

FIRST LEVEL ACADEMIC DIPLOMA IN *INDUSTRIAL DESIGN AND DESIGN WITH MATERIALS*
COURSE DESCRIPTION (alphabetical order)

Characteristics

Qualification awarded: 1st level Academic Diploma in *Industrial Design and Design with Ceramic and Advanced Materials*

Duration: 3 years

Admission requirements: High school diploma or another qualification awarded in Italy or abroad which is recognised as equivalent.

Entrance test: Theoretical-graphical entrance test to assess attitudes, capacities and the interest of aspiring design professionals.

Available places: 30 of which 2 reserved for priority allocation to non-EU students

Attendance: 80% attendance of total learning activities is compulsory, in addition to individual study.

Language of instruction: Italian

Facility: Faenza, corso Mazzini 93

Credits: 180 CFA (credits)

Training Aims

The purpose of the three-year course for the first level Academic Diploma is to train professionals with the capacity to manage a project, operate in an aware manner and with a critical sense with reference to technological-production, cultural, social and economic factors of project development in the design sector. The specific objective is to enable students to acquire the following skills: a solid basis of historic-critical, scientific, methodological and computer culture for developing and managing projects regarding national identity as well as cultures of the world; the ability to communicate at different levels of expression of technique, language and instrumentation; technological knowledge for the purpose of project development and gauging the feasibility of intellectual products; the ability to carry out the typological analysis of industrial products in order to understand production and socio-economic contexts of reference; an aptitude for innovation and research to favour the natural integration of creative moment, cultural identity and technological development in a project, innovating the profession on the employment market based on demand from the economy for greater focus on national skill and talent for export throughout the world; suitable knowledge for the management of professional activities, to favour access to the world of work, ensure interfacing with economic and production organisation; knowledge of a European language, in addition to mother tongue.

Qualification

Upon completing the degree course, students are awarded the **1st Level Academic Degree in *Industrial Design and Design with Ceramic and Advanced Materials***, equivalent to a Degree (Class L-3) as established by art. 1 paragraphs 102-107 of Law 228, 24th December 2012, Official Gazette 01/01/2013.

This Diploma give students the right to enrol for 2nd level Degree Courses and Masters available at ISIA, at Universities and national Academies of Fine Arts, or European institutions of the same level, in accordance with admissions procedures adopted by single institutions.

In order to obtain the Diploma, students must be awarded 180 credits (CFA), based on procedures specified in Degree Course programmes, and must successfully pass the discussion of their Diploma Dissertation.

Professional figures

Professional profiles of diploma graduates are oriented towards the following: the profession of designer, as freelancers, associates or employees; employment at design departments in small to medium size enterprises; management of the project process, from briefing to execution in cooperation with the production and marketing departments and technicians, with project communication skills, the ability to establish and develop a prototype and carry out feasibility verification; as art director or a person in charge of brand image and its communication; as part of the design department at large manufacturing companies, also with the ability to work in cooperation with any external concept design suppliers, for project process management in specialised organisational fields and within complex production systems; a career as a professional consultant for ideas, trends and projects in the field of design applied to new product research, also in line with increasing demand from the Italian Style market.

Product Design

Main field of study: ISDE/01

3rd year

Lesson hours 100

Credits: 8

Oral exam, presentation of course work

Course integrated with ISDR/03 activity Modelling (50 hours/ 2 credits)

The aim of the course is to provide students with conceptual and instrumental knowledge to activate critical and analytical processes applicable to current design scenarios. In light of contemporary complexities, new methodological approaches will be analysed in order to re-think the characteristics and methods of use of things and spaces which surround us, by means of a project which will be a carrier of thought and quality, capable of transforming ideas into aesthetic experiences. An aware and open project, for evolved living, placing mankind at the centre of research, with all its needs, dreams and future.

Modelling

Main field of study: ISDE/03

3rd year

Lesson hours: 50

Credits: 2

Assessment: presentation of course work and prototypes

The aim of the course is to develop the necessary skills for three-dimensional representation, a fundamental element for project understanding and communication. Simultaneously students will embark upon a personalised route, strictly linked to their project, in which the learning of solid construction techniques, the application of materials used in modelling, the observation of principles used in the reproduction of objects, the use of machinery for rapid prototyping and the processing of surfaces will forge the competencies and operative instruments that are indispensable for manual design. The purpose is to create synergistic action between knowledge and action, the most effective method for responding to current professional requirements.

