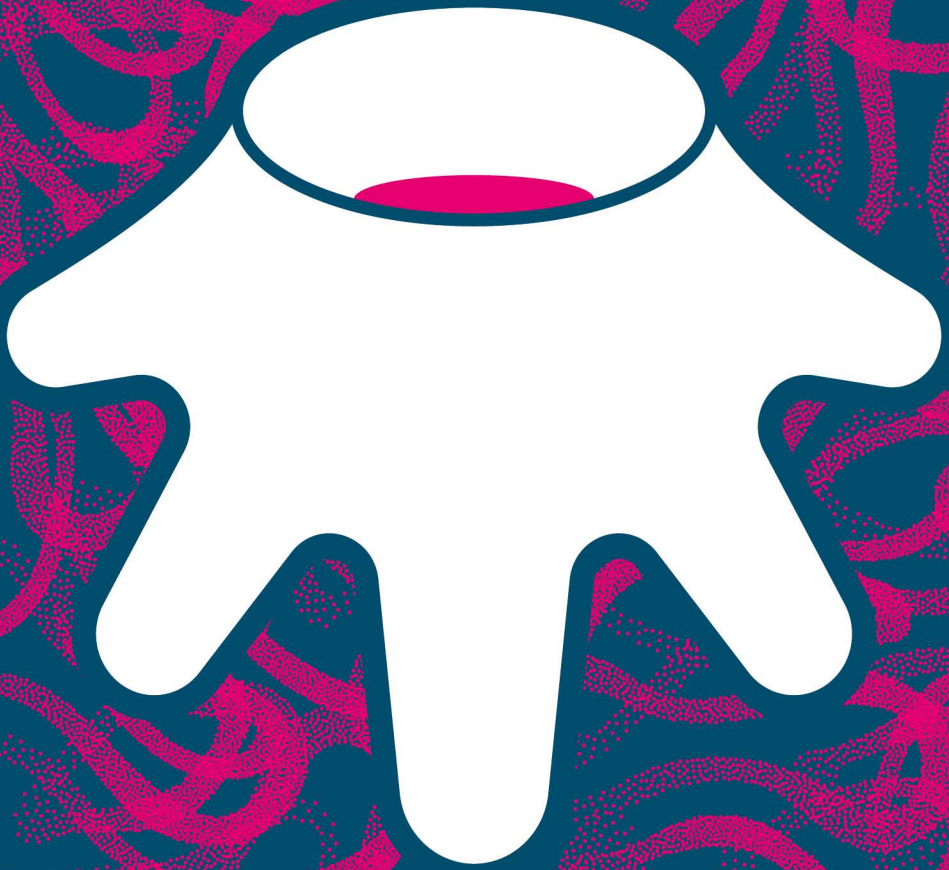
dipartimento di architettura
università degli studi di napoli federico II

Master of Science in Design for the Built Environment



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Master of Science in Design for the Built Environment

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Master of Science in Design for the Built Environment
.website / www.diarc.dbe.unina.it
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Master of Science in Design for the Built Environment

The Master of Science in Design for the Built Environment (LM-12 degree class) is an international degree and is taught in English.

The course aims at training a designer who is at the centre of the transformation processes of the built environment – considered as a place of relationship and interaction between spaces, uses and behaviours, material and immaterial products – able to support the changes of contemporary life, at individual and collective level, in the public and private dimensions.

The degree trains designers capable of adapting to the demand for ever-evolving skills, covering a wide range of design expertises, from product and service to interior and digital.

The study programme offers a conceptual and processual approach to read the complexity of contexts, the production innovation scenarios and the markets characteristics, combining them within

design and coordination activities from conception to production, distribution and communication.

The DBE MSc is a two-years degree program.

The **first year** is common to all students and is organized around a basic training core, aimed at encouraging a collaborative and multidisciplinary design approach which merges multiple knowledge (cultural, technical-scientific, historical-critical), also considering social and ethical impacts.

The **second year** offering two different pathways, each focused on specialised training:

- ***Exhibit Design***
- ***Digital Design***

Each curriculum aims at outlining specific professional profiles, the first in the field of interior and exhibit design for temporary spaces, the other in the field of design for the digital environment.

.Exhibit Design Curriculum
.Specific learning objectives of the course

The Exhibit Design curriculum aims at training specialised designers in the domain of temporary spaces design in urban and historical contexts.

This field includes components, systems and services, as well as exhibition contents and values communication.

The curriculum offers students an innovative approach to conceive and manage all the design stages in the realization of a cultural, communicative or commercial event, focusing on the user's experience and perspective.

In the Exhibit Design curriculum students will learn to:

- work and collaborate in multidisciplinary and innovative environments, improving their self-efficacy, teamwork attitude and soft skills set;

- design and manage complex cultural events, (i.e. exhibitions, temporary or touring cultural initiatives), focusing on visual, communication and user's experiences features;
- master digital tools to represent the project concept in a spatial context, taking into account the relation between the project, the space and the environment to which it relates;

- conceive and communicate complex identity systems linked to cultural and production processes, for companies, museums and public istitutions;

- develop specific attention to environmental, economic and cultural sustainability of the design solutions.

The Exhibit Design curriculum graduates will be able to work in:

- project, development and communication in design teams and companies engaged in the enhancement of territorial and cultural heritage;

- manufacturing companies operating in the various fields of production of exhibition systems;

- social and cultural institutions (i. e. museums, cultural foundations, public administrations);

- the field of corporate identity as specialists enhancing the physical and non-material value of companies;

- companies operating in advanced communication fields linked to new media and new technologies.

.Digital Design Curriculum
.Specific learning objectives of the course

The Digital Design curriculum aims at training specialised designers in the domain of digital artefacts, services and system design and production, through an innovation-oriented and user-centred approach.

This field includes websites, communication platforms, desktop programs and tools, mobile applications, interactive wearable and/or environmental products.

The curriculum offers students the necessary skills in the field of Digital and Interaction Design to manage the implementation of complex digital products, from conception to prototype, from testing to validation.

In the Digital Design curriculum students will learn to:

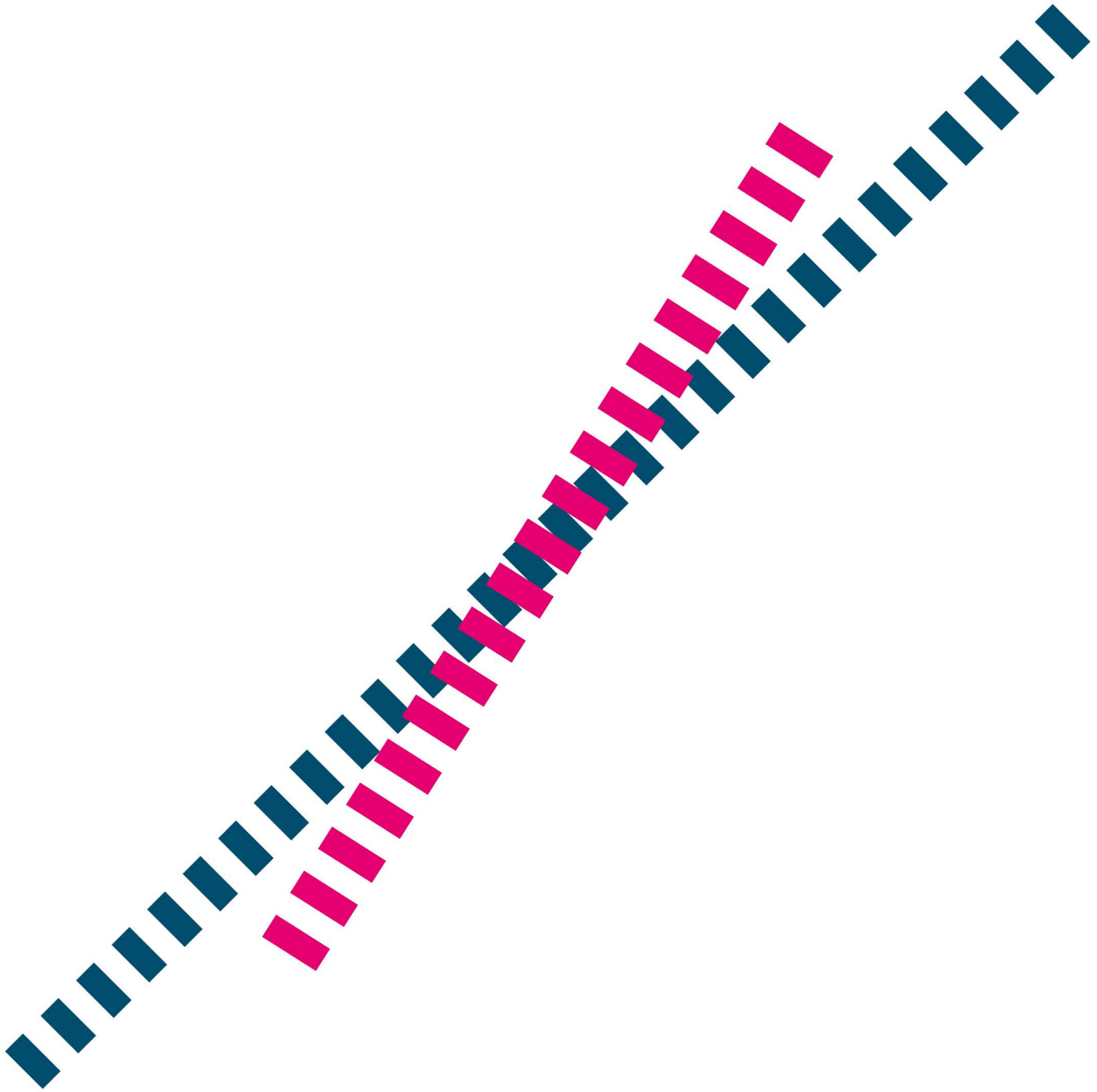
- understand user behaviors, needs, and motivations through contexts of use analysis

and modeling;

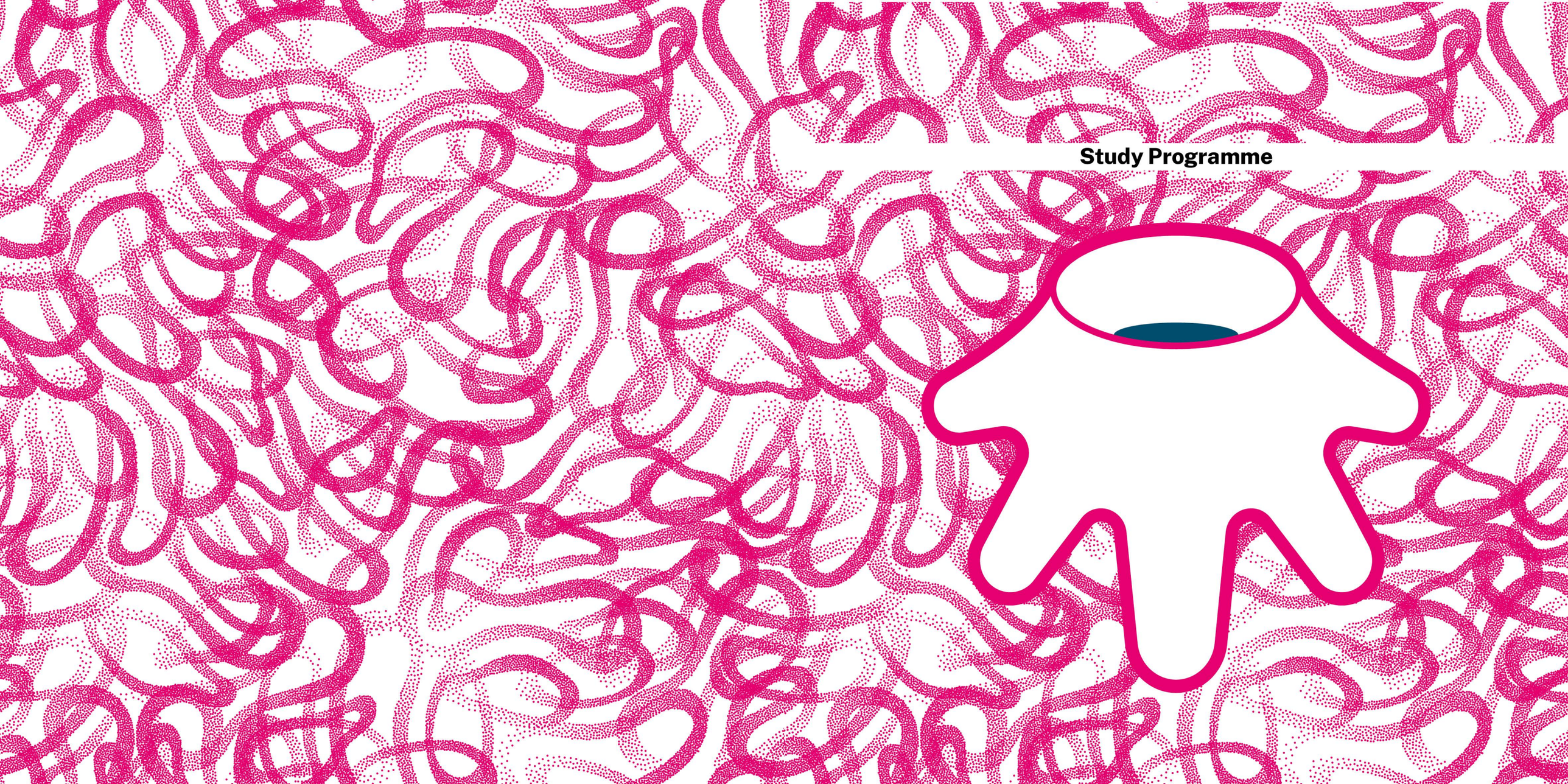
- design interactive solutions through developing tools and techniques based on digital mobile technologies;
- analyse, simulate and model cognitive and emotional interactive processes in the experiential field;
- make physical and virtual design prototypes;
- design products, environments, services and interactive communication systems;
- implement IoT technologies, methods and techniques for collaborative and participatory design;
- manage multi-disciplinary project teams, engaged in highly innovative scenarios, services and interactive products design.

