

Year 2024-25



Istituto Europeo di Design

Private Licensed Centre

TEACHING GUIDE FOR
Fundamentals of Design.
Ideation

Foundation Course – IED Madrid Diploma Programme

Total Design

Updated on: 1st September 2024

Foundation Course – IED Madrid Diploma Programme.
Subject: Fundamentals of Design. Ideation.

1. SUBJECT/COURSE IDENTIFIERS

Type	Basic training
Nature	Theoretical-practical course
Speciality/itinerary/style/tool	Total Design
Subject/Field	Fundamentals of Design
Teaching/course period	2 nd Semester
Number of credits	6 ECTS
Department	Didactic/Educational Department
Priority/ prerequisites	Without priority
Languages in which the course is taught	English

2. TEACHER IN CHARGE OF THE SUBJECT

Surname & Name	E-mail
Barrena Lázaro, Nicolás	

3. LIST OF LECTURERS AND GROUPS THEY TEACH

Surname & Name	E-mail	Groups

4. COMPETENCIES/SKILLS

Cross-sectoral skills
CT2 Collecting meaningful information, analysing, synthesising and managing it accordingly.
CT3 Problem solving and decision making to meet the goals of the work/project being performed.
CT8 Developing reasoned and critical ideas and arguments.
CT13 Pursuit of excellence and quality in their professional activity.
CT14 Mastering research methodology in the generation/creation of projects, ideas and viable solutions.

General skills

CG1 Conceiving, planning and developing design projects according to technical, functional, aesthetic and communicative requirements and conditions.

CG7 Organising, leading and/or coordinating work teams, and knowing how to adapt to multidisciplinary teams.

CG8 Proposing research and innovation strategies to solve expectations focused on functions, needs and materials.

CG10 Adapting to changes and to the industrial technological evolution.

CG15 Knowing the processes and materials, knowing how to coordinate one's own intervention with other professionals, according to sequences and degrees of compatibility.

5. LEARNING ACHIEVEMENTS

- Understanding the basic principles of anthropometry and ergonomics.
- Identifying the basic concepts of introduction to bionics.
- Knowing how to apply the different tools of design fundamentals from a multidisciplinary approach.
- Knowing how to identify the functioning of the perceptual process.
- Knowing how to correctly solve the construction and presentation of one's own project.
- Acquiring the ability to apply the tools involved in creative processes.
- Knowing how to develop, evolve and materialize a conceptual idea (working from the abstract to the concrete).

6. CONTENTS

Section (if applicable)	Topic/repertoire
I. INTRODUCTION	Topic 1. Creative process: theory, method, research, experimentation.
	Topic 2. Briefing and counter-briefing.
	Topic 3. Conception of the project: from the idea to the result.
II. ANTHROPOMETRY	Topic 4. Fundamentals: Dimension distribution to optimize products.
III. ERGONOMICS	Topic 5. Principles: Human factor interaction in the elements of a system.

IV. INTRODUCTION TO BIONICS	Topic 6. Implementations/Uses.
V. SUMMARY	Topic 7. Recap of the topics covered.
VI. SPECIFIC METHODS OF THE DESIGN PROCESS	Project.

7. STUDENTS WORK TIME PLAN/SCHEDULE

Type of activity	Total hours
Theoretical activities	37,5 hours
Practical activities	20 hours
Other mandatory training activities (conferences, seminars, etc.)	48 hours
Tests	2,5 hours
Student's working hours	30 hours
Internship/work placement preparation	42 hours
Total student's working hours	120 hours

8. METHODOLOGY

Theoretical activities	<p>Lectures that will occupy the first part of the session, where the teacher will introduce the theoretical concepts and their analysis, supported by documentary, audiovisual and other required ICTs. During this presentation, the student will be able to ask questions to solve any doubts that may arise.</p> <p>During the second part of the session, discussion topics will be raised, and they will require students' active participation.</p>
Practical activities	<p>Practical exercises inviting students to reflect on their work will be encouraged, as well as reaching conclusions regarding what has been achieved, always favouring the functional learning process that enables for the practical application of the concepts and knowledge acquired.</p>

Other mandatory training activities (conferences, seminars, etc.)

Students will have support from the fashion workshop, digital tools, modelling, Fab Lab and laboratories for the realization of projects and exercises with the support of specialized teachers. Also, sessions to support the practical classes in which, with a participatory methodology based on self-evaluation and discussion, students can solve questions and advance in the project with the help of a tutor guide.

