Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Syllabus
Course description

Course title	Design & Materials
Course code	47203
Scientific sector	CEAR-08/D
Degree	Master in Critical Creative Practices (LM-65)
Semester	1st Semester 2025/26
Year	1
Credits	6
Modular	no

Total lecturing hours	60
Total hours of self-study and/ or other individual educational activities	90
Attendance	highly recommended
Prerequisites	/

Specific educational objectives	The course refers to a “caratterizzante” educational activity and is a mandatory course in the first study year. **Course description** The course will support the development of practical skills and knowledge, aiming to build up a base of knowledge and understanding concerning the world of materials in general as well as taking a closer look towards specific materials and production techniques in the context of design. In parallel, the course encourages the development of a critical attitude on the eco-social impact of our material choices here and now, and how to look differently at the relationships between humans, objects, materials and systems running our planet. Understanding materials requires personal engagement with matter. Due to the transformable character of materials, we cannot rely on general understanding or indirect knowledge. *“Plastics can be as clear as glass, as sharp-edged as stone, and as metallic as aluminium. Aluminium can look like quicksilver, wood can look like plastic” (Paola Antonelli, Mutant Materials in Contemporary Design, 1995).* Therefore, the course focuses on the creation and adaptation of materials and material qualities exploring the mutable character and formability of matter. Just like the shape of a product, materiality can be designed. To go beyond surface and finishing, this course

involves the creation of so-called do-it-yourself materials (working with ingredients and recipes) and the adaptation (changing the material properties) of existing materials in order to understand their (mutable) character. This hands-on approach of working with materials will support our sensorial skills to better understand, create and select appropriate materials for future design projects.

The industrial processing of materials (involving extraction, production, distribution, consumption, disposal and/or recycling) will be reviewed in the context of bio-based cycles where composting often closes the cycle. The course includes a special focus on the lifecycle of materials based on the principles of a circular economy including the elimination of waste and pollution, circulating products and materials and the regeneration of nature.

Every semester includes hands-on exercises with materials – this semester we will focus on waste(d) material streams including bio-based materials (e.g. food waste) and industrial scraps. Besides this focus we are encouraging any form of collaboration, relations and synergies with other fields and courses (e.g. design research, "Material Matters" student initiative, BITZ unibz fablab, Material Library) as well as the yearly theme *("HOPE").* The course program is adaptive and foresees possible support in developing the material aspects of the student's main projects.

Course Structure:

- **Input lectures** : Focusing on diverse material topics for discussion. Topics:"Material activism / Introduction to DIY Materials" – "Recycling materials / Urban mining" – "Bio-based materials / Back to nature?" – "Social materials / Inclusive ways of making" – "Circular design / The lifecycle of materials".

- **Guest lectures**: Diverse guest speakers will give us a better insight in the business practices of materials. First, from the perspective of young creatives starting their own material-driven design studio. Second, with entrepreneurial input from a materials manufacturing company. Finally, we learn more from material experts about the role and importance of documenting and sharing materials within "Material Libraries".

- **Material tinkering**: DIY-Materials are materials

created through self-production, often by techniques and processes of the designer's own invention, as a result of a process of tinkering with materials. We will make first experiences with this kind of work and investigate / tinker one or more recycled and growing materials. Including the further development of (raw) materials through processes involving shaping, colouring and surface treatments.

- **Excursions:** We will be visiting and/or reviewing materials-related events and exhibitions. Through on-site excursions and online presentations we will take a closer look at the role(s) of circular and bio-based materials in design. Small summaries of these excursions are part of the final documentation.

- **Skill sharing:** This course is not only about learning from the lecturers and guests. We also put high value on the dialogue between the participants and will support this process of skill sharing. The content and format of the courses will be fine-tuned according to the dialogues, collaborations and dynamics of you as a group.

- **Learning by doing:** Learning by doing: The approach of this semester project is very much on "Learning by Doing", also for its lecturers. Hands-on exercises at the university workshops and fab lab should support you in becoming more skilled and independent in materialising your ideas. Parts of the course should be seen as an experimental teaching formats and will adapt according to your needs.

- **Materials and methods:** Unlike designing a final product the course focuses on materials and methods. We provide you with inspiring talks, hands-on exercises, group discussions, creative methods and skill sharing will give you a strong (materials) foundation for current and future design projects.

o **Project documentation:** The course process and exercises should be documented along the course. The personal documentation format will be discussed at the start of the course. This documentation is the main deliverable of the course and will be developed step-by-step along the course (not in the end).

- **Material samples:** Besides the process documentation - results will include material samples to be documented in the unibz Material Library. A template will be provided during the course. Documenting and sharing material information will be useful at later stages in your (and others) studies.

Educational objectives

The class promotes critical and analytical thinking, allowing students to evaluate and interpret artistic and design practices in the context of the current sociocultural and technological dynamics. New possibilities for innovation in artistic and design production and, more importantly, the opportunities for synergy between contemporary culture and technological progress, fostering a mutual exchange of ideas and advancements will be explored. Advanced research skills will be developed to explore emerging frontiers in the field of art and design and new opportunities for technological innovation in the creative sector.