The graduate in Digital Design will be able to work in:

- research, design and development teams of companies, enterprises and industries operating in the field of complex digital products and services (i. e. automotive, consumer electronics, entertainment, cultural heritage, personal services, distribution and sales, home and office automation, healthcare and accessibility);
- project and development marketing teams, in customers experience management business-unit;
- product and process innovation consultancies;
- professional communication, design and architecture firms, in large-scale retail trade, in telecommunications and services companies;
- the field of implementation of digital technologies as project manager/design officer;
- innovative start-ups or as freelancer.



Study Programme



First Year

SEMESTRE	AMBITO DISCIPLINARE	INSEGNAMENTO	SSD	CFU	ATTIVITÀ FORMATIVA	CFU
I		**INTEGRATED CLASS OF VISUAL EXPRESSION**				
	Discipline tecnologiche e ingegneristiche	Advanced Representation Techniques	ICAR/17	6	caratterizzante	10
	Scienze umane, sociali, psicologiche ed economiche	Arts, Techniques and Digital Cultures	L-ART/03	4	caratterizzante	
I		**INDUSTRIAL DESIGN STUDIO**				
	Design e comunicazioni multimediali	Industrial Design	ICAR/13	6	caratterizzante	10
	Design e comunicazioni multimediali	Graphic Design	ICAR/13	4	caratterizzante	
I		**INTEGRATED CLASS OF STRUCTURES AND MATERIALS**				
	Discipline tecnologiche e ingegneristiche	Structural Design	ICAR/09	5	caratterizzante	10
	Discipline tecnologiche e ingegneristiche	Innovative Materials for Design	ING-IND/22	5	affine	
II		**TECHNOLOGICAL DESIGN STUDIO**				
	Discipline tecnologiche e ingegneristiche	Technological Design	ICAR/12	6	caratterizzante	10
	Discipline tecnologiche e ingegneristiche	Lighting Design	ING-IND/11	4	affine	
II		**INTERIOR DESIGN STUDIO**				
	Design e comunicazioni multimediali	Interior Design	ICAR/16	6	caratterizzante	10
	Discipline tecnologiche e ingegneristiche	Architectural Design	ICAR/14	4	affine	
II	Scienze umane, sociali, psicologiche ed economiche	**HISTORY OF FURNITURE AND DESIGN**	ICAR/18	5	caratterizzante	5
II	Scienze umane, sociali, psicologiche ed economiche	**MARKETING AND BRANDING**	ING-IND/35	5	caratterizzante	5
II		**ATTIVITÀ A SCELTA DELLO STUDENTE**		4	altre attività	4
		TOTALE CFU I ANNO				**64**

Second Year

Exhibit Design Curriculum

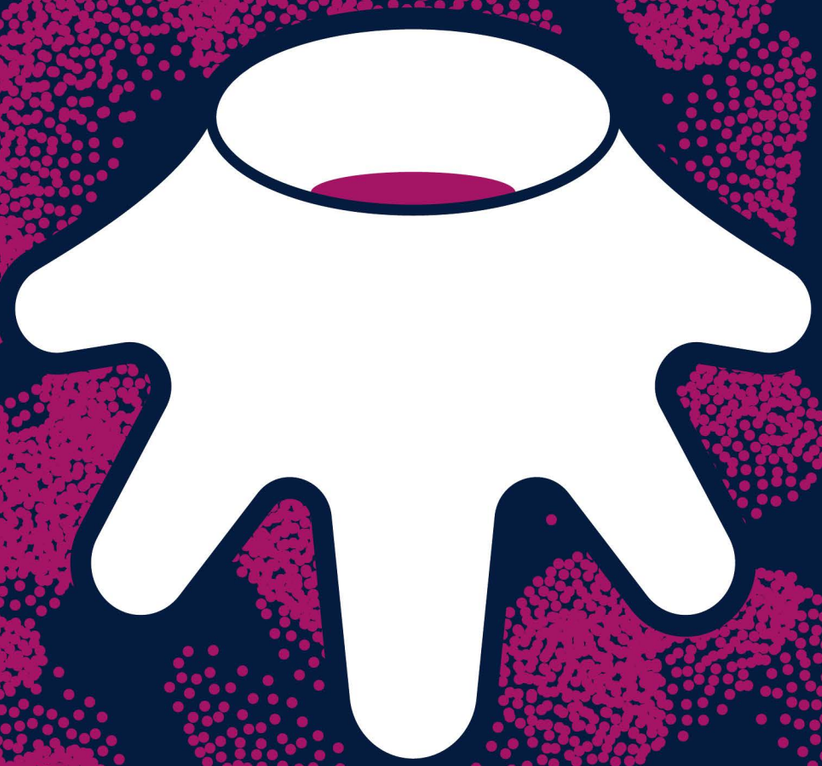
SEMESTRE	AMBITO DISCIPLINARE	INSEGNAMENTO	SSD	CFU	ATTIVITÀ FORMATIVA	CFU
I		**EXHIBIT DESIGN FOR CULTURAL HERITAGE STUDIO**				
	Design e comunicazioni multimediali	Exhibit Design	ICAR/16	6	caratterizzante	10
	Discipline tecnologiche e ingegneristiche	Restoration for Exhibit	ICAR/19	4	affine	
I		**DIGITAL MANIFACTURING STUDIO**				
	Discipline tecnologiche e ingegneristiche	Digital Fabrication	ICAR/12	6	caratterizzante	10
	Discipline tecnologiche e ingegneristiche	Parametric and Generative Modeling	ICAR/17	4	caratterizzante	
II	Design e comunicazioni multimediali	**PROFESSIONAL DESIGN WORKSHOP**	ICAR/13	5	caratterizzante	5
II		**ATELIER OF TEMPORARY SPACES DESIGN**				
	Design e comunicazioni multimediali	Visual and Communication Design	ICAR/13	5	caratterizzante	15
	Design e comunicazioni multimediali	Layout Interior Design	ICAR/16	5	caratterizzante	
	Discipline tecnologiche e ingegneristiche	Technological Design Culture	ICAR/12	5	caratterizzante	
II		**ATTIVITÀ A SCELTA DELLO STUDENTE**		4	altre attività	4
II		**TIROCINIO**		4	altre attività	4
II		**PROVA FINALE**		8	altre attività	8
II		**TOTALE CFU II ANNO**				56
		TOTALE CFU				**120**

Second Year

Digital Design Curriculum

SEMESTRE	AMBITO DISCIPLINARE	INSEGNAMENTO	SSD	CFU	ATTIVITÀ FORMATIVA	CFU
I		**SYSTEMIC DESIGN STUDIO**				
	Design e comunicazioni multimediali	Systemic Design	ICAR/13	6	caratterizzante	10
	Scienze umane, sociali, psicologiche ed economiche	Innovation for Social Systems	SPS-08	4	caratterizzante	
I		**DIGITAL DESIGN STUDIO**				
	Design e comunicazioni multimediali	Digital Design	ICAR/13	6	caratterizzante	10
	Scienze umane, sociali, psicologiche ed economiche	Digital Aesthetics	M-FIL/04	4	caratterizzante	
II	Design e comunicazioni multimediali	**PROFESSIONAL DESIGN WORKSHOP**	ICAR/13	5	caratterizzante	5
II		**ATELIER OF INTERACTION DESIGN**				
	Design e comunicazioni multimediali	User Centred Design	ICAR/13	5	caratterizzante	15
	Scienze umane, sociali, psicologiche ed economiche	Systems of Data Processing	ING-INF/05	5	caratterizzante	
	Discipline tecnologiche e ingegneristiche	Digital and Technological Culture	ICAR/12	5	caratterizzante	
II		**ATTIVITÀ A SCELTA DELLO STUDENTE**		4	altre attività	4
II		**TIROCINIO**		4	altre attività	4
II		**PROVA FINALE**		8	altre attività	8
II		**TOTALE CFU II ANNO**				56
		TOTALE CFU				**120**

First Year



.Integrated class of Visual Expression

.Course objectives

The integrated course of Visual Expression, through the module Arts, Techiniques and Digital Cultures, aims at providing the student the awareness of the wide-ranging artistic phenomenon, in relation not only to the trends of recent decades, but also to urban space, in its aesthetic, environmental and urban components.

The Advanced Representation Techinques module focuses on those artistic expressions that base their expressive potential on the use of perspective illusions, whose geometric principles and drawing techniques will be provided.

The integrated activities of the two modules are intended to train the student in the use of new digital technologies for the enhancement of the artistic heritage and for a new concept of a “widespread” museum in urban areas, applying the creative and design skills of the individual student in the concrete relationship with a space with peculiar environmental and historical characteristics.

.Module .Advanced Representation Techniques

prof. Alessandra Pagliano

.CFU 6
.SSD ICAR 17
.Course Year I
.Semester I

.Learning objectives

The course provides the basic notions of the physiological mechanisms of perception, visual communication and graphic representation related to contemporary art. Students will learn to read the expressive potential of an architectural and/or urban space and to master the geometric tools to design a transformation according to some of the most popular languages of contemporary art.

.Course contents

Through an in-depth examination of the major contemporary artistic phenomena that are particularly linked to the geometric processes of the central projections, the student will deal with the following “widespread” expressive techniques of today’s performance (i.e. videomapping; solid perspective; anamorphosis).

The scientific rigour of the geometrical processes used will be declined in a design key according to:

- space-observer interaction;
- temporariness of the installation or artwork;
- digital culture;
- art vs performance.

.Teaching methodology

The course offers a series of lectures on the topics of the expressive potential of perspective projections in the fields of design, contemporary art, cinema, theatre, exhibit design, urban art and advertising. A second cluster of lessons will focus on the geometry of perspective illusions, in particular anamorphosis and solid perspective, with hints of 3D modelling, with design applications assigned to the student to test the geometric skills and expressive ability in the artistic field. A third part of the course is dedicated to the integration with the module of Arts, Techniques and Digital Cultures on the topic of street art, with in-depth inspections, historical-artistic features and design applications. At the end of the learning process, the student will focus on a individual assignment based on the use of Augmented Reality for street art in a given urban and/or architectural space. The topic will be agreed with the teacher of the integrated course of Arts, Techniques and Digital Cultures. A second design exercise will focus on luminous anamorphosis with the making of a lamp prototype and/or an artistic installation based on the geometry of light projections used for illusory and expressive purposes.

.Requirements

The course requires a basic knowledge of the three methods of representation of descriptive geometry; in particular, the perspective, or the geometry of central projections, will be explored focusing on the three-dimensionality of the projective processes that lead to the formation of images.

.References

- Araujo, A., Anamorphosis: Optical games with Perspective’s Playful Parent, in *Proceedings of Recreational Mathematics Colloquium V - G4G (Europe)*, pp. 71-86, https://core.ac.uk/download/pdf/216336132.pdf
- Bartolomei, C., Ippolito, A., The Anamorphoses of Felice Varini, in *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 5, pp 1-8. Available from: www.prosoc.eu, https://www.academia.edu/35404326/The_Anamorphoses_of_Felice_Varini
- Collins, D. (1992). Anamorphosis and the Eccentric Observer: Inverted Perspective and Construction of the Gaze, in *Leonardo*, 25(1), 73-82. doi:10.2307/1575625.
- Empler, T.,(2017). Anamorphosis and Contemporaneity, in *Design Journal, The 20(sup1)*: S2858-S2872, DOI: 10.1080/14606925.2017.1352797, https://www.researchgate.net/publication/319562070_Anamorphosis_and_Contemporaneity.
- Xavier, J.P., Sousa, J.P., Castro, A., (2019). Didactic Experiences on Digital Modeling. Anamorphosis, in L. Cocchiarella (ed.), *ICGG 2018 - Proceedings of the 18th International Conference on Geometry and Graphics, Advances in Intelligent Systems and Computing 809*, Springer International Publishing AG, part of Springer Nature, pp. 1789–1800, 2019. https://doi.org/10.1007/978-3-319-95588-9_160, https://www.researchgate.net/publication/326251780_Didactic_Experiences_on_Digital_Modeling_Anamorphosis.

