which to design. Practical exercises of varying duration will be assigned. The artefacts to be designed and created will have to respond and relate to ways and times similar to what happens in the professional world. The "design process" - always supported by research - will attempt to explore new paths, stimulating creativity, asking questions and triggering reflections that will lead to the definition of the "right" design.

Lecturer	Dott. Simone Bellan https://www.unibz.it/it/faculties/engineering/academic-staff/person/40123-simone-bellan
Contact	Simone.Bellan@unibz.it
Scientific sector of lecturer	ICAR/13
Teaching language	Italian
Office hours	During the Office Hour time span, arrange beforehand by email.
Lecturing Assistant (if any)	/
Contact LA	/
Office hours LA	/

List of topics	**Introduction to product design** **Design methodology** - from the idea to the finished product - materials and product design **Design and processes** - brief, concept, choice of material, CMF, work tools, mock-up and aesthetic model, evaluation of production and processing technologies, prototype, sustainability in the production chain, packaging, transport, traceability, communication, sale, disposal - circular design **Designers and products** - case histories
Teaching format	exercises

Learning outcomes	Knowledge and understanding: • D1.1 – Knowledge of the key concepts and technologies of data science disciplines. Knowledge of the fundamentals of industrial design and product design that allow you to understand, analyze and evaluate the objective quality of an artefact. • D1.2 – Understanding of the skills, tools and techniques required for an effective use of data science. Ability to understand the various phases of conception, conception, development, presentation and creation of a design product. • D1.11 – Knowledge of the main algorithms for data analysis, and of elements of the complexity theory. Applying knowledge and understanding: • D2.2 – Ability to address and solve a problem using scientific methods. Re-elaboration of the knowledge acquired for the formation of one's own basic project methodology in the context of product design. Practical design application for the creation of a contemporary design product. • D2.4 – Ability to develop programmes and use tools for the analysis and management of data and related infrastructures. Making judgments • D3.2 – Ability to autonomously select the documentation (in the form of books, web, magazines, etc.) needed to keep up to date in a given sector. Ability to critically and objectively evaluate the factors determining the aesthetic, perceptive (appeal), technical and productive quality of a design product, be it industrial or high craftsmanship. Communication skills • D4.1 – Ability to use Italian at an advanced level with particular reference to disciplinary terminology. Autonomy in the presentation of a design project with appropriate methods and technical language. Learning skills

	• D5.3 – Ability to deal with problems in a systematic and creative way and to appropriate problem-solving techniques. Ability to independently and proactively research, update and extend the knowledge acquired and the topics covered during the course. Development of organizational skills and teamwork.

Assessment	**Attending students** The exam consists of the overall evaluation of the work carried out during the course (whether individual or in a team). Presentation of the final project. Evaluation: Pass/Fail. **Exam modalities for Non-attending students** The exam consists of the overall evaluation of the work carried out during the course (whether individual or in a team). Reviews with the teacher on the projects assigned during the semester are required, in a manner to be agreed upon and according to the course calendar, with delivery of the requested papers on OLE. Projects must be evaluated DURING the course and BEFORE the final exam, otherwise the exam cannot be recorded. Presentation of the final project. Evaluation: Pass/Fail. Even if attendance of this course is highly recommended, please inform the teacher at the beginning of the course if you will take the exam as a non-attending student.
Assessment language	Italian
Assessment Typology	Monocratic
Evaluation criteria and criteria for awarding marks	**Evaluation criteria for Attending students and for Non-attending students** Project's deadlines are mandatory. Partial projects or missed deadlines determine a partial evaluation which will contribute to the student's final mark. The presentation of the final project is required to be admitted to the final exam.

Required readings	• M. Ashby, C. Johnson, *Materiali e Design*, Casa Editrice Abrosiana, Milano 2005 • R. Thompson, *Manufacturing processes for design professionals*, Thames & Hudson 2007 • P. Forrester, *Enciclopedia delle tecniche di lavorazione del legno (The woodworker's technique bible)*, Il castello 2010 Subject Librarian: David Gebhardi, David.Gebhardi@unibz.it and Ilaria Miceli, Ilaria.Miceli@unibz.it
Supplementary readings	Design • H. Dreyfuss Associates, *Le misure dell'uomo e della donna*, BE-MA editrice, Milano 1994

	• AA.VV., *Phaidon Design Classics*, Phaidon Press Ltd, London 2006 Materiali • J. Natterer, T. Herzog, M. Volz, *Atlante del legno*, UTET, Torino 2013 • M. Levi, V. Rognoli, *Materiali per il design: espressività e sensorialità*, Polipress, Milano 2005 • E. Manzini, *La materia dell'invenzione. Materiali e progetto*, Arcadia Edizioni, Milano 1986

Software used	Recommended/suggested but not mandatory: **Browser** • Safari, Chrome, Edge, Mozilla Firefox **Operating** • Mac OS: Pages, Keynote, Numbers • Microsoft Office 365: Word, Excel, PowerPoint • OpenOffice **Graphic - Photo - Vector** • Microsoft Foto / Windows (freeware) • Foto / MacOS (freeware) • Icecream Photo Editor / Windows (freeware) • GIMP / Windows, MacOS, Linux (freeware) • Inkskape / Windows, MacOS (freeware) • Corel Draw / Windows, MacOS (15-day free trial) • Adobe Photoshop / Windows, MacOS, Linux (7-day free trial) • Illustrator / Windows, MacOS, Linux (7-day free trial) • InDesign / Windows, MacOS, Linux (7-day free trial) • Affinity Photo / Windows, MacOS, Linux (trial period) **2D - 3D** • Autocad / Windows, MacOS (freeware ver. Educational) • Rhinoceros / Windows, MacOS, Linux (90-day free trial) • Solidworks / Windows, MacOS (UNIBZ license) • SolidEdge / Windows, MacOS (freeware ver. Educational) **Rendering** • Keyshot / Windows, MacOS Vray / Windows, MacOS