

Syllabus

Course Description

Course Title	Project Product Design 2.d
Course Code	97167
Course Title Additional	Made for Metal
Scientific-Disciplinary Sector	NN
Language	Italian; English; German
Degree Course	Bachelor in Design and Art - Major in Design
Other Degree Courses (Loaned)	
Lecturers	dr. Mila Stepanovic, Mila.Stepanovic@unibz.it https://www.unibz.it/en/faculties/design-art/academic-staff/person/52991 Sig. Sebastian Camerer, Sebastian.Camerer2@unibz.it https://www.unibz.it/en/faculties/design-art/academic-staff/person/28444
Teaching Assistant	
Semester	Second semester
Course Year/s	2nd - 3rd
CP	19
Teaching Hours	90+60+30
Lab Hours	0
Individual Study Hours	295
Planned Office Hours	57
Contents Summary	The course provides students with knowledge and skills in the operational aspects approaches of designwork, methods and theories of product design for various functional and experimental fields of application with a focus on digital production processes.
Course Topics	Metal: Experimentation, Craft, Technology and Vision

	Metal is far more than just a material. It is a resource, a functional object, a structure, a surface, a thing of value and a cultural symbol. Whether steel, aluminium, copper, brass, bronze or precious metal – every metal possesses specific material properties, its own history and a characteristic relationship to time, labour, technology and value. As part of the project, students engage intensively with metal as a material in design. They examine different metals and their properties and familiarise themselves with both traditional and contemporary methods of working with them. A key component of the project is the exploration of regional metal culture and production. Visits to craft workshops, companies, workshops, museums and other relevant venues provide insights into real-world production processes and different ways of working with metal. Through practical experiments and workshops, knowledge is not only imparted theoretically but also experienced directly through their own hands-on work. Students try out basic and advanced techniques – ranging from manual working and joining to industrial and digital manufacturing processes. Metal will be examined from various perspectives: as a material for design, architecture, industry and fashion, as a structural material as well as a decorative or symbolic surface. Alongside its technical and design qualities, the focus is also on its cultural and social significance. Questions regarding resources, scarcity, sustainability, investment, prestige and status open up a broader perspective on materials and their value in our society.
Keywords	Metal, craft, technology and manufacturing processes, regional resources and manufacturing facilities
Recommended Prerequisites	To have passed the Project Product Design 1; to have certified the language level proficiency B1 in the course language in years following the first.
Propaedeutic Courses	
Teaching Format	Lectures, Workshops/Exercises, Studio-Work, Field Work, Excursions, individual reviews, seminars, tutorials
Mandatory Attendance	not compulsory but recommended

Specific Educational Objectives and Learning Outcomes	Knowledge and understanding have acquired their own project methodology in the field of product design, from the phase of planning to the phase of realisation of the project. have acquired the basic practical and theoretical knowledge necessary to realise a project in the field of product design. have acquired the basic knowledge to be able to turn a critical eye to their own work and to deal with contemporary complexity. have acquired the basic knowledge necessary for further Master's studies in all components of project culture as well as in theoretical subjects. Applying knowledge and understanding plan, develop and realise a project in the field of product design. be able to finalize the creation of an accomplished project in the field of product design, thanks to the basic knowledge acquired in the practical, scientific and theoretical fields. recognise the main phenomena of contemporary society, to observe them critically, also from an ethical and social point of view, and to elaborate appropriate solutions at the level of a design proposal/response. make use of the skills acquired during the course of study in the event of continuing studies in a Master's degree programme in the field of product design and to develop them further. Making judgements be able to make independent judgements for the purpose of developing their own design skills and in relation to all those decisions that are necessary to bring a project to completion. be able to make independent judgements, both in the critical evaluation of their own work and in their ability to use the right interpretative tools in those design contexts in which they will work and/or continue their studies, also considering ethical and social aspects. Communication skills present an independently realised project in the field of product design in the form of an installation, orally as well as in writing in a professional manner. to professionally communicate and substantiate one's own
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	decisions and justify them from a formal and theoretical point of view. communicate and present your own project at a professional level in another language and correctly in a third language in addition to their own language Learning skills have learned a work methodology at a professional level - in the sense of being able to identify, develop and realise solutions to complex problems by applying the knowledge acquired in the practical and theoretical fields - in order to start a professional activity and/or continue their studies with a master's degree program. have developed a creative attitude and learned how to enhance it and develop it according to their own inclinations. have acquired basic knowledge in theoretical and practical subjects as well as a study methodology suitable for continuing studies with a master's degree program.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	Oral exam. N.B. ALL THE STUDENTS ATTENDING THE EXAM AS NON-ATTENDING STUDENTS MUST AGREE UPON THE CONTENTS WITH THE TEACHER.
Evaluation Criteria	The final assessment is based on the content of the studio project and all the exercises conducted during the course, according to the criteria set by each of three modules. Some of the common criteria include: the quality and clarity of the research; personal commitment and initiative shown in the studio-work and other exercises conducted in all modules; participation, analytical thinking skills, and delivery punctuality.
Required Readings	Il manuale per il design dei prodotti industriali materiali, tecniche, processi produttivi Thompson, Rob; Lucibello, Sabrina; Martino, Carlo

	Metalworking Through History: An Encyclopedia Duckett, Bob
Supplementary Readings	
Further Information	
Sustainable Development Goals (SDGs)	Responsible consumption and production, Industry, innovation and infrastructure

Course Module

Course Constituent Title	Product Design
Course Code	97167A
Scientific-Disciplinary Sector	CEAR-08/D
Language	German
Lecturers	Sig. Sebastian Camerer, Sebastian.Camerer2@unibz.it https://www.unibz.it/en/faculties/design-art/academic-staff/person/28444
Teaching Assistant	
Semester	Second semester
CP	8
Responsible Lecturer	
Teaching Hours	90
Lab Hours	0
Individual Study Hours	110
Planned Office Hours	24
Contents Summary	The course should provide fundamentals, skills, working methods, theories and practices of Product Design in diverse functional and experimental scopes.
Course Topics	The project takes an in-depth look at metal as a material in design. It explores different types and properties of metal, and introduces

students to typical traditional and contemporary methods of processing and utilising metal.