.Methods of evaluation

Ex tempora evaluation tests, oral exam, graphic works and models.

.Module .Arts, Techiniques and Digital Cultures
prof. Paola Vitolo

.CFU 4
.SSD L-ART03
.Course Year I
.Semester I

.Learning objectives

The course will analyze various examples of artistic projects created in the built environment with different artistic media and at different scales, from rooms (especially in museum environments), to public places both indoors (such as underground stations) and outdoors (squares, districts etc.). The social and cultural dynamics connected to each project will be considered, in order to understand the different types of interaction of the artistic project with the urban and social environment, and the different purposes that these projects may have.

.Course contents

The course includes:

- online lectures (9 hours) + 2 hours seminar (in class);
- visits in the city of Naples (15 hours) to selected districts (the Spanish Quarters, Ponticelli, Materdei, Piazza Salvator Rosa), to selected underground stations, galleries and museums (Madre, Galleria Artiaco, Fondazione Made in Cloister) and in the city of Angri (SA) to the historical center and the street art district;
- class study (6 hours, in class): a project lead in collaboration with Prof. Alessandra Pagliano, course of Advanced Representation Techniques.

.Teaching methodology

The course aims to help the students to gain awareness of the artistic phenomenon in relation to urban space, to specific aesthetic components, and to urban planning, by considering specific works, artists and study cases.

.Requirements

Basic historical knowledge (20th and 21st centuries).

.References

- Personal notes
- Material delivered in class (pdf of the lessons etc.)
- Ciampa, F., (2021). Wall as a maintenance device to promote usability, in *Cirice 2021 congress proceedings "La città palinsesto"* (open access: http://www.iconografiacittaeuropea.unina.it/index.php/2-non-categorizzato/62-lcp2020)
- Cirillo, O., (2021). Le facciate di Valogno "borgo d'arti": un palninsesto di segni e disegni", in *Cirice 2021 congress proceedings "La città palinsesto"* (open access: http://www.iconografiacittaeuropea.unina.it/index.php/2-non-categorizzato/62-lcp2020)
- Di Luggo, A., Zerlenga, O., (eds.), (2020). *Street art. Disegnare sui muri/Drawing on the wall*, La Scuola di Pitagora editrice, (open access: file:///C:/Users/user/Downloads/TF13-9788865423967.pdf)

.Methods of evaluation

The exam will consists in an oral interview on the activities carried out and on the topics of the course. The individual contribution to the collective project will also be evaluated.

.Industrial Design Studio

.Course objectives

The design process is becoming more increasingly complex and multidisciplinary.

Today, the study of design as a “complex systematic entity” requires new methodologies and instruments through which it is possible to develop the design activity, assuming a language that is common to the involved disciplines.

The main objective of the Course is to express a motivated philosophy of a project’s goals, mixing a visual language with executive technical skills.

.Module .Industrial Design
prof. Alfonso Morone

.CFU 6
.SSD ICAR 13
.Course Year I
.Semester II

.Learning objectives

The course aim is to link different features in industrial design process in a close relationship with the graphic Design module. The main focus will be the interaction among people, space and physical and graphic features.

.Course contents

It will concern the new Visual Identity of part of the Departments of the University of Naples Federico II. The students will design the following items:

- the basic elements of the visual identity (the mark or “logo”, the institutional typography and the institutional colors);
- the main applications of the basic elements of the visual identity to the printed matters and the new media;
- merchandising;
- signage system inside the Department venues;
- small exhibition space to show the Department activities for student fairs and similar activities.

Design activities will be developed according to the following steps:

- concept: general approach to the design solution, introduction to the graphics and architectural components;
- solving: executive resolution of the graphics and architectural components.

.Teaching methodology

Lessons and communication will be delivered to give the students the right framework to the design process. Students will be divided in small teamwork with different training path and nationalities.

.Requirements

A basic knowledge of the main graphics and drawings software is required.

.References

- Bishop, P., Williams, L., (2012). *The Temporary City*. Oxon-New York: Routledge.
- Jodidio, P., (2011). *Temporary Architecture Now!*. Cologne: Taschen.
- Malagugini, M., (2008). *Allestire per comunicare. Spazi divulgativi e spazi persuasivi*. Milano: Tecniche Nuove.
- Morone, A., (2016). The Concept Book: A New, Methodological Approach to Interdisciplinary Retail Design, in *The International Journal of Design Management and Professional Practice*, Published Online: January 26, 2016, First published in 2016 in Champaign, Illinois, USA by Common Ground Publishing LLC www.commongroundpublishing.com, VOLUME 10 ISSUE 1, 25-37.
- Other reference bibliography will be provided at the start of the course.

.Methods of evaluation

The course will essentially have two evaluation moments. An evaluation on the topics of intermediate exercise. A final evaluation, which will consider the results of the intermediate evaluation, the overall preparation on the theoretical topics and the outcome of the annual exercise test.

.Module .Graphic Design
prof. Vincenzo Pinto

.CFU 4
.SSD ICAR 13
.Course Year I
.Semester II

.Learning objectives

The main objective of the course is to provide the student with the theoretical, methodological and operational framework for the design and implementation of communication systems consistent with the functional, figurative and symbolic aspects that characterize the project in the built environment, and at the same time with the instances of environmental sustainability and energy efficiency.

.Course contents

Theoretical contributions, methodological approaches and operational practices will be shown to the students during the course will focus on the following topics:

- definition and evolution of the concept of image, coordinated image, visual identity;
- origins, evolution and fields of action of marketing;
- evolution of forms, languages and tools of visual communication;
- the basic elements of visual identity: the brand, the typography, the institutional colors;
- the visual identity plan;
- coordinated image of companies and public and private bodies;
- coordinated image of exhibitions and events;
- coordinated image of policies and strategies;
- coordinated image and editorial design;
- evolution of forms and languages of communication.

.Teaching methodology

The learning path includes theoretical lectures, and, at the same time, a series of intermediate research exercises and a project year exercise (individual or in small groups) integrated with the Industrial Design course.

.Requirements

A basic knowledge of the main graphics and drawings software is required.

.References

- Ambrose G., Harris P. (2011). *The Fundamentals of Creative Design*. VA publishing.
- Baroni D., (2015). *Il manuale del design grafico*. Milano: Longanesi.
- D'Ambrosio G., Grimaldi P. (1995). *Lo Studio Grafico, da Gutemberg al piano di identità visiva*. Salerno: Edizioni 10/17.
- Garfield S., (2011). *Just my type*. London: Profile Books.
- Kotler P., Keller K. (2007). *Marketing management*. New York: Pearson.

.Methods of evaluation

The course will essentially have two evaluation moments. An evaluation on the topics of intermediate exercise. A final evaluation, which will consider the results of the intermediate evaluation, the overall preparation on the theoretical topics and the outcome of the annual exercise test.

.Integrated class of Structures and Materials

.Course objectives

The course comprises the modules of Structural Design (5 CFU) and of Innovative Materials for Design (5 CFU).

The objective of the course is to provide the basic knowledge for an integrated approach to structural design, from the material scale to the whole structural system.

.Module .Structural Design

prof. Francesco Paolo Antonio Portioli

.CFU 5
.SSD ICAR 09
.Course Year I
.Semester I

.Learning objectives

The main objective of the course is to provide the basic knowledge for conceptual design of structures and for the verification of structural elements and components in the framework of architectural and industrial design, with a special focus on steel and composite structures. The course is also aimed at presenting an integrated approach to structural design, which takes into account relationships between forms and structures. Students are introduced to procedures and tools for computational analysis of complex forms and structural shapes using graphic statics or the finite element method, for the structural verification of shapes obtained from parametric design tools as well as from form-finding approaches and optimization methods.

.Course contents

The course deals with the different aspects related to structural analysis, with special reference to conceptual design, modeling and verification. Fundamentals on the integrated approach to structural design are provided, according to recent codes, recommendations and scientific literature in the field. Procedures and methods for safety verifications are discussed both for serviceability and ultimate limit states of structural elements. On the basis of material mechanical properties and constitutive laws, a uniform approach is introduced for the local verification of stresses and for the calculation of ultimate capacity in case of cross-sections subjected to normal forces and bending moments and combined normal and bending loads. Moreover, issues related to local and global bucking verification as well as procedures for verification of connections are illustrated in detail. Finally, fundamentals and tools for computational analysis of planar and spatial structures using the finite element method are provided, both for reticular, shell and plated structures.

.Teaching methodology

The course is organized into lectures and exercises, the latter consisting into the design and verification of selected structural components, for different materials and configurations of built case studies.

.Requirements

The course has no specific requirements.

.References

- Allen, E., Zalewski, W. (2012). *Form and Forces: Designing Efficient, Expressive Structures*.
- Charleson A., (2018). *Structure as Architecture: A Source Book for Architects and Structural Engineers*, Routledge.
- Cook R. et al. (2001). *Concepts and Applications of Finite Element Analysis*, New York: Wiley.
- da Silva L. S., Simões R., Gervásio H. (2016). *Design of Steel Structures: Eurocode 3*, Ernst & Sohn
- Muttoni A., (2011). *The Art of Structures*, EPFL Press

.Methods of evaluation

The exam consists of the discussion on the subjects presented in the course and of the application of computational design procedures to a selected case study.

.Module .Innovative Materials for Design

prof. Ernesto Di Maio

.CFU 5
.SSD ING-IND/22
.Course Year I
.Semester I

.Learning objectives

The course aims at introducing to the student the relationships between the structure of materials and their main structural and functional properties. Students will acquire the basic aspects related to the effect of transformations on the structure of materials. Students will also learn to distinguish and correlate the properties of the various classes of materials in order to be able to choose the most suitable material for a specific type of application, identifying the best technologies to transform a material into a product, knowing the main techniques to verify the behavior of a material in operation. Particular attention will be put on environmental impact of materials and processes assessment.

.Course contents

- Materials' classification;
- design limiting properties;
- stiffness and stiffness-limited design;
- strength and strength-limited design;
- fracture and fracture-limited design;
- functional properties of materials including optical, magnetic, electric, thermal;
- processing technologies;
- durability of materials;
- sustainability of materials and processes;
- design with materials.

.Teaching methodology

Through a careful balance of lectures, practical and project-work, students learn how to apply the principles of engineering and materials technologies in developing design solutions. Students will learn how to select the most suitable material for a specific application based on its mechanical, thermal, electric, magnetic, optical and chemical properties.

.Requirements

The course has no specific requirements.

.References

- Alesina, I., Lupton, E. (2010). *Exploring materials: Creative design for everyday objects*. New York: Princeton Architectural Press.
- Ashby, M. F., Johnson, K. (2010). *Materials and design: The art and science of material selection in product design*. Amsterdam: Elsevier/ Butterworth-Heinemann.
- Ashby, M. F., Shercliff, H., Cebon, D. (2014). *Materials: Engineering, science, processing and design*.
- Lefteri, C., (2014). *Materials for design*. London: Laurence King Publishing.
- Silva, L. F. M., (2021). *Materials design and applications: III*.

.Methods of evaluation

Oral exam for the whole Structural Design and Innovative Materials course (together with the teacher of the Integrated Structural Design module): discussion of a Project on the Structural Analysis by the Finite Element Method and the Materials Selection and Optimization of a Design Object. The project is selected by the student and approved by the lecturers to ensure the suitability of the project.

.Technological Design Studio

.Course objectives

The course is aimed at training students in design and sustainable contemporary smart dwelling by using accessible technologies. The course especially focuses on the emerging request of safe and self-sufficient dwelling intended as the forthcoming frontier of the anthropogenic habitats.

.Module .Technological Design

prof. Marina Rigillo

.CFU 6
.SSD ICAR 12
.Course Year I
.Semester II

.Learning objectives

The course aims at providing deep competences about technological design, focusing on low and smart technologies. The course focuses on the life cycle design approach and the issue of self-sufficiency that are the key points for responding to the challenges of risk reduction and sanitary decontamination. The course is designed to train students within the technological offer for contemporary smart environments, and at choosing the best available materials and solution within alternative scenarios.

.Course contents

The course hinges on the concepts of “emerging” dwellings and self-sufficiency. The latter especially depicts the forthcoming human habitats, able to respond to the unprecedent needs of a safe and sustainable housing, together with the request of accessible and low-cost devices. In order to do this the contents will be the following:

- emerging dwelling -definitions and discussion;
- low and smart technologies design specific;
- opportunities in designing materials and technologies.

.Teaching methodology

Lessons will be held both in remote and traditional modes. Frontal lessons, seminars and conferences could be by remote, while the design lab will be held in presence. Site-visits to the case-study area (the former factory “Manifattura Tabacchi”) are planned as well.

.Requirements

The course has no specific requirements.