9. EVALUATION AND GRADING CRITERIA AND INSTRUMENTS

Work to be assessed:

1. Learning to understand the basic principles of anthropometry and ergonomics.
2. Knowing how to identify the basic concepts of introduction to bionics.
3. Knowing how to handle and use the different tools of the fundamentals of design from a multidisciplinary approach.
4. Knowing how to identify the functioning of the perceptual process.
5. Learning how to apply the tools required throughout the creative processes.
6. To be able to develop, evolve and materialise a conceptual idea (working from the abstract to the concrete).

The evaluation assessment must be designed and planned in a manner that integrates it within the teaching/learning training activities.

The assessment of students learning ought to be continuous, personalized and integrative:

- Continuous: in that it is integrated into the teaching-learning process and consequently is not limited by dates or specific situations.
- Personalised: since it must take into account the capacities, skills and the student's attitude. Special attention will be paid to the student's participation in work groups.
- Integrative: in that it requires taking into account the general capacities established for each stage, this will be done through the objectives in the different units and areas.

Students' learning will be assessed in relation to the achievement of the educational objectives that are specified in the course syllabus, and associated to the general and specific objectives, taking as an immediate reference the evaluation criteria established for each learning area.

To assess students learning process we need to:

- Assess their curricular competence (abilities and aptitudes).
- Assess the factors that hinder or facilitate good learning.
- Encourage self-evaluation and co-evaluation of students amongst themselves, as a source of critical analysis of their results, to allow for changes in attitude and for their improvement.
- Value the learning context in which the student develops.

9.1. EVALUATION/ASSESSMENT TOOLS

Theoretical activities	Student will be expected to have an active role in the classroom, sharing thoughts and experiences. Mandatory tutorials as a follow-up to exercises.
Practical activities	Projects and works based on the perception and experimentation with the concepts explained in the classroom will be assessed. Students will be encouraged to carry out and develop a specific project where they will develop exercises linked to the subject.
Other mandatory learning activities (conferences, seminars, etc.)	Active attendance to workshops, seminars, exhibitions, conferences or webinars sharing points of view and knowledge with the classroom.

9.2. EVALUATION CRITERIA

Theoretical-practical activities	<p>Active attention and understanding during explanations. Showing initiative to contribute with own opinions and constructive criticism.</p> <p>Punctuality and quality throughout the research process, in the follow-up of the exercises during tutorials.</p>
Practical activities	<p>The assessment of the practical work will deal with:</p> <ul style="list-style-type: none"> ● The correct practical use of the theoretical tools shown in the classroom. ● Careful execution. ● Crafted conceptualization. ● Contributions. ● Punctual handing-in of work. <p>When the final project is handed in, the following will be assessed:</p> <ul style="list-style-type: none"> ● Punctual handing-in of work in tutorials. ● Visual presentation ● Oral presentation ● Communicative tools used ● Contributions
Other mandatory learning activities (lectures, seminars, etc.)	We shall value that the student applies the knowledge acquired in workshops, seminars, expositions, conferences or webinars, to the work and projects of the course.

9.3. GRADING CRITERIA

1. The evaluation system to be used in the subject/course is adapted to the continuous evaluation model.
2. In the continuous evaluation system, class attendance is compulsory, and students must comply with a percentage of activity in the presence of the teacher, which is estimated to be 80%.
3. If the student does not meet the criteria for continuous evaluation, they will be graded in an evaluation process with a loss of continuous evaluation - they will present the projects requested during the course and a specific test for this call, and, their corresponding relative weights are shown in section 9.3.1 and 9.3.2 of this guide.
4. In any case, the student will take an extraordinary exam call - the structure, evaluation instrument and grading criteria for said exam is explained in section 9.3.3 of this guide.
5. To pass the subject/course, the student must meet the requirements of the weighting of the evaluation instruments defined in points 9.3.1, 9.3.2 and 9.3.3.3.

9.3.1. Assessment tools for the weighting of grades in the continuous assessment process

Tools	Weighting of grades
Weekly practical exercise presentation	40%
Development and follow-up of final project	35%
Critical and well-argued participation in debates, tutorials and workshops	5%
Development and presentation of final project for this subject.	20%
Total	100%

9.3.2. Assessment tools for the weighting of grades in the evaluation process following a loss of continuous assessment/evaluation

Tools	Weighting of grades
Presentation of the exercises and final project.	60%
Presentation of the specific test for the evaluation in case of a loss of continuous evaluation.	40%
Total	100%

9.3.3. Assessment tools for the weighting of grades in the extraordinary evaluation process

Tools	Weighting of grades
Presentation of practical exercises and Final Project	60%
Presentation of the specific test for the extraordinary evaluation	40%
Total	100%

9.3.4. Weighting of grades in the evaluation process for students with a disability

When the evaluation tools are adapted for this purpose, all the different types of disability must be taken into account.