Ceramic Product Design

Main field of study: ISDE/01

2nd year

Lesson hours: 50

Credits: 4

Exam

Oral exam, presentation of course work

The purpose of the course is for students to develop knowledge and the capacity to design using ceramic materials in different industrial sectors for the application of ceramic materials, starting from the acquisition of basic knowledge up to the creation of models by hand and with the use of 3D printing.

Communication Design

Main field of study: ISDC/05

3rd year

Lesson hours: 50

Credits: 4

Compulsory joint exam with Product Design and Modelling

Oral exam, presentation of course work

The course aims to provide students with cultural reference and project development skills useful for understanding and developing an awareness of communication processes and the ability to create coherent and original solutions to graphic communication problems within the context of a project. This basic course in communication design enables students to tackle fundamental topics of communication and graphic design processes. Students are required to perform individual exercises to heighten their awareness of the communication process and get to grips with issues of a prevalently creative nature.

Automatic design

Main field of study: ISDR/03

3rd year

Lesson hours 50

Credits: 4

Compulsory joint exam with Product Graphics

Oral exam, presentation of course work

The course provides students with a knowledge of computerised tools for 2D and 3D design in the graphics and industrial drawing sectors. The aim of the course is to provide students with the ability to translate projects they wish to develop, in a CAD environment. An overview of techniques and methods for simulations, contextualisations, reverse engineering, basic and

advanced modelling of objects and three dimensional surfaces will be provided, for the definition of presentation sketches, rendering and the elaboration of executive drawings for production.

Drawing and Surveying

Main field of study: ISDR/01

1st year

Lesson hours: 50

Credits: 4

Joint compulsory exam with Drawing and Sign Technique

Oral exam, presentation of course work

The purpose of the course is to develop research activities to identify project development components which give rise to many existing objects which are more or less familiar, the origin of which is often unknown. Graphical analysis is carried out both by free-hand drawing and the verification of relief and geometric drawing. The activity focuses on methods of analysis and drawing, for the purposes of understanding a design project. The experience is about starting from an existing status and tracing back the steps to reconstruct multiple paths: from conception to use.

Drawing and Sign Technique

Main field of study: ISDR/01

1st year

Lesson hours per year: 50

Credits per year: 4

Joint 1st year exam with Drawing and Surveying

Presentation of drawings

The course aims to provide students with a knowledge of essential tools necessary for mastering techniques and languages of representation, especially the technique of free-hand drawing and xylographic sign.

In addition to basic contents (composition, subject/background ratio, light, colour), the course also provides tools for the critical interpretation of the complexities of the projected form as a result of various dynamics, of a pragmatic, conceptual and cultural nature.

Digital 2D and 3D Technical Drawing

Main field of study: ISDR/02

2nd year

Lesson hours: 50

Credits: 4

Joint compulsory exam with Methodology of Project Development II with Physical Modelling

Oral and written assessment

The aim of the course is to enable students to acquire fundamental capacities and skills of digital modelling using the software Cura, Rhinoceros, KeyShot and advanced CAD, useful in the preparation of technical tables, rendering and files for the rapid prototyping of projects developed

during Methodology of Project Development courses. A number of theoretical lessons provide the necessary notions for technical rendition in accordance with UNI standards and on 2D and 3D modelling. Students then go on to autonomously work on practical in-laboratory exercises.

Photography and Post-Production

Main field of study: ISDC/03

1st and 2nd years

Lesson hours per year: 50

Credits per year: 4

Joint exam in 2nd year with Illustration and Instruments and Techniques of Communication

Oral exam, presentation of course work

The course aims to provide students with a solid technical and methodological knowledge of the photographic medium, to enable aware use as a visual communication tool and project development method, for the creation of photographic works as complete texts. The two-year course explores image production methods in the context of contemporary photographic practice, with reference to current theoretical and cultural debates. The course includes practice in the posing room and a laboratory section dedicated to experimentation in the dark room.