.References

- Antonelli P., Tannir A., (eds.) (2019). *Broken Nature*, Catalogo della XXII Triennale di Milano, Electa Milano.
- Attaianese E., Rigillo M. (2021). Ecological thinking and Collaborative Design as Agents of our Evolving Future, in *TECHNE. Journal of Technology and Environment,* Special IIssue Vol. 2, pp. 97-101 https://doi.org/10.13128/techne-10690.
- Perriccioli M., Rigillo M., Russo Ermolli S., Tucci F., (eds.) (2020). *Design in the Digital Age. Technology, Nature and Culture*, Maggioli ed.
- Simon H.A. (1988). The Science of Design: Creating the Artificial, in *Design Issues*, Vol. 4, No. 1/2, pp. 67-82, MIT Press, available at: http://www.jstor.org/stable/1511391.

.Methods of evaluation

Ongoing evaluation (including midterm assignments), design labs, interview with final project.

.Module .Lighting Design
prof. Francesca Fragliasso

.CFU 4
.SSD ING-IND/11
.Course Year I
.Semester II

.Learning objectives

The module aims to provide students with theoretical and operational knowledge for the analysis, design, implementation and control of lighting systems, to ensure conditions of environmental comfort. The module will focus on smart and innovative lighting systems for residential applications. The final goal is the development of a lighting design project based on technical solutions adapting to the different needs of a dynamic and versatile residential space.

.Course contents

During the course the following topics will be addressed, both from a theoretical and practical point of view, through demonstrations and experiments with innovative resources, as well as through lighting simulations:

- fundamentals of lighting engineering;
- characteristics of the sources and techniques for regulation and control;
- lighting and visual perception;
- colour aspects of lighting;
- descriptive parameters of lighting quality;
- visual comfort;
- non-visual effects of lighting.

.Teaching methodology

In the first phase of the course the student, through individual work carried out in the classroom, structured in theoretical lessons and exercises, will be guided by the lecturer in the understanding of the reference topics, principles and methods a lighting project is based on. In the second one the student, through a group work, will develop a processing activity aimed at managing the conception, development and graphic restitution of the lighting project.

.Requirements

Knowledge of fundamentals of maths, geometry and physics. Basic knowledge of 3D modeling concepts. The participation in the course is not conditioned by the passing of previous exams.

.References

- Boyce, P. (2014). *Human factors in lighting*, CRC Press.
- Egan, M. D., Olgyay, V. (2001). *Architectural lighting*, McGraw-Hill Science/Engineering/ Math.
- Mills, S. (2018). *Fundamentals of Architectural Lighting*. Routledge.
- van Bommel, W. (2019). *Interior Lighting: Fundamentals, Technology and Application*. Springer.
- https://www.federica.eu/c/illuminotecnica

In addition, further readings will be provided directly to the students to integrate the subjects of study.

.Methods of evaluation

As part of the oral exam, students will be asked to present their project either through A1 size posters, or through an interactive presentation. The elements that contribute to the final evaluation will be:

- level of participation in the studio;
- level of learning of the course's topics;
- level of development and application of the design method;
- level of completeness and maturity of the exercise;
- level of exposure and communication of the project.

.Interior Design Studio

.Course objectives

The Studio aims to train students to work on a responsible design project, considering the requirements of an identified topic, the process and the materials that could fit it.

This path is oriented towards a greater awareness, capable of reducing the designer' s authorship, supported by the integration with the urban dimension that let students find further reasons for the project in the relationship with the context.

The integration between the two modules of the Studio working on the same project area, the Rione Sanità, will focus on some moments of common work that mark the passages between the most significant steps of the work of each course and build a comparison between different points of views.

.Module .Interior Design
prof. Nicola Flora

.CFU 6
.SSD ICAR 16
.Course Year I
.Semester II

.Learning objectives

The Studio aims to train students to work on a responsible design project, considering the requirements of an identified topic, the process and the materials that could fit it. This path is oriented towards a greater awareness, capable of reducing the designer' s authorship, supported by the integration with the urban dimension that let students find further reasons for the project in the relationship with the context. The integration between the two modules of the Studio working on the same project area, the Rione Sanità, will focus on some moments of common work that mark the passages between the most significant steps of the work of each course and build a comparison between different points of views.

.Course contents

The aim is to realize an integrated equipment system in order to realize bedrooms for tourists at the Casa del Monacone, (Sanità-Naples) reconfiguring the existing spaces. In a first stage, each group (two persons max) will design furniture, and after a discussion with some member of "Cooperativa La Paranza" all the students will be divided in three groups and each group will design the final furniture to be built.

.Teaching methodology

The course will be set as a series of frontal classes led by the professor, or by guests lecturer, and a planning-oriented laboratory led by the professor, the didactic tutor and other tutors specialized in this subject, that will help with the project. There will be a first laboratory test, which includes the re-planning and the realization of 1/10 furniture objects, proposed by Enzo Mari and Victor Papanek in the '70s.

.Requirements

The course has no specific requirements.

.References

- Flora, N., Iarrusso, F. (2017). *Progetti mobili*. LetteraVentidue.
- Hall, E. T., (1968). *La dimensione nascosta*. Milano: Bompiani.
- Hennessey, H., Papanek, V. (2008). *Nomadic Furniture*. Schiffer publishing.
- Mari, E., (2002). *Autoprogettazione?*. Corraini.
- Papanek,V., (1985). *Design for the real world*. Thames & Adam.

.Methods of evaluation

The exam will be done as an exhibition, and for it the student has to do:

- 2 A1 vertical panels (1 table for each project experience mentioned above), where each group has to explain his project from the guide-concept to the final configuration, using different communication techniques (free-hand drawings, studio models, final models, render and photomontages located on site, detailed technical drawings in adequate scale not lower than 1:20) with the indication of the expected materials;
- studio models and final model (1:10);
- 1 A3 horizontal book in which each group has to gather the construction drawings and the principal renders not used in the final tables, followed by a report (in English) of more or less of 3000 words;
- brief Power Point presentation in which the groups will show their works, in 5 minutes, to the professor and his colleagues in a final exposition that will be the final exam.

The evaluation will consider the personal career path, the graphical qualities of the tables and the A3 book, the Power Point presentation and the quality of the studio and final models.

.Module .Architectural Design
prof. Paola Scala

.CFU 4
.SSD ICAR 16
.Course Year I
.Semester II

.Learning objectives

The course aims to offer students the basic knowledge about the material and immaterial aspects of the contemporary city. This knowledge improvement is useful to find the reasons and topics of the architectural project in the urban complexity. We also intend to work to increase students' ability to represent and communicate disciplinary content through the use of digital techniques and tools.

.Course contents

During the course the students are going to develop a design approach based on the knowledge of the context that, if on the one hand, uses the disciplinary tools of urban analysis, on the other, recovers the plural aspects of the "eclectic atlases". The aim is to grasp not only the material aspects but also the intangible aspects of contemporary reality. The studio-case is the Rione Sanità in Naples with particular attention to the context immediately adjacent to the Casa del Monacone.

.Teaching methodology

The course is based on an empirical approach, using the image as a medium to which to entrust multiple meanings. The work is divided into three workshops and is supported by targeted theoretical contributions aimed at supporting the specific work of each group.

.References

- AA.VV., (2001). *Mutation*. Barcellona: ACTAR.
- Rossi, A. (1966). *The Architecture of the city.* MIT Press.
- Rowe, C., Koetter, F. (1978). *Collage City*. Cambridge: MIT Press.
- Serlio, M. (2018). *Montage and Metropolis.* Hardcover: Yalebooks.
- Ungers, O. M., (1982). *Morphologie. City Metaphors*. Cologne: Verlag der Buchhandlung Walther König.

.Methods of evaluation

Students that had attended the three workshops can acces the final exams. Each workshop marks a step of the work. The contents of each step, implemented in an app for augmented reality, will be presented at the final exhibition of the Studio.

.History of Furniture and Design

prof. Valeria Pagnini

.CFU 5
.SSD ICAR 18
.Course Year I
.Semester II

.Learning objectives

The course aims to provide students with the main historical-critical and methodological guidelines necessary for the understanding and contextualization of the most important phenomena in the History of Design, highlighting their significance as products of culture, social history, technological innovations and market logic.

.Course contents

The lessons will focus on the fundamental concepts, the main theories and the different definitions of design, dealing with works, events or topics that are particularly significant in international production, from the raising of the discipline to the events of contemporary design.

.Teaching methodology

Frontal lessons supported by slideshows and videos.

.Requirements

The course has no specific requirements.

.References

- De Fusco, R., (2007). *Made in Italy. Storia del design italiano*. Bari: Laterza.
- Fiell, C. and P., (2016). *The story of Design: from the Paleolithic to the Present*. New York: The Monacelli Press.
- Maldonado, T., (2005). *Disegno industriale: un riesame*. Milano: Feltrinelli.
- Raizman, D., (2004). *History of Modern Design*. London: Laurence King Pub.
- Vitta, M., (2011). *Il progetto della bellezza. Il design fra arte e tecnica dal 1851 a oggi*. Torino: Einaudi.

.Methods of evaluation

An oral exam is foreseen at the end of the course.

.Marketing and Branding

prof. Enrico Viceconte

.CFU 5
.SSD ING-IND 35
.Course Year I
.Semester II

.Learning objectives

Students will learn to read and develop design work from a marketing point of view and within Product Management, Brand Management and innovation projects. The “Strategic Design” of products will be exemplified with business cases and testimonies that bring designers closer to the business language and tools. The course lays the foundations for understanding design thinking applied to the design of the optimal User Experience.

.Course contents

The main topics of the course are management: a “science of the artificial”; what are Products, Processes and Projects; design management and Product Management; marketing and Brand management; strategic management; marketing management; strategic marketing, operations strategy and strategic design; consumer behavior; market segmentation; marketing mix decisions; strategic positioning; brand management; brand experiences; branding and customer relationship management; brand design; brand heritage; branding and style.

.Teaching methodology

Students are encouraged to identify, in the early stages of the course, the areas of application of marketing and specific brand products on which they want to work. During the course, groups are formed and, at the end of the course, will produce the final presentations. Individual and group meetings are planned for the review of the projects.

.Requirements

The course has no specific requirements.

.References

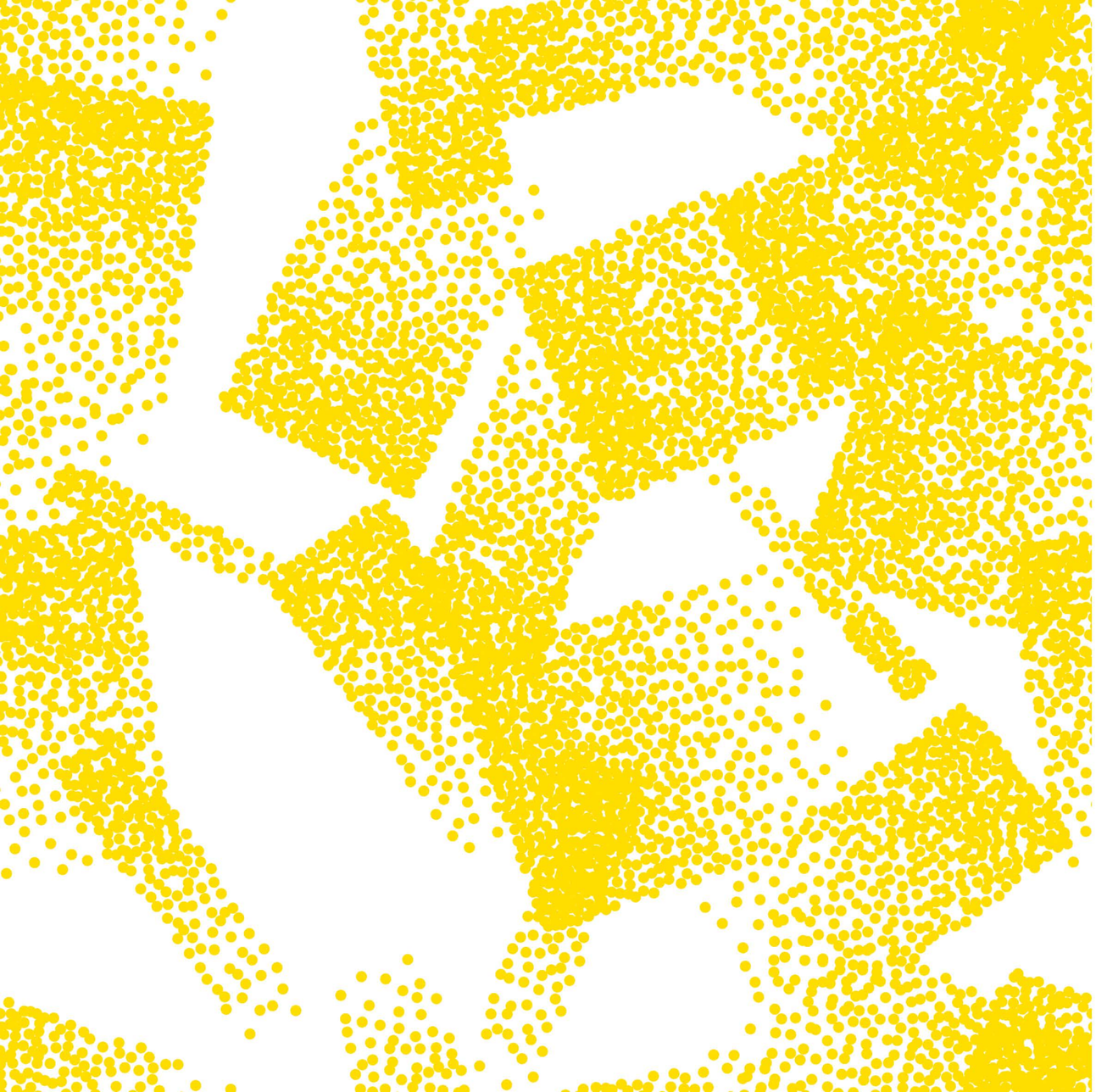
- Garofalo, C., Gallucci, F., Diotto, M. (2021). *Manuale di neuro marketing*. Hoepli
- Lambin, JJ., (2012). *Market-Driven Management: Strategic and Operational Marketing*. Macmillan International Higher Education.
- Lambin, JJ., (2021). *Market-Driven Management: Marketing strategico e operativo*. McGraw-Hill Education.
- Viceconte, E., *Marketing and Branding*, provided by the professor.
- Viceconte, E., *Verso una teoria generale della progettazione*, provided by the professor.

