

Syllabus
Course description

Course title	Project Product Design 1.d “Light at Doors and Gates. Illuminating the Entrance.”
Course code	97155
Scientific sector	Module 1: ICAR/13 Module 2: ICAR/13 Module 3: M-FIL/04
Degree	Bachelor in Design and Art (L-4)
Semester	Summer semester 2022/23
Year	1 st
Credits	19 (Module 1: 8 CP, Module 2: 6 CP, Module 3: 5 CP)
Modular	Yes

Total lecturing hours	180 (Module 1: 90, Module 2: 60, Module 3: 30)
Total hours of self-study and/ or other individual educational activities	295 (Module 1: about 110, Module 2: about 90, Module 3: about 95)
Attendance	not compulsory but recommended
Prerequisites	To have passed the WUP project
Maximum number of students per class	20

Course description	<i>The course belongs to the class “caratterizzante” (module 1), “di base” (module 2) and “affine integrativa” (module 3) in the curriculum in Design.</i> Description Module 1 – Product Design: Title.... Light at Doors and Gates. Illuminating the Entrance. The entrance of a building serves as its business card. At night, entrance areas with good illumination appear particularly inviting, convey security and orientation as well as reflect the design consciousness of the property owners. Glare-free lighting and appropriate illumination of the functional areas thereby marking the architectural transition zones play a role which is just as important as
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the position and orientation of outdoor lights or the luminous intensity and colour of the light sources.

In the summer semester, we will analyse the different lighting situations at building entrances and driveways, front doors and garden gates as well as critically examine questions regarding the lighting quality, energy consumption and light pollution caused by excessive outdoor illumination.

Through night-time field studies, various design exercises and practical workshops, we will train our light perception, acquire basic knowledge on lighting technology and further improve our design skills to develop functional and responsible lighting solutions for building entrances.

DEUTSCH

Licht an Tür und Tor. Beleuchtung am Eingang.

Der Eingang eines Gebäudes ist seine Visitenkarte. Nachts wirken Hauseingänge in gutem Licht besonders einladend, vermitteln Sicherheit und Orientierung und spiegeln das Gestaltungsbewusstsein ihrer Eigentümer wider. Blendfreiheit und eine angemessene Ausleuchtung der Funktionsbereiche, die die architektonischen Übergangszonen markieren, spielen eine ebenso wichtige Rolle wie die Position und Ausrichtung der Außenleuchten oder die Lichtstärke und Farbe des Leuchtmittels.

Im Sommersemester analysieren wir die unterschiedlichen Lichtsituationen in Eingängen und Zufahrten, an Haustüren und Gartentoren und beschäftigen uns kritisch mit Fragen des Energieverbrauchs und der Lichtverschmutzung durch übermäßige Außenbeleuchtung.

Durch nächtliche Feldstudien, verschiedene Entwurfsübungen und praktische Workshops schulen wir unsere Lichtwahrnehmung, erarbeiten die Grundlagen der Lichttechnik und die gestalterische Kompetenz zur Entwicklung funktionaler und angemessener Lichtlösungen für Gebäudeeingänge.

Description Module 2 – Material science and technologies :

The module's goal is to provide students with fundamental understanding of materials and transformation processes that may be applied during the design process and within the design culture. On one side, lectures on the major features of materials and transformation technologies will be given in order to provide concepts and methodologies for the creation of their project. Short practical activities will also be conducted in order to improve the ability to identify problems, define projects, interact with materials and processes, and take advantage of university workshops as well as several visits to local industries to see and feel closely real-life situations involving production processes.

ITA

L'obiettivo del modulo è quello di fornire agli studenti una comprensione fondamentale dei materiali e dei processi di trasformazione che possono essere applicati durante il processo di progettazione e all'interno della cultura del design. Da un lato, saranno tenute lezioni sulle principali caratteristiche dei materiali e delle tecnologie di trasformazione, al fine di fornire concetti e metodologie per la creazione del loro progetto. Verranno inoltre condotte brevi attività pratiche per migliorare la capacità di identificare i problemi, definire i progetti, interagire con i materiali e i processi, sfruttare i laboratori universitari e diverse visite a industrie locali per vedere e sentire da vicino situazioni reali che coinvolgono i processi di produzione.