Tools	Weighting of grades
These shall be determined taking different types of disability into consideration	
Total	100%

10. TIME PLANNING OF THE CONTENTS, TEACHING METHODOLOGY AND ASSESSMENT EVALUATIONS

Session	CONTENTS, CONNECTED TEACHING METHODOLOGY, AND EVALUATION TOOLS		Total hours	Total hours
			presence-based	non-presence-based
Session 1	Introduction to the subject			
	Theoretical activities	Master class developing the specific agenda of the section (Methodology and contents of the subject).	2,5 hours	
	Evaluation	Proactive attitude in the classroom		
Session 2	TOPIC 1: Creative Process			
	Theoretical activities	Master class, which will develop the specific topic of the section. (Theory, method, research and experimentation.)	2,5 hours	
	Practical activities	Students will have to put into practice the knowledge acquired, through a series of set exercises.		2 hours
	Other learning activities	Attendance to the project workshops.	4 hours	
	Evaluation	Proactive attitude in the classroom.		
Sessions 3 & 4	TOPIC 2: Briefing & counter briefing			
	Theoretical activities	Master class, which will develop, in the first half, the specific topic of the section.	5 hours	
	Practical activities	Students will have to put into practice the knowledge acquired, through a series of set exercises.		4 hours

	Other learning activities	Attendance to the project workshops.	4 hours	
	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Follow-up and revision of the practical case-study.		

Sessions 5 to 7	TOPIC 3: Project conception/design			
	Theoretical activities	Master class, which will develop, in the first half, the specific topic of the section.	2,5 hours	
	Practical activities	Practical session. Students will put into practice the knowledge acquired, through a series of set exercises.	5 hours	6 hours
	Other learning activities	Attendance to the project workshops.	4 hours	
	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Verifying and testing the case-study.		

Sessions 8 to 10	TOPIC 4: Fundamentals			
	Theoretical activities	Master class to further develop the specific topic of the section.	2,5 hours	
	Practical activities	Practical session. Students will put into practice the knowledge acquired, through a series of set exercises.	5 hours	6 hours
	Other learning activities	Attendance to the project workshops.	4 hours	
	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Verifying and testing the case-study.		

Sessions 11 to 13	TOPIC 5: Principles			
	Theoretical activities	Master class to further develop the specific topic of the section. Compulsory tutorials.	2,5 hours	
	Practical activities	Practical session. Students will put into practice the knowledge acquired, through a series of set exercises. Introduction to the project.	5 hours	6 hours
	Other learning activities	Attendance to the project workshops.	4 hours	

	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Verifying and testing the case-study.		
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Sessions 14 to 16	TOPIC 6: Implementation			
	Theoretical activities	Master class to further develop the specific topic of the section. Compulsory tutorials.	2,5 hours	
	Practical activities	Practical session. Students will put into practice the knowledge acquired, through a series of set exercises. Project development.	5 hours	6 hours
	Other learning activities	Attendance to the project workshops.	4 hours	
	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Verifying and testing the case-study.		

Sessions 17 to 19	Recapitulation of the topics covered			
	Theoretical activities	Master class, which will develop the specific topic of the section. The teacher will display documents and images and analyse them using the necessary ICTs. Compulsory tutorial.	7,5 hours	
	Practical activities	Preparing the practical work. Students will put into practice the knowledge acquired, through a series of set exercises. Project development.		6 hours
	Other learning activities	Attendance to project workshops. Specific workshop to develop the project.	10 hours	
	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Verifying and testing the case-study.		