In doing so, metal is examined from various perspectives: as a material for design, architecture, industry and fashion; as a structural material; and as a decorative or symbolic surface.

In addition to its technical and design qualities, the project also focuses on its cultural and social significance. Questions regarding resource scarcity, sustainability, value and status open up a broader perspective on materials and their role in our society.

Visits to production facilities, companies, workshops, museums and other relevant locations provide insights into the mining and extraction of metals, ancient cultures, actual production processes and different ways of transforming metal into products.

In practical workshops, students experiment with fundamental shaping techniques: from manual working, reforming, machining, joining and casting, through toolmaking and advanced industrial manufacturing, to surface treatment and finishing processes.

Building on these investigations, students develop their own concepts and visionary everyday objects. The focus is not simply on transferring a particular concept to a metal object. Rather, the material itself is intended to become the starting point for a creative process.

Students develop their own methods of observation, experimentation and prototyping, and learn not only to take the specific properties of a material into account, but also to use them as the driving force behind their designs.

	Which properties of a metal can determine its function? How can weight, hardness, elasticity, conductivity, temperature, sound, reflection, ageing or patina be utilised in design? How do traces of machining, manufacturing processes and the passage of time alter the perception of an object? When does metal transform from a functional material into a carrier of cultural or emotional value? The envisioned product concepts may range from everyday objects, tools, furniture, spatial structures, accessories, technical objects or collectors' items. The project culminates in a visionary metal object that embodies a distinctive design attitude and demonstrates that material is not only a means of realising a form, but can itself determine the content, function, expression and meaning of a product.
Teaching Format	Lectures, Workshops/Exercises, Studio-Work, Field Work, Excursions, individual reviews
Required Readings	-
Supplementary Readings	

Course Module

Course Constituent Title	Digital fabrication
Course Code	97167B
Scientific-Disciplinary Sector	CEAR-08/D
Language	Italian
Lecturers	dr. Mila Stepanovic, Mila.Stepanovic@unibz.it https://www.unibz.it/en/faculties/design-art/academic-staff/person/52991
Teaching Assistant	
Semester	Second semester
CP	6
Responsible Lecturer	
Teaching Hours	60

Lab Hours	0
Individual Study Hours	95
Planned Office Hours	18
Contents Summary	The course should address the emerging world of digital fabrication from CAD to CAM and its impact on today's craft and mass production systems.
Course Topics	The course aims to establish a functional relationship between research, analysis, sketching, digital modelling, and digital fabrication. Students will have chance to experiment with different digital tools including digital fabrication tools, and materials in relation to the main course objectives (developing objects in metal). The course is organized into the following phases: • Develop exercises aimed at strengthening confidence in low and medium complexity objects in 3D modelling and 2D drawing principles. • Use 3D modelling (Rhino) and visual scripting (Grasshopper) to define the formal and parametric logic of what is designed, and refine the design according to material, functional, and fabrication constraints. • Understand how 3D modelling and digital fabrication integrate into the design process in a functional and meaningful way. • Understand the constraints of digital fabrication tools like 3D modelling, CNC laser cutting and engraving, CNC milling for specific materials and how you can benefit from these tools for developing objects/prototypes in metal.
Teaching Format	Lectures, exercises (in class and at home), tutorials, hands on with prototyping
Required Readings	van den Dool, A., Martinez Castro, J., Song, W., Ozdemir, M., Doubrovski, Z., & Huysmans, T. (2024). <i>Computational design for (industrial) designers using Rhino Grasshopper</i> (W. Elkhuisen, Ed.). TU Delft OPEN Books. https://interactivetextbooks.tudelft.nl/rhino-grasshopper/Grasshopper_Rhino_course/intro.html Arturo Tedeschi, <i>My AAD – Algorithms Aided Design: Parametric Strategies Using Grasshopper</i>, Le Penseur Publisher, Brienza

	2014 Edited By Gheorghe Oancea, Panagiotis Kyratsis: “Digital Product Design and Manufacturing”, CRC Press Silva, D., (2019). “Digital fabrication: From tool to a way of thinking”. Ed. Haeusler, M. H., Schnabel, M. A. and Fukuda, T. 24th International Conference on Computer-Aided Architectural Design Research in Asia: Intelligent and Informed, CAADRIA 2019, vol 2, 463 – 470, ISBN 978-988-78917-2-7 Il manuale per il design dei prodotti industriali materiali, tecniche, processi produttivi Thompson, Rob; Lucibello, Sabrina; Martino, Carlo
Supplementary Readings	

Course Module

Course Constituent Title	Theories and languages of product design
Course Code	97167C
Scientific-Disciplinary Sector	PHIL-04/B
Language	English
Lecturers	
Teaching Assistant	
Semester	Second semester
CP	5
Responsible Lecturer	
Teaching Hours	30
Lab Hours	0
Individual Study Hours	90
Planned Office Hours	15
Contents Summary	The contents of the integrated theoretical module refer to the role and status of products in our material culture and, in particular, how products take part in networks of meanings: how they

	contribute to producing meanings, through their configuration given by shapes, colours, textures and consistencies, and how they are given meanings in the course of the everyday practices in which they take part. The module refers to research areas such as product semiotics, design semiotics, object semiotics, product language, product semantics.
Course Topics	.
Teaching Format	.
Required Readings	.
Supplementary Readings	.