Description Module 3 – Theories of cultural consumption:

The theoretical module accepts the challenge of being entirely articulated according to the design topic of the project. In the case of entrance lighting, we will:

- i) frame contemporary issues and ways, in consumeristic society, of organizing public and private lighting;
- ii) introducing basic notion of cultural perception of light and the different ways light offers a qualitative phenomenological experience submitted to processes of meaning-making;
- iii) conceptualizing the lived spaces to better grasp the idea of entrance and gateway in the semiotic frame of the aspectualization of space (threshold and limits);
- iii) question the way sustainable options are affecting cultural constructed visual atmospheres.

Specific educational objectives	Knowledge and understanding - have acquired one's own project methodology in the field of product design. This methodology includes the ability to oversee all phases of design, from the generation of ideas to the realisation of the finished project. Through the integrated teaching of project subjects and subjects of a technical, scientific and theoretical nature, graduates will be able to simultaneously address all these aspects and consider them as synonymous with the development of a project that is successful on a formal, technical, scientific and cultural level.
Lecturer	Module 1 – Product Design: Klaus Hackl Email: klaus.hackl@unibz.it https://www.unibz.it/de/faculties/design-art/academic-staff/person/37147-klaus-hackl Module 2 – Digital Modelling: Ignacio Merino email: ignacio.merinosanchezfayos@unibz.it Module 3 – Theories and languages of product design: Giacomo Festi email: giacomo.festi@unibz.it https://www.unibz.it/it/faculties/design-art/academic-staff/person/40076-giacomo-festi
Scientific sector of the lecturer	Module 1 – Klaus Hackl: ICAR/13 Module 2 – Ignacio Merino: ICAR/13 Module 3 – Giacomo Festi: M-FIL/04
Teaching language	Module 1 – German Module 2 – Italian Module 3 – English
Office hours	Module 1: Mondays: 16.00 - 18.00 Tuesdays: 14.00 - 16.00 Additional office hours by appointment only. Module 2: Tuesdays 14:00-16:00 Module 3: Tuesdays: 16.00 – 18.00 Additional office hours by appointment only
List of topics covered	Module 1: The project "Light at Doors and Gates. Illuminating the Entrance" covers many methodological aspects of contemporary and multi-layered design processes:

	- from raising initial questions and critical problem awareness, to in-depth investigations. - from research to ideation. - from hypothetical assumptions to the formulation of a coherent design concept. - from sketching to technical drawing. - from the creation of mockups & prototypes to end-models. - from the fundamentals of lighting technology to the realisation as an individual light or lighting system. - from project presentation to convincing project communication. - from questions of project planning to project Documentation. Module 2: The course is structured in four macro-areas that allow the knowledge to be explored progressively, from macro to micro, with the help of hands-on and experimental practice. a: The materials Science: Introduction to materials, families, life cycle and recycling. b: Materials Manufacturing Processing for manufacturing and their use in industry. c: Materials Observation Preparation of a materials archive: identification and classification of materials. d: Materials, from micro to macro . Material chemical composition, synthesis, risks of external agents, corrosion and dissolution of materials, surface treatments, protective treatments. Module 3: Theoretical dimensions opened by the project require deepening in the following topics: - Light qualities and meaning effects in phenomenology of perception; - The concept of entrance in the frame of a categorization of the space (threshold and limit); - Different valorizations of private/public lighting solutions - Elements of ethnography for the night visits to document urban illumination approaches Cultural variability of atmospheric light evaluations: the case of Tanizaki
Teaching format	Module 1: Field studies, guided tours, night walks and excursions, lectures, expert talks and discussions,