Students will be able to:

- collaborate with experts and other designers to develop and implement an integrated project prototype.
- take into account the environmental, social, sustainable and economic impacts occurring within the tension between global and local dimensions.
- develop a personal way of thinking, leading to critical judgements and self-assessments.
- balance inspiration and systematic planning.
- balance more intuitive ways of working with more analytical ones.
- communicate in a convincing way, through a variety of modalities (three-dimensional, written, oral, visual).
- talk with experts about the project.
- read experts' articles, studies and reports related to one's own project issues and integrate those analyses with one's own project design.
- take into account the sustainability requirements of the objects; integrate the sustainability. requirements in the project and in one's own design.
- use relevant software and hardware tools and systems productively.
- share skills.

	• design and make materials and objects.

Lecturer	Aart van Bezooijen Office: C4.03 Email: Aart.vanBezooijen@unibz.it Webpage: https://www.unibz.it/en/faculties/design-art/academic-staff/person/38596-aart-van-bezooijen
Scientific sector of the lecturer	CEAR-08/D
Teaching language	English
Office hours	TBA
List of topics covered	- Do-it-yourself materials - Recycling materials - Growing materials - Circular design - Material classification, selection and libraries - Industrial and biological production
Teaching format	Input lectures, workshop sessions, brainstorming sessions, mentoring sessions, practical hands-on exercises, material demonstrations, group excursions, group presentations and reviews, life cycle assessment (LCA) methods, certification and labelling related to environmental and social aspects of material sourcing and production.

Learning outcomes	*The learning outcomes need to refer to the Dublin Descriptors:* ***Knowledge and understanding*** Students of the course will: - know the meaning of Design and Materials within the main techniques and methodologies spatial practices in art and design; - possess specific knowledge about Design and Materials and their influence on the interactions between space and culture and on the sociopolitical implications of spatial practices; - understand the relevance of Design and Materials in the processes of transformation of space in the contemporary context, analyzing them considering the connections with other fields of knowledge, such as sociology, anthropology and urban sciences. ***Applying knowledge and understanding***

	Students of the course will acquire the capability to apply knowledge in the field of Design and Materials in order to: - design and implement spatial interventions, exhibitions, artistic installations and design projects that explore and reinterpret public and private spaces. - use reading, analysis, mapping and visualization tools to analyze and communicate complex ideas relating to space. - create spatial interventions that respond to the needs of communities, promoting inclusiveness and social participation- *Making judgments* Students of the course will acquire the capability to make judgments in the field of Design and Production in order to: - apply the knowledge acquired in the professional context. - devise original projects that take into account the transformations induced by globalization and internationalization processes. *Communication skills* Students of the course will acquire communication skills in the field of Design and Production in order to: - use visual and multimedia tools to create engaging and informative presentations. *Learning skills* The course of Design and Production is aimed at: - the strengthening of the critical and operational autonomy of students. - the development of their ability to choose, compare and adapt to new knowledge and technologies.

Assessment	Oral: • Physical presentation of the students' complete design process, artefacts and material samples produced in

	the different phases and parts and especially the final project. • Holding a knowledgeable and critical discourse concerning both the final developed project and more generally towards the world of materials in Design and the related product logic and sustainability aspects as discussed in the course. • The presentation takes place separately from the semester project. • Students have to deliver a complete documentation of the semester work. The format of the documentation will be defined and communicated semesters' end at the latest. Additionally, the shared documentation has to be submitted. It communicates the project together with design research, enriched by outcomes from all courses. Format of the documentation will be defined and communicated during the first meetings of the course. Selected material samples and/or recipes will be documented and shared within the university's material collection. **Non-attending student assessment** Non-attending students have the same assessment criteria as Attending students. - All assignments and projects need to be done, and the required knowledge has to be acquired. - The exam of non-attending students may take longer (max. 20 minutes) in order to test specific knowledge in relation to manufacturing and material aspects of the presented project, and beyond.
Assessment language	English
Evaluation criteria and criteria for awarding marks	• Level of the acquired knowledge concerning material & Design in all aspects and perspectives as discussed in the course. • Originality, coherence and aesthetic qualities of the design project, in relation to the context and the aims of the project; in particular, related to the use of materials and aspects of the production process. • Effectiveness in communicating the project. • Attitude, participation and active contribution to the course.

Required readings	Radical matter : rethinking materials for a sustainable future, Kate Franklin, Caroline Till, 2019 Materiology : the creative's guide to materials and technologies, MatériO, 2013 Material Alchemy, Studio Aikieu, 2014 Material Designers: Boosting talent towards circular

	economies: Valentina Rognoli, Seetal Solanki, Pere llorach, 2021
Supplementary readings	Material Loops (Reader), Claudia Banz, Barbara Lersch, Katja Ninnis, 2021 (Download as PDF in English or German: www.hanssauerstiftung.de/material-loops-reader) Tools for the design revolution : design knowledge for the future by [Editors: IDRV - Institute of Design Research Vienna, Harald Gruendl, Marco Kellhammer, Christina Nägele ; Authors: Harald Gruendl ... [et al.], 2014 The Story of Stuff: The Impact of Overconsumption on the Planet, Our Communities, and Our Health-And How We Can Make It Better, by Annie Leonard, 2011 Further readings and articles will be provided during the course.