.Methods of evaluation

Students produce group work and are individually examined to verify their mastery of the tools presented in class.

Second Year

Exhibit Design Curriculum



.Exhibit Design for Cultural Heritage Studio

.Course objectives

The aim of the Studio is to provide students with a basic theoretical background on which to base a concrete set-up experimentation.

Particular focus will be put on the Restoration discipline approach, which transfers theories and practices generally applied to architectural artefacts to objects with a particular historical and cultural value.

The aim of the course is to ensure that the topics of Exhibit Design, Restoration and Enhancement of iconic objects of the history of design contribute together to the construction and representation of an interior, which is an unicum, through which to tell a story.

“Showing” an object means transcending from what is exposed: it is the representation of a certain order capable of defining connections, boundaries, of giving meaning to what you have chosen to stage.

.Module .Exhibit Design
prof. Viviana Saitto

.CFU 8
.SSD ICAR 16
.Course Year II
.Semester I

.Learning objectives

Museography and Exhibition Design are two disciplines capable of enriching the design practice relating to the recovery of historic and valuable buildings. Working in an interdisciplinary way, between architecture, design, art and communication, such disciplines are capable of building a unique and immersive experience around the object/content to be exhibited, in space and with space. The course focuses on the topic of the exhibition space and aims at providing students with the theoretical and practical knowledge useful for the design of routes, devices, installations and experiences for the fruition of cultural heritage.

.Course contents

The theoretical topics covered in the course define the subject area, highlight the differences between Museography and Exhibition Design and analyze the more general topics of communication, memory conservation and content diffusion. Particular attention will be given to modern and contemporary art, in particular the performative, environmental and site specific art, useful to clarify the importance of the user's participation in the aesthetic experience. Finally, the contents relating to Museology will be fundamental to understand the importance of ordering as the logical structure of the exhibit project. The exhibited objects/ contents, as well as the space where they are placed, will be analyzed and interpreted in order to establish a profitable and seminal dialogue of the message that is intended to be disseminated. The course aims, in fact, at building the critical capacity and necessary sensitivity to understand exhibit in architectural dynamics and intends practical activity as an opportunity to reflect on the meanings of contents, objects and ideas in a definite boundary.

.Teaching methodology

The course includes a theoretical part followed by analysis of topics and case studies, discussed in a seminar way (focus group), aimed at a critical understanding of the type of relationship between testimonies, audience, site and cultural context. Students will carry out a design exercise focused on setting up a specific collection of objects in an assigned place.

.Requirements

Ability to analyze and represent an architectural context and de-code the cultural values to be transferred through the exhibit space.

.References

- Migliore, I. (2019). *Time to exhibit. Directing spatial design and new narrative pathways*. Milano: Franco Angeli.
- Muller, A. M., Mohlmann, F. (2012). *New Exhibition Design 1900-2000*. Stuttgart: AVEdition.
- Polano, S. (2000). *Mostrare. L'allestimento in Italia dagli anni Venti agli anni Ottanta*. Milano: Lybra Immagine.
- Reinhardt, U. J., Teufel, P., (eds.) (2010). *New Exhibition Design 02*. Stuttgart: AVEdition.
- Reinhardt, U. J., Teufel, P., (eds.) (2020). *New Exhibition Design 03*. Stuttgart: AVEdition.

.Methods of evaluation

Ongoing application tests, graphic drawings and final report, models, final interview.

.Module .Restoration for Exhibit

prof. Gianluigi De Martino

.CFU 4
.SSD ICAR 19
.Course Year II
.Semester I

.Learning objectives

The reuse of existing structures for exhibition purposes is increasingly frequent both due to the significant presence of historical-architectural heritage on the territory, to the identification of a heritage made up of objects that are also in common use. The course aims to provide the methodological tools for the preparation of an exhibition project and museography design compatible with the complexity of the architectural palimpsest starting from the consideration that the passage of time ca n also be marked by not striking episodes.

.Course contents

Training critical thinking to recognize not only the “work of art”, but also the small element that changes the rules of the game, favors the process of attention and care of aspects that make up the heritage made up of “material evidence having the value of civilization”. This heritage is now composed of multiple traces and clues that are just waiting to be investigated and listened to. This is therefore true not only for architecture, but also for the industrial products that have populated, inhabited, furnished and given meaning to the architecture for which and in which they were conceived. The historical contextualization of these objects and of the events that have influenced their genesis and those that have been influenced afterwards, will represent the workshop experience useful to build historical-critical competence in the wake of the historiographic orientation that privileges the history of material culture. The attention paid to the theories and current orientations of architectural restoration will allow the verification not only in the more orthodox field of application of architecture, but also in the broader horizon of art, applied art and industrial and proto-industrial production.

.Teaching methodology

The course includes lectures, seminars, visits and laboratory activities.

.Requirements

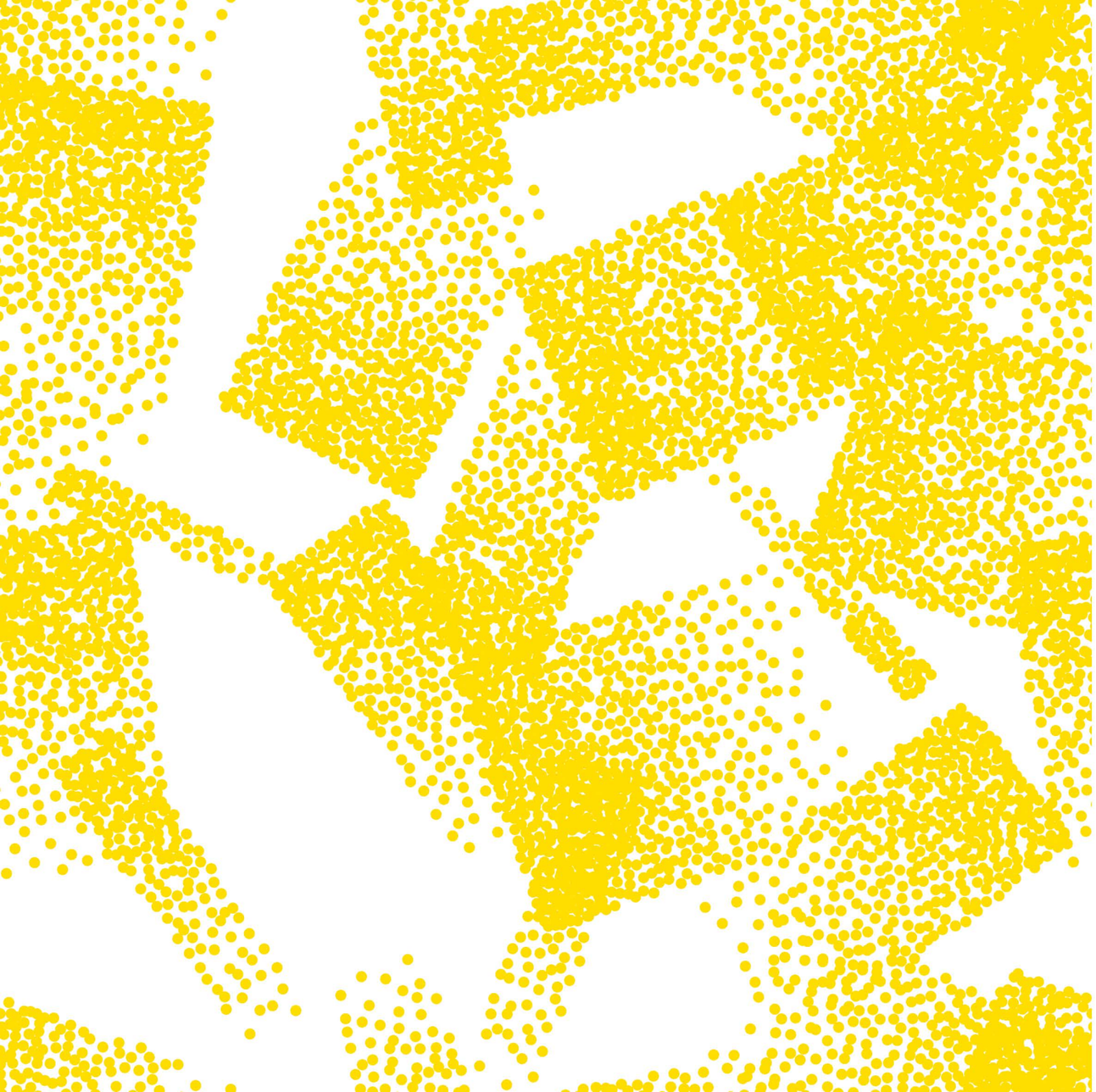
The course has no specific requirements.

.References

- Carbonara, G. (2007). Alcuni temi di restauro per il nuovo secolo, in AA. VV., *Trattato di restauro architettonico*. Torino: UTET. 1-50.
- Dardi, D., Pasca, V. (2019). *Manuale di storia del design*. Silvana Editoriale.
- de Martino, G., Multari, G., (2019). Restauro del Moderno. L’esperienza didattica e di ricerca sulla Mostra d’Oltremare di Napoli, in AA. VV., *Il progetto di architettura come intersezione di saperi. Per una nozione rinnovata di Patrimonio*. ProArch.
- Torsello, B. P., (2005). *Che cos’è il restauro*. Marsilio.
- Torsello, B. P., (2006). *Figure di pietra*. Marsilio.

.Methods of evaluation

Ongoing application tests, graphic drawings and final report, final interview.



.Digital Manifacturing Studio

.Course objectives

The course aims at providing the theoretical, methodological and operational tools to develop innovative technical and design solutions through computational design and digital manufacturing processes.

Students will acquire skills about 3D modeling for digital fabrication and processes for generative algorithmic models definition .

.Module .Digital Fabrication
prof. Mattia Federico Leone

.CFU 6
.SSD ICAR 12
.Course Year II
.Semester II

.Learning objectives

The course aims at providing the theoretical, methodological and operational tools to develop innovative technical and design solutions through computational design and digital manufacturing processes. The design experiments will focus on the modeling and prototyping of street furniture elements, products and building components able to deliver suitable performance with reference to specific technological and environmental requirements, with particular reference to the topics of sustainable management of material and energy resources, indoor and outdoor comfort, integration of Nature Based Solutions and smart technical systems.

.Course contents

Within the course, in synergy with the module Parametric and Generative modeling, the students will develop a series of design experimentations aimed at integrating the final output of the Digital Manufacturing Studio with appropriate technological-constructive and performance specifications for the realization of final design documentation and virtual and physical prototype models. The main topics of the course are:

- 2030 Agenda for Sustainable Development: vision, principles and design implications.
- Design Thinking: methods and approaches Computational Design and Digital Manufacturing: technological and environmental design in the digital age.
- Sustainable technologies for the design of the built environment, innovative materials and construction techniques.
- Methods and tools for the control of the technological-environmental performance and the production processes of Industry 4.0.

.Teaching methodology

The course includes a series of seminar, workshops and design exercises, which will correspond to a series of deliverables, mainly realized in the classroom and in teams, contributing to the final evaluation.

.Requirements

Students must have knowledge in the field of Basic Design, of the materials, of the simple structures and of the main parametric design software.