	workshops and exercises, individual and group reviews, guest critics. Module 2: Lectures, exercises, workshops, case studies, excursions to local companies. Module 3: Lectures, case studies, student presentations, workshop.
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Expected learning outcomes	Disciplinary competence
	<i>Knowledge and understanding</i> - have acquired the basic technical, scientific and theoretical knowledge necessary to realise a project in the field of product design. - have acquired the basic knowledge necessary for further Master's studies in all components of project culture as well as in technical, scientific and theoretical subjects <i>Applying knowledge and understanding</i> - use the basic knowledge acquired in the technical, scientific and theoretical fields to realise a mature project to recognise the main phenomena of contemporary. - 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 design and to develop them further. Transversal competence and soft skills <i>Making judgements</i> - Be able to make independent judgements for the purpose of developing their own design skills and in relation to all those decisions (technical, scientific and theoretical) that are necessary to bring a project to completion. <i>Communication skills</i> - 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. <i>Learning skills</i> - have learned a design methodology at a professional level - in the sense of being able to identify, develop and realise solutions to complex design problems by applying the acquired knowledge in the technical, scientific and theoretical fields - in order to start a professional activity and/or continue their studies with a master's degree programme.

	- 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, technical and scientific subjects as well as a study methodology suitable for continuing studies with a Master's degree programme.
Assessment	Module 1: The assessment will be based on: - the personal motivation, curiosity and overall design skills acquired, reflected and applied by the student during the semester. - the quality, autonomy, and coherence of the project result as visualised, argued and communicated during individual revisions and group reviews, a midterm and a final exam presentation. Module 2: The final assessment will be the result of the work done during the whole semester. Motivation, following the exercises in class and in the workshop, willingness to experiment, commitment, teamwork and participation in all activities are crucial. Module 3: The assessment in module 3 is based on: - written assignments during the lectures - students individual and group presentations - final paper coupled to the project according to the teacher instructions.
Assessment language	The same as the teaching language
Evaluation criteria and criteria for awarding marks	Module 1: The evaluation criteria - 100% in total - in product design will be divided as follows: A maximum of 20% can be awarded for personal motivation, team spirit and design skills acquired and applied by the student during the semester. A maximum of 30% can be awarded for the quality and autonomy of research and design work presented by the student in a midterm presentation. A maximum of 50 % can be awarded to the student for the quality and autonomy of the semester project result as developed, realised, visualised, argued, documented and communicated during the final exam presentation. Module 2: The final grade will be based on the work completed during the semester. Motivation, dedication, collaboration, and involvement in all activities are essential.

	Module 3: The evaluation criteria - 100% in total - in Theory of Cultural Consumption will be divided as follows: - 20%: the quality in the active participation to the module activities - 30%: the execution and average evaluation of the course assignments - 50%: the quality of the final theoretical presentation accompanying the project according to the teacher requests
Required readings	Module 1: - Alexander, Christopher (et al.): A Pattern Language. Towns Buildings Construction. Oxford, 1977 (dt. Eine Muster Sprache. Städte Gebäude Konstruktionen.) - Burckhardt, Lucius (1989): The Night is Man-made. in: Fezer, Jesko; Schmitz, Martin: Lucius Burckhardt Writings. Rethinking Man-made Environments Politics Landscape & Design. Springer, 2012 (dt. Die Nacht ist menschengemacht) - Descottes, Verve: Architectural Lighting. Designing with Light and Space. Princeton Architectural Press, 2011 - Erni, Peter; Marchand, Christophe: transfer. erkennen und bewirken. Lars Müller, 2006 - Ganslandt, Rüdiger: Handbook of Lighting Design. Erco Edition. Vieweg, 1992 (dt. Handbuch der Lichtplanung.) - Goronczy, Emlyn Etienne: Light Pollution in Metropolises. Analysis, Impacts and Solutions. Springer, 2021 (dt. Lichtverschmutzung in Metropolen. Analyse Auswirkungen und Lösungsansätze.) - Kries, Mateo: Lightopia. Vitra Design Museum, 2013 - Neumann, Dietrich: Architektur der Nacht. Prestel, 2002 - Ramos, Elisa Valero: Light in Architecture. The Intangible Material. RIBA Publishing, 2015 - Schivelbusch, Wolfgang: Lichtblicke. Zur Geschichte der künstlichen Helligkeit im 19. Jahrhundert. Fischer, 1986 (engl. Disenchanted Night. The Industrialization of Light in the Nineteenth Century.) - Sulz, Günter: Wohnen im richtigen Licht. Hatje, 1991 Module 2: - Michael F. Ashby Kara Johnson , Materials and Design: The Art and Science of Material Selection in Product Design, 2014 - Process: 50 Product Designs from Concept to Manufacture, Jennifer Hudson, Laurence King, 2008 Module 3: In this module, students will be asked to prepare a reader of essays, touching three topics: - Architectural space between limits and thresholds - Designing atmospheres through lighting - Semiotics of perception/embodiment