Sessions 20 to 21	Projects			
	Theoretical activities	Compulsory tutorial.	7,5 hours	
	Practical activities	Producing the practical case-study. Project development.		6 hours
	Other learning activities	Attendance to project workshops. Develop the final project.	10 hours	

	Evaluation	Proactive attitude in the classroom, sharing knowledge, experiences, and tools provided through attendance to the workshop. Revising and correcting the case-study.		
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Session 22	Final Project development			
	Theoretical activities			
	Practical activities	Mentoring the final project.	2 hours	
	Other learning activities	Attendance to project workshops. Develop the final project.	4 hours	
	Evaluation			

Session 23	Evaluation - Ordinary Call			
	Practical activities	Continuous Evaluation: Project & result evaluation Evaluation following a loss of continuous evaluation/assessment: the evaluation will be based on projects and results, as well as the specific test.	2,5 hours	
	Evaluation			

Session 24	Comments on the Final Results			
	Evaluation	Assessment, comments and information on the results obtained in projects and exercises.	2,5 hours	

11. TEACHING RESOURCES AND MATERIALS

11.1. General Bibliography

Title	Fundamentos del diseño – (<i>English edition title: Principles of Form and Design</i>)
Author	Wong, Wucius
Publisher	Editorial Gustavo Gili S.A., Barcelona

Title	Form follows Idea. An introduction to design Poetics
Author	Ball, Ralph
Publisher	Black Dog Publishing

Title	An introduction to design culture
Author	Sparke, Penny
Publisher	Routledge

Title	Métodos de investigación para el diseño de producto - (<i>English edition title: Product Design (Portfolio)</i>)
Author	Milton, Alex, Rodgers, Paul
Publisher	Blume, 2013

Title	Design Methods
Author	Jones, J. Christopher
Publisher	John Wiley & Sons, 1970

Title	Recetario industrial - (could not find English title)
Author	Hiscox, G. D. Hopkins, A. A.
Publisher	Gustavo Gili, 2007

Title	Diseño y comunicación visual – (<i>English edition title: Design and Visual Communication.</i>)
Author	Munari, Bruno
Publisher	Gustavo Gili, 1985

Title	Diseño e investigación – (<i>English edition title: Research and Design</i>)
Author	Seivewright, Simon
Publisher	Gustavo Gili, 2013

Title	Cuando todos diseñan – (<i>English edition title: Design, When Everybody Designs: An Introduction to Design for Social Innovation (Design Thinking, Design Theory).</i>)
Author	Manzini, Ezio
Publisher	Experimenta, 2015

Title	Diseño eco-experimental – (<i>English edition title: Experimental Eco-Design</i>)
Author	Brower, Cara; Mallory, Rachel; Ohlman, Zachary
Publisher	Gustavo Gili, 2007

Title	Guía de recomendaciones para el diseño de calzado
Author	Instituto de Biomecánica de Valencia
Publisher	Instituto de Biomecánica de Valencia, 1995

Title	Biomímesis – (<i>English edition title: Biomimicry: Innovation Inspired by Nature</i>)
Author	Benyus, Janine M.
Publisher	Tusquets, 2012

Title	Engineered Biomimicry
Author	Lakhtakia, Akhlesh (ed) ; Martín-Palma, Raúl J. (ed)
Publisher	Elsevier, 2013

Title	Biomimicry resource handbook
Author	Baumeister, Dayna; Tocke, Rose; Dwyer, Jamie; Ritter, Sherry; Benyus, Janine M.
Publisher	Biomimicry, 2013

Title	La naturaleza del embalaje
Author	Grijalva, Sergio F.
Publisher	Caligrama, 2018

Title	Strutture naturali e modelli bionici
Author	Bartolo, Carmelo di
Publisher	Istituto Europeo di Design, 1981

Title	Sobre el crecimiento y la forma – (<i>English edition title: “On Growth and Form”</i>)
Author	Thompson, D'Arcy Wentworth
Publisher	Cambridge University Press, 2003

Title	Research and design
Author	Thames & Hudson
Publisher	Thames & Hudson, 2009

11.2. Additional bibliography

Title	La civilización del espectáculo
Author	Vargas Llosa, Mario
Publisher	Alfaguara

Title	El elogio de la sombra – (English edition title: “ <i>In Praise of Shadows</i> ”)
Author	Junichiro Tanizaki
Publisher	Siruela, 2003

Title	Punto y Línea sobre el plano - (English edition title: “ Kandinsky: Point and Line to Plane: Bauhausbucher ”)
Author	Vasili Kandinsky
Publisher	Paidós

Title	Discurso del método - (English edition title: “ <i>Discourse on the method</i> ”)
Author	Descartes, René
Publisher	Alianza, 1994

Title	El método - (English edition title: “ Method: The Nature of Nature ” is the first of several volumes exposing Edgar Morin's general systems view on life and society. There are 6 volumes in the collection of <i>The Method</i> by Edgar Morin.)
Author	Morín, Edgar
Publisher	Cátedra, 1993

11.3. Websites of interest

www.style.com

www.thesartorialist.com

www.katloveme.com

www.katloveme.com