.References

- Braungart, M., McDonough, W. (2002). *Cradle to Cradle: Remaking the Way We Make Things*. North Point Press.
- Buckminster, F. R., (1969). *Operating manual for spaceship earth*. New York: EP Dutton & Co. Available at http://www.bfi.org/node/422.
- Issa, A. P., Payne, A. (2009). *The Grasshopper Primer*. Available at https://www.mod-elab.is/grasshopper-primer/
- Liedl, P., Hausladen, G., Saldanha, M. (2012). *Building to suit the climate: A handbook*. Walter de Gruyter.
- Menges, A., Sheil, B., Glynn, R., Skavara, M. (eds.). (2017). *Fabricate: rethinking design and construction* (Vol. 3). UCL Press.

Other reference bibliography and teaching materials will be provided by the teacher during the lessons.

.Methods of evaluation

The final evaluation will take into account the levels of participation to the teamwork in the workshop and exercise activities carried out, and the ability to convey the main theoretical contents of the course in the final presentation (which will include boards, videos, real and virtual models) starting from the results of the design experiments conducted.

.Module .Parametric and Generative Modeling

prof. Mara Capone

.CFU 4
.SSD ICAR 17
.Course Year II
.Semester II

.Learning objectives

The course will offer the basic knowledge for 3D modeling of complex geometry objects that can be manufactured using Digital Fabrication techniques. The course will focus on different analysis methods of geometric shape genesis to identfy process to be used for 3D model construction. Also, different methodologies to break down the model into functional parts for optimization according to the defined digital manufacturing process will be deepened. Finally, an introduction to the principles of algorithmic modeling with Grasshopper will be issued.

.Course content

Students will acquire specific knowledge about:

- defining shape geometric genesis;
- 2D lines and 3D lines;
- surfaces genesis: revolution surfaces, translation surfaces, roto-translation surfaces, ruled surfaces, complex surfaces;
- principles of algorithmic modeling.

.Teaching methodology

Each lesson is structured into a theoretical part followed by a practical exercises that will be set up with teacher and developed independently. To facilitate debate, online collective corrections are planned that will take place on Teams.

.Requirements

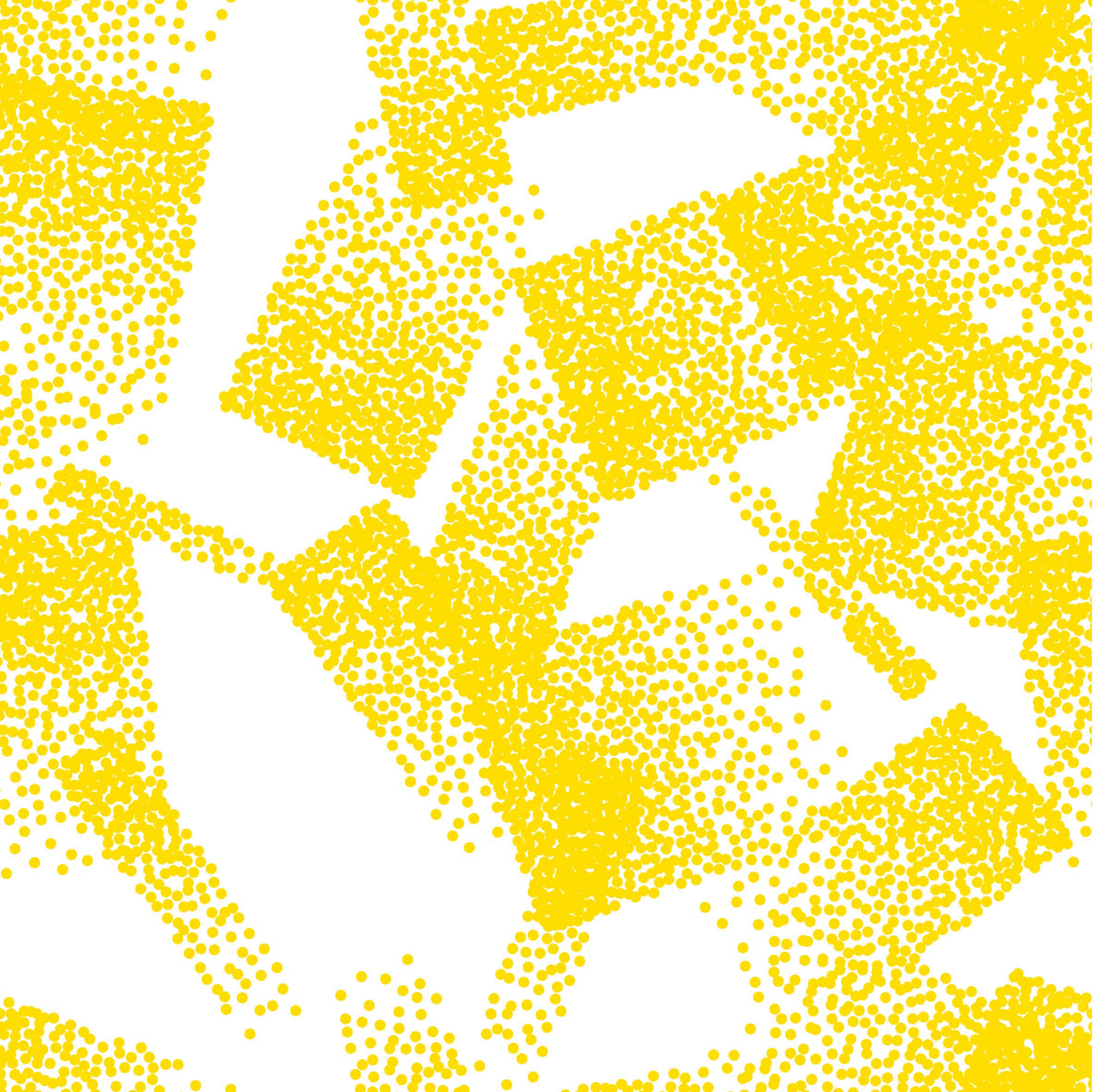
The course has no specific requirements.

.References

- Capone, M., (2010). *La genesi dinamica della forma*. Fridericiana Editrice Univ.
- Ceccato, C., Hesselgren, L., Pauly, M., Pottmann, H. and Wallner, J. (2016). *Advances in Architectural Geometry 2010.* Berlin, Boston: Ambra Verlag.
- Food for rhino. https://www.food4rhino.com/en.
- Mode Lab Grasshopper Primer Third Edition, https://www.modelab.is/grasshopper-primer.
- Tedeschi, A., Wirz, F., Andreani, S. (2014). *AAD, Algorithms-aided design: Parametric strategies using Grasshopper*.

.Methods of evaluation

The final mark will be the results of the average of the marks obtained in the different parts: oral exam, individual exercises and case studio carried out in the integrated laboratory.



.Atelier of Temporary Spaces Design

.Course objectives

Atelier aims is at providing students with a basic theoretical and critical background on which to ground a design experimentation of a temporary exhibition space.

In particular, the Atelier provides knowledge and skills to let students to:

- manage and design the elaboration of the visual, staging and experiential aspects of complex cultural events, such as exhibitions, temporary or itinerant cultural initiatives;
- elaborate and communicate of complex identity systems linked to cultural and productive processes, such as those of museums and public bodies, both for the graphic-immaterial part and for the physical and exhibition one;
- manage the aspect of duration and temporariness events, according to the environmental, economic and cultural sustainability of the design solutions.

.Module .Visual and Communication Design

prof. Davide Marchetti

.CFU 5
.SSD ICAR 13
.Course Year II
.Semester II

.Learning objectives

The Visual and Communication Design module aims at offering a shared didactic activity with the other two teaching modules of Layout lnterior Design and Technological Design Culture. Consequently the main purpose of the Visual and Communication Design module is to offer students a multidisciplinary design approach. To achieve this goal students' works will be focused on an Urban temporary exhibit design for either a social issue, an institutional or a commercial one.

.Course contents

The Visual and Communication Design teaching module will be focused on the Visual and Communication contribute to the exhibit design field of study. Following the international status of the Course, in addition to an international overview, a specific focus will be paid to the Italian contribution on this subject. The design process will be experienced starting from the conceptual background to the technical drawings, and the executive resolution.

.Teaching methodology

The Visual and Communication Design teaching module uses a didactic methodology through lectures, professional experiences and research speeches. The subject of the design training is a temporary exhibit pavilion to build in relation to a specific urban environment.

.Requirements

Students should be well skilled on the main software on graphic, 3D modelling, and technical drawings.

.References

- de Botton, A., (2007). *The architecture of happiness*. Penguin.
- Holl, S., Pallasmaa, J., Perez-Gomez, A. (2007). *Questions of perception: phenomenology of architecture.* William K Stout Pub.
- Pallasmaa, J., (1996). *The eyes of the skin: architecture and the senses*. John Wiley & Sons.
- Rasmussen, S. E., (1962). *Experiencing Architecture*. MIT Press.
- Venturi, R., (1966). *Complexity and contradiction in architecture*. MOMA NYC.

.Methods of evaluation

Ongoing application tests, final interview, graphic drawings, models.

.Module .Layout Interior Design
prof. Chiara Lecce

.CFU 5
.SSD ICAR 16
.Course Year II
.Semester II

.Learning objectives

The aim of the course is to provide students with a basic theoretical background on which to base design experimentation in urban space, a place where the transformations and tensions of historical culture and political attitudes are projected and where two issues are condensed: the representation of the community and the need to ensure relations. The intention is to temporarily intervene on the urban space through the expression of the sensitive and qualitative aspects of the project, with inclusive practices and languages, able to read places and activate the distracted reception of the user. The atelier intends, in fact, to build the critical capacity and the necessary sensitivity to understand the methodologies and results of the temporary design practices in an era where the ephemeral is a new character of permanence.

.Course content

The main topics of the course are:

- theoretical lessons to analyze the more general topics of urban exhibition, public art, urban guerrilla;
- particular attention will be given to perfomative and site specific architecture and art;
- important case studies will be analyzed and interpreted in order to establish a profitable and foundational dialogue of the content that is intended to be disseminated;
- identification of participation processes (e.g. teaching site or event site) useful for the construction of a temporary space and the participation of the user.

.Teaching methodology

The course includes a theoretical part, combined with the analysis of specific topics and case studies, discussed in a seminar (focus group), finalized to a critical understanding of the type of relationship between site, temporary project and public. The year topic consists of a temporary exhibition, in a specified location, for a precise content/event.

.Requirements

Ability to analyze and represent urban context and decode the contents and values to be transferred through a temporary project.

.References

- Branzi, A., (2006). *Modernità Debole e Diffusa*. Skira.
- Bosoni, G. (2019). *Dal recupero alla rigenerazione / From Reclamation to Regeneration*. Lotus International.
- Hou, J., (2010). *Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary* Cities. Routledge.
- Lecce, C., (2019). Open Neighbourhoods. Disclosing the hidden potentialities of urban interiors, in Interior Educators, Issue 4. The Hidden Interior. available at https://interioreducators.co.uk/open-neighbourhoods-disclosing-the-hidden-potentialities-of-urban-interiors.
- Migliore, I. (2019). *Time to exhibit. Directing spatial design and new narrative pathways*. Milano: Franco Angeli.

.Methods of evaluation

Ongoing application tests, final interview, graphic drawings, models.

.Module .Technological Design Culture

prof. Massimo Perriccioli

.Course objectives

.CFU 5
.SSD ICAR 12
.Course Year II
.Semester II

.Learning objectives

The course aims at providing students with theoretical, methodological and operative knowledge on the design of temporary spaces from the point of view of technological culture. In particular, the course aims at highlighting the processual and strategic role of the systemic approach in the field of small scale structures and artifacts for the temporary setting up of the public space of the city for socio-cultural, artistic, fair and spectacular events. The students, in the cultural perspective of the new technological processes, will learn design methods oriented to the digital fabrication of building systems of temporary artifacts.

.Course contents

The main topics of the course are:

- the concept of temporariness as a new design dimension of the contemporary city;
- flexible, adaptable, deployable, re-usable as design paradigms;
- de-standardization, customization as factors of productive innovation;
- space, time, movement as design dimensions;
- the environmental value of temporary spaces;
- interaction design and proxemics in the space of temporary events;
- from the design process to digital fabrication based on computational design.

.Teaching methodology

The course includes face-to-face lessons, exercises, practical atelier activities.

.Requirements

Ability to analyze and represent urban context and decode the contents and values to be transferred through a temporary project.