	Among them: - Mikkel Bille, « Luminous atmospheres », Ambiances [Online], Varia, Online since 20 September 2013, URL: http://journals.openedition.org/ambiances/376; DOI : 10.4000/ambiances.376 - Mikkel Bille, Tim F. Sorensen, "An anthropology of Luminosity. The Agency of Light", in Journal of Material Culture, Vol. 12(3), pp. 263-284. - Gizem H. Eren, "Design for Emotional Durability: The Case of Household Light Design", Sanat & Tasarim Dergisi, 2022. - Thomas Schielke (2019) The Language of Lighting: Applying Semiotics in the Evaluation of Lighting Design, LEUKOS, 15:2-3, 227-248, DOI: 10.1080/15502724.2018.1518715. - Navaz Davoudian, "Wayfinding and the hierarchy of urban elements at night", in id., ed., Urban Lighting for People. Evidence-based lighting design for the build environment, London, Riba, 2019. - Tim Edensor, "Light design and atmosphere", in <i>Visual Communication</i>, 2015.
Supplementary readings	Module 1: - Brandi, Ulrike: Light for Cities. Lighting Design for Urban Spaces. Birkhäuser, 2007 - Corrodi, Michelle: Illuminating. Natural Light in Residential Architecture. Birkhäuser, 2008 (dt. Lichteinfall. Tageslicht im Wohnbau.) - Davoudian, Navaz (Editor): Urban Lighting for People. Evidence-Based Lighting Design for the Built Environment. RIBA Publishing, 2019 - Isenstadt, Sandy: Electric Light. An Architectural History. The MIT Press, 2018 - Luckhardt, Wassili: Lichtarchitektur. Licht und Farbe als raumgestaltende Elemente. Ullstein, 1956 - Schivelbusch, Wolfgang: Licht. Schein und Wahn. Auftritte der elektrischen Beleuchtung im 20. Jahrhundert. Erco Edition. Ernst & Sohn, 1992 - Steane, Mary Ann: The Architecture of Light. Recent Approaches to Designing with Natural Light. Taylor and Francis, 2012 - Tanizaki, Jun'ichirō (1933). In Praise of Shadows. Leete's Island Books, 1977 (dt. Lob des Schattens. Entwurf einer japanischen Ästhetik.) - Turrell, James: Extraordinary Ideas - Realized. Hatje Cantz, 2018 - Unwin, Simon: Shadow. The Architectural Power of Withholding Light. Routledge, 2020 - Whitehead, Randall: Beautiful Light. An Insider's Guide to LED Lighting in Homes and Gardens. Routledge, 2022

Module 2:

- Skylar Tibbits, *Active Matter*, The MIT Press, 2017
- Chris Lefteri, "Making It. Manufacturing techniques for product design". Laurence King Publishing, London 2019
- Chris Lefteri, "Materials for Design", Laurence King Publishing, London 2014
- Seetal Solanki, "Why Materials Matter", Prestel Verlag, Munich 2018

Module 3:

- Jacques Fontanille, *Sémiotique du visible. Des Mondes de lumière*, Paris, PUF, 1995.
- Manar Hammad, *Leggere lo spazio, comprendere l'architettura*, Roma, Meltemi, 2003.
- Semir Badir, « Note de synthèse sur l'aspectualité spatiale », *Lexia. Rivista di semiotica*, 27–28, Aspettualità, DOI 10.4399/97888255087656, pp. 133–156, 2017.