.References

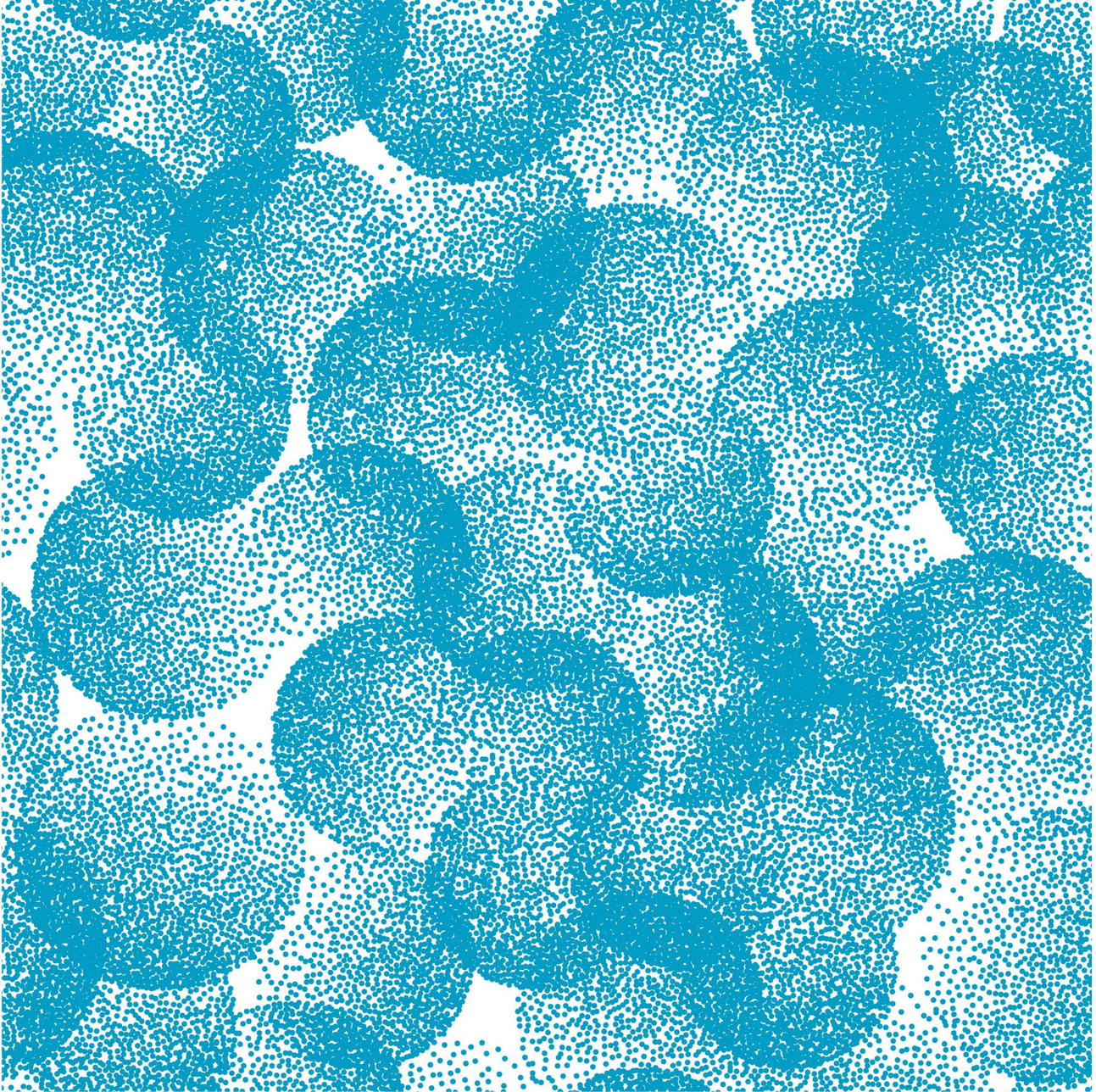
- Corbellini G., (2007). Evento, in *Ex libris. Parole chiave dell'architettura contemporanea*. Milano: 22 Publishing.
- Perriccioli, M., (2016). Small scale for large dimension. Micro-architecture systems for the temporary city of Civitanova Marche, in *TECHNE'* n. 12/2016. Firenze: *FUPRESS*.
- Perriccioli, M., (2018). Impermanence and Architecture. Ideas, Concepts, Words, in *AGHATON*, 4.
- Kronenburg, R. (2007). *Flexible. Architecture that Responds to Change*. London: Laurence King Publishing.
- Tschumi, B., & Nederlands Architectuurinstituut, (1997). *Bernard Tschumi: Architecture in/of motion*. Rotterdam: NAi Publishers.

.Methods of evaluation

The exam foresees of the development of a design proposal and its oral discussion.

Second Year

Digital Design Curriculum



.Systemic Design Studio

.Course objectives

The course aims at providing students the theoretical background, the research tools and the operative methodologies of systemic design approach, whose focus is set more on socially/ environmentally sustainable processes and services than on tangible products.

.Module .Systemic Design
prof. Ernesto Ramon Rispoli

.CFU 6
.SSD ICAR 13
.Course Year II
.Semester I

.Learning objectives

The contemporary city presents itself as a complex ecosystem in which no rigid boundaries between society, technology and nature can be traced. What does it entail for a designer to deal with the inherent complexity of such socio-techno-natural systems? How can design contribute to re-shaping those systems so as to make them more resilient, self-sustaining and less energy-consuming? The course will try to answer these questions through theoretical reflections, case-study analysis and concrete design proposals.

.Course contents

The main topics of the course are:

- Systemic Design and Transition Design: an overview;
- Design for Social Innovation and Sustainability;
- food systems and the city;
- alternative practices in feeding: community based food systems;
- alternative practices in dwelling, moving, commoning;
- circular approaches to urban design;
- technosphere and techno-natural entanglements;
- the politics of technology: an introduction.

.Teaching methodology

The course will be delivered with theoretical lectures, reading seminars and in-class work sessions. The final sessions will consist of an intensive design lab in which students will carry out their design proposals. Lectures by invited speakers will also be scheduled, in accordance with the ongoing development of the main activities.

.Requirements

The course has no specific requirements.

.References

- Steel, C., (2008). *Hungry City. How Food Shapes Our Lives*. London: Random House.
- Steel, C., (2020). *Sitopia. How Food Can Change the World*. New York: Vintage Publishing
- Thackara, J., (2005). *In the Bubble. Designing in a Complex World*. Cambridge: MIT Press.
- Thackara, J., (2015). *How to Thrive in the Next Economy*. London: Thames & Hudson.
- Zanotto, F., (2020). *Circular Architecture. A Design Ideology*. Siracusa: LetteraVentidue.

.Methods of evaluation

Oral examination concerning the theoretical contents, the case-study analyses and the project proposals carried out during the course.

.Module .Innovation for Social Systems

prof. Adam Erik Arvidsson

.CFU 4
.SSD SPS-08
.Course Year II
.Semester I

.Learning objectives

The module will give an introduction to contemporary social theory related to the design of socio-techno-natural eco-systems and in particular concerning the “challenge” of resilience. The aim is to provide an overview of the most important contemporary debates and the most widespread concepts and theories.

.Course contents

Topics will include:

- anthropocene;
- the crisis and future of the capitalist economy;
- the agro-economy;
- the platforms and the commons;
- imaginaries and ‘future-making’.

.Teaching methodology

The course will combine lectures (on and off line) and seminars (offline) delivered in blended. The course will culminate in a design “hackathon” where students will elaborate their project proposals. We will also invite a number of external speakers to give lectures and conduct seminars.

.Requirements

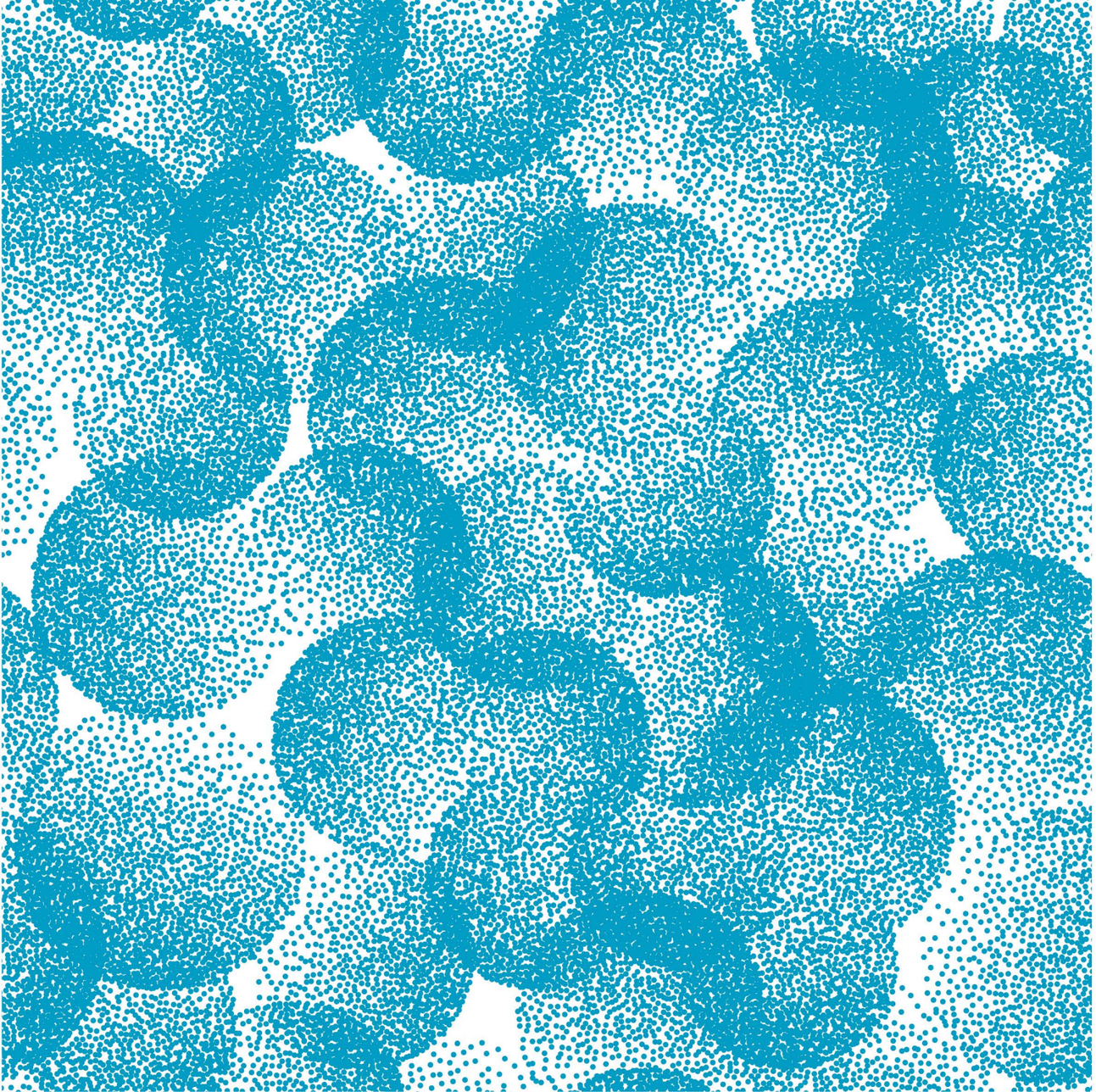
The course has no specific requirements.

.References

- Arvidsson, A. (2019). *Changemakers. The Industrious Future of the Digital Economy*. Hoboken: John Wiley & Sons.
- Bonneuil, Ch.; Fressoz, J.-B. (2016). *The Shock of the Anthropocene. The Earth, History and us*. London: Verso books.
- Deka, M., Arvidsson, A. (2021). “Names doing rounds”: On brands in the bazaar economy. *Journal of Consumer Culture*, 0(0), pp. 1-20. available online: https://journals.sagepub.com/doi/full/10.1177/1469540521989396
- Patel, R., Moore, J. (2017). *History of the World in Seven Cheap Things. A Guide to Capitalism, Nature, and the Future of the Planet*. Berkeley: University of California Press.
- Smiley, L., (2015). *The shut-in economy*. Medium.com, March 25.

.Methods of evaluation

Oral exam, where student projects will be discussed in relation to the theoretical material and case studies that we have reviewed in the class.



.Digital Design Studio

.Course objectives

The integrative Digital Aesthetics Course goal is to provide students with the theoretical principles and visual-communicative functions of Aesthetics in Digital Design projects.

.Module .Digital Design
prof. Pietro Nunziante

.CFU 6
.SSD ICAR 13
.Course Year II
.Semester I

.Learning objectives

The aim of the course is to provide students with the methodology for the design of digital artifacts, operational tools for the design of digital and multimedia communication. The part of the exercises will be oriented to the simulation and experimentation of the design process in the operational aspects, identify the constraints and opportunities, needs and requirements, identify solutions and functionalities useful for the definition of applications, controllers, websites and user interfaces.

.Course contents

Topics will include:

- universal design principles;
- user interfaces;
- principles of gestalt;
- affordance, scheumorphism, flat design;
- needs identification, demand analysis;
- iterative design approach - wireframe, mockups;
- low fi prototype;
- prototyping and testing;
- development of a complex digital product.

.Teaching methodology

Theoretical lectures, in-depth seminars on case studies, vision and discussion of audio-visual documentation, individual and group design exercises.

.Requirements

The course has no specific requirements.

.References

- Maeda, J., (2006). *The Laws of Simplicity*. Cambridge, Mass: MIT Press.
- McCullough, M., (1997). *Abstracting Craft: The Practiced Digital Hand*. Cambridge, Mass: MIT Press.
- McCullough, M., (2006). *Digital Ground: Architecture, Pervasive Computing, and Environmental Knowing*. Cambridge, Mass: MIT Press.
- Thackara, J. (2005). *In the Bubble: Designing in a Complex World*. Cambridge, Mass: MIT Press.
- Richard, S. (2008). *The Craftsman*. Allen Lane.

.Methods of evaluation

Application trials; graphic works; interview with final report, portfolio.

.Module .Digital Aesthetics
prof. Aurosa Alison

.CFU 4
.SSD M-FIL/04
.Course Year II
.Semester I

.Learning objectives

The aim of the Course is to deepen through the theoretical-aesthetic aspects, the interconnection between the sensitive and the digital.

In this regard will be deepened:

- the function of Aesthetic Research in the world of analogical images;
- the relationship between the aesthetic and virtual experience;
- the reality of digitalization in the world of Art and Contemporary Symbology.

The Course will be developed from a theoretical point of view with frontal lessons and in the form of workshops through which students will be involved in classroom exercises.

.Course contents

Topics will include:

- theories of sensitive experiences;
- principles of a philosophy of images and imagination;
- the visible and the invisible;
- embodiment;
- perception phenomenology;
- sensitive environments;
- virtual atmospheres.

.Teaching methodology

Theoretic lessons and classroom exercises in the form of collective workshop.

.Requirements

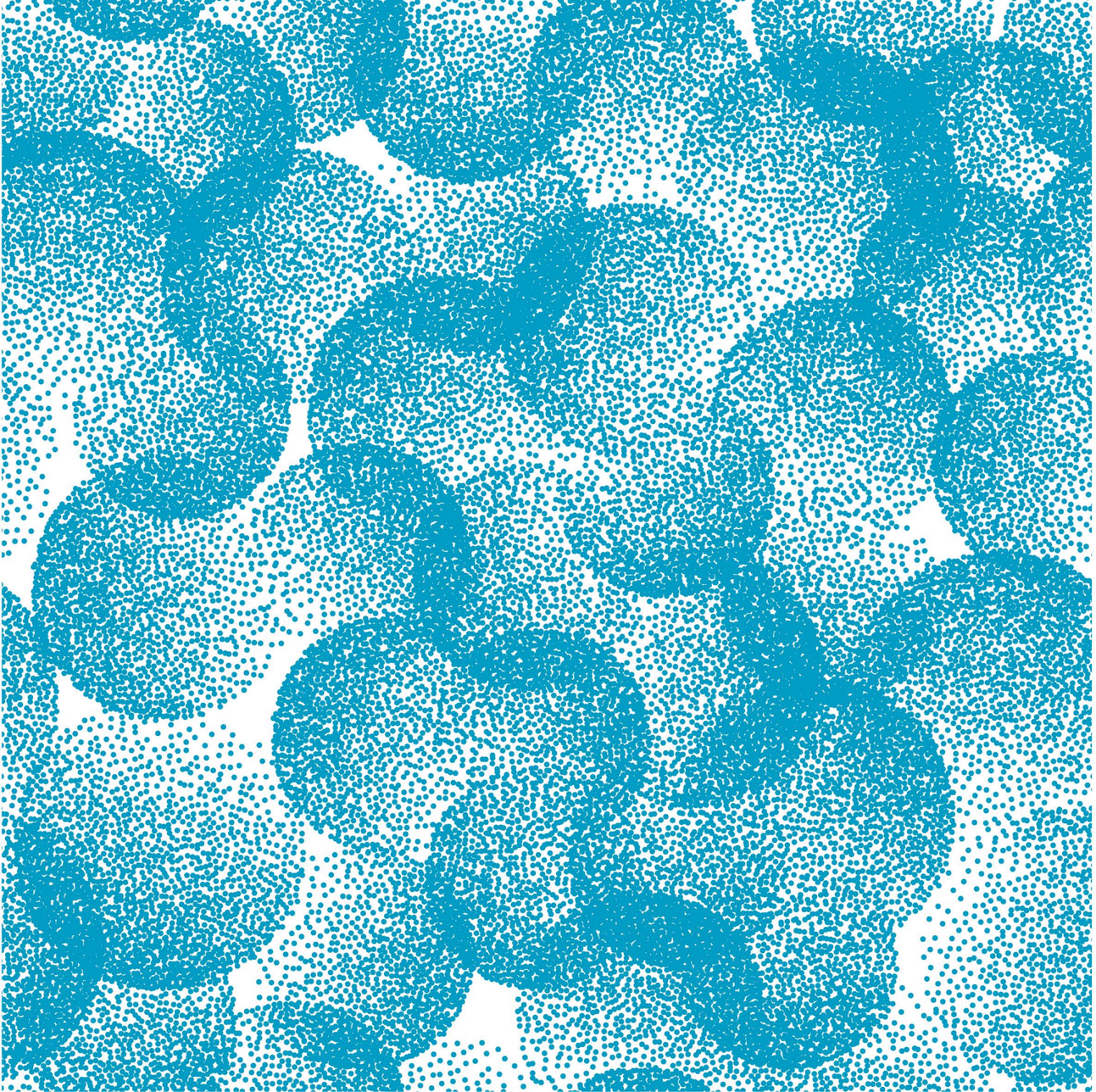
The course has no specific requirements.

.References

- Bachelard, G., (1957). *The Poetics of space*.
- Cassirer, E., (1923). *Philosophy of Symbolic forms*.
- Dewey, J., (1934). *Art as experience*.
- Höök, K., (2018). *Designing with the body*.
- Shusterman, R. (2012). *Thinking through the body: Essays in Somaesthetics*.

.Methods of evaluation

Workshop results, in itinere tests, final wordpress elaboration.



.Atelier of Interaction Design

.Course objectives

The Atelier aims at providing the necessary skills to develop, manage and coordinate the design process, from concept to prototyping.

The course is aimed at stimulating the students' ability to:

- analyze and model contexts of use on the basis of the specificities of users and their individual and collective behavior;
- develop techniques aimed at the design of interactive solutions based on the use of digital technologies;
- analyze, simulate and model cognitive and emotional processes related to the dynamics of interaction in the experiential environment;
- organize and manage multidisciplinary design teams, oriented to the exploration and prototyping of highly innovative scenarios, services and interactive products.

.Module .User Centered Design
prof. Erminia Attaianese

.CFU 5
.SSD ICAR 13
.Course Year II
.Semester II

.Learning objectives

The course is aimed at providing basic knowledge and skills to design and optimize user-system interaction through the human-centered design approach. Learning outcome will focus on the student ability to conceive usable and accessible digital artifacts:

- by selecting and managing appropriate methods for understanding context of use and data gathering;
- by identifying system requirements in relation to user profiling;
- by orienting gathered data transition to design solutions addressing final users needs and expectations.

.Course contents

The main topics of the course are:

- principles of ergonomics for human-centered design;
- principles of human characteristics, users variability and diversity;
- principles of human-systems interaction;
- user research methods;
- task analysis;
- heuristic evaluations;
- usability evaluations and testing.

.Teaching methodology

The course is structured in:

- frontal lessons (33%) which include presentations and seminars with work examples;
- exercises on basic elements of user research methods (33%) aimed at developing discussion-based learning, collaborative learning and team working practice;
- practical activities in atelier, finalized to support project-based learning on real world problems (33%).

.Requirements

The course has no specific requirements.

.References

- Attaianese, E., (2011). Special needs in pleased-based products design. A case study, in Karwowski W, Soraes M. and Stanton N. (co-editors), *Human Factors and Ergonomics in Consumer Product Design. Uses and Applications*. CRC Press, Taylor&Francis Group
- Norman, D., (2013). *The Design of Everyday Things: Revised and Expanded Edition*. New York: Basic Books.
- Ritter, F. E.; Baxter, G.D., Churchill, E.F. (2014). *Foundations for Designing User-Centered Systems*. Springer
- Tosi, F., (2018). *Ergonomia & design. Design per l'ergonomia*. Franco Angeli

- Other reference bibliography and teaching materials will be provided by the teacher during the lessons.

.Methods of evaluation

In itinere application tests; design drawings; physical or digital mockups; interview with final report.

.Module .Systems of Data Processing
prof. Alessio Botta

.CFU 5
.SSD ING-INF/05
.Course Year II
.Semester II

.Learning objectives

The main learning objectives of the course are:

- acquire basic knowledge of computational thinking and computer science using the Python programming language as a learning and experimentation tool;
- acquire basic knowledge about the Internet of Things, the communication technologies used by Things and the technologies for processing the data collected in the Cloud.

.Course contents

The main topics of the course are:

- fundamentals of computer science;
- basic syntax in Python;
- python programming exercises;
- introduction to the Internet of Things;
- programming a IoT sensor in Python;
- introduction to Cloud Computing;
- design and development of a data collection and processing level in a Cloud;
- notions of Artificial Intelligence.

.Teaching methodology

The course is structured in mixed methodology, with frontal teaching, flipped classrooms, and practical activities, individual and group-based.

.Requirements

The course has no specific requirements.

.References

- Chianese, V., Moscato, A., Picariello, C. (2017). *Sansone, Le radici dell'informatica. Dai bit alla programmazione strutturata*. Apogeo.
- Buyya, R., Dastjerdi, A. V., (eds.) (2016). *Internet of things: Principles and paradigms.* Elsevier.
- Deitel, P., (2021). *Intro to Python for Computer Science and Data Science: Learning to program with ai, big data... and the cloud, global edition*. S.l.: Pearson Education Limited.
- Stallings, W., (1996). *Computer organization and architecture: Designing for performance*. Upper Saddle River, N.J: Prentice Hall.
- Teaching material provided by the teacher.

.Methods of evaluation

Evaluation based on class participation and project works.

.Module .Digital and Technological Culture

prof. Sergio Russo Ermolli

.CFU 5
.SSD ICAR 12
.Course Year II
.Semester II

.Learning objectives

The course aims at highlighting the strategic role of information in decision-making processes in the digital transformation of the design and architecture sector. In particular, the course aims at offering the cultural and operational tools to face the complex framework of contemporary design needs through an experimentation that relates the “culture” of the data with digital technologies, in particular deepening the possibilities offered by the object-based information modeling methodology (BIM), for the control of the relationship between the technological and environmental system of a hospital space, modular and interactive.

.Course contents

The main topics of the course are:

- lean management and construction strategies;
- systemic logic of Design Thinking;
- the role of data in design processes;
- digital design and production;
- information modeling elements.

.Teaching methodology

The course includes face-to-face lessons (33%), exercises and basic elements of software use (33%), practical atelier activities (33%).

.Requirements

The course has no specific requirements.

.References

- Deutsch, R., (2015). *Data-Driven Design and Construction*. Hoboken, NJ: John Wiley & Sons.
- Menges, A., Ahlquist, S. (eds.), (2011). *Computational Design Thinking*, John Wiley & Sons.
- Russo Ermolli, S., (2020). *Digital Culture of Architecture*. Santarcangelo di Romagna: Maggioli.
- Russo Ermolli, S. (ed.), (2019). *The Changing Architect*. Santarcangelo di Romagna: Maggioli.
- Scuderi, M. (ed.), (2014). *Constructed Atmospheres. Architecture as meteorological design*. Milano: Postmedia.

.Methods of evaluation

The exam foresees of the development of a design proposal and its oral discussion.

Helpful Information

The enrollment process for the a.y. 2021/2022 opens on 1st September 2021, courses start at the end of September 2021.

If you are an extra-UE citizen, as soon as possible, before application process starts you should get in touch with Italian Embassy in your country to set up the issuing process of your student Visa.

In order to get your Visa you can follow the UNIVERSITALY on line pre-enrollment process. Please let us know if you need a pre-admission letter to upload to your UNIVERSITALY on line pre-enrollment process.

To apply students must have got a bachelor degree or first degree or undergraduate degree, usually a three or four years course of at least 180 ECTS, in one of the followings fields of study:

Industrial design / Architecture / Urban planning / Engineering / Fine Arts

To apply to the DBE it is necessary to go to the Italian Diplomatic Mission in your country (Italian Embassy or Consulate) because they must officially translate all your documents in Italian and issue the:

- Bachelor degree Transcript of Records (with a legal declaration of local value by the Italian Embassy in the country where the degree certificate was obtained);

- Declaration of Value issued by the Italian Diplomatic Mission (there is a deadline for this process).

To get these documents in time for the 2021/2022 enrollment, please contact as soon as possible the Italian Diplomatic Mission in your country.

Due to the difficulties to follow the ordinary procedures the Italian University authorities have set up a new on line process for extra-UE students enrolling for the academic year 2021/2022.

This process is available through the Universitaly website:

https://www.universitaly.it/

In the application, you must indicate the University of Naples Federico II / Università degli Studi di Napoli Federico II and the Master of Science in Design for the Built Environment / Laurea Magistrale in Design per l'Ambiente Costruito.

The process requires to specify the Embassy / Consulate where you will apply for an entry Visa to Italy.

The pre-enrollment application will be verified by the University of Naples and forwarded to the Embassy / Consulate you have specified.