Descriptive and Projective Geometry

Main field of study: ISDR/02

1st and 2nd years

Lesson hours per year: 50

Credits per year 4

Compulsory exam 2nd year

Oral exam, presentation of course work

The course is oriented towards the development of a mental process of aware, critically motivated knowledge, essential for the conveyance of rational messages connected to the acquisition of a methodological system that is indispensable for drawers and designers, in order to provide operative answers to creative processes.

The first part of the course consists of theoretical lessons, to enable the acquisition of representation methods which identify the vision and description of an object, both in spatial and geometric form. The second part is based on descriptive applications, such as the verification of methods, advanced investigation and the analysis of topics which are developed in activities pertaining to design.

Product Graphics

Main field of study: ISDC/05

3rd year

Lesson hours: 75

Credits: 6

Joint compulsory exam with Automatic 2D and 3D Drawing

Oral exam, presentation of course work

The course aims to activate methodological procedures and develop skills in the use of visual communication instruments and languages, providing the theoretical foundations and developing them through practical processes and by direct means. A multitude of communication aspects will be identified, culminating in the execution of complete graphical products. Lessons embrace theory and practical application in order to develop an awareness and visual sensitivity in the formal construction of a message. The analysis of project experiences will enable students to acquire a basic knowledge required for the autonomous construction of visual design documents.

Illustration

Main field of study: ISDC/03

2nd year

Lesson hours 75

Credits: 6

Joint exam with instruments and techniques of communication and Photography and post-production

Oral exam, presentation of course work

The aim of the course is to enable students to develop the ability to effectively and rapidly represent forms, materials, ideas and concepts by means of the use of drawing and rapid representation techniques, indispensable for designers. Students will create a comic book for children with the purpose of experimenting with traditional and digital techniques, in total freedom and creativity. A fundamental part of the work process, to be resolved in initial phases, is the creation of drawings and above all the design of elements of an editorial product, from choice of format to text preparation and layout.

English

Main field of study: ISSE/02

1st and 2nd years

Lesson hours per year: 50

Credits per year 4, total 8

2nd year exam

Written and oral assessment

The course aims to promote spoken language fluency and provide access to technical-professional written texts. The programme develops around the in-depth analysis of fundamental linguistic functions drawn from everyday experience. Later, lexical enrichment will be obtained from text books, from the understanding of specialised literature, with simultaneous grammatical and syntactical enrichment.

Mathematics for Design

Main field of study: ISST/01

1st year

Lesson hours: 50

Credits: 4

Joint compulsory exam with IT techniques for design

Written and oral assessment

The course aims to consolidate basic mathematical knowledge so that students acquire abilities and competencies which are useful for the formulation and resolution of calculation, optimisation and choice problems. Students are

also given tips and encouraged to reflect on significant creative and aesthetic components present in many sectors and applications of mathematics, with the examination of applications in the industrial field.

Methodology of Project Development I

Main field of study: ISME/01

1st year

Lesson hours 100

Credits: 8

Compulsory exam

Oral exam, presentation of course work

Course integrated with ISDR/03 activity Modelling (50 hours/ 2 credits)

This preparatory course aims to teach project solving problem systems and is characterised by the application of a methodology grounded in experimentation. The analysis of three topic areas, language, mankind and technology, will be integrated with socio-cultural aspects. During the course, students prepare reports and perform exercises which bring them closer to the project creation process, through models of creative, vertical and lateral thought, while also developing individual capacities and defining logical processes.

Modelling

Main field of study: ISDR/03

1st year

Lesson hours: 50

Credits: 2

Assessment: presentation of course work and prototypes

The aim of the course is to develop the necessary skills for three-dimensional representation, a fundamental element for project understanding and communication. Simultaneously students will embark upon a personalised route, strictly linked to their project, in which the learning of solid construction techniques, the application of materials used in modelling, the observation of principles used in the reproduction of objects, the use of machinery for rapid prototyping and the processing of surfaces will forge the competencies and operative instruments that are indispensable for manual design. The purpose is to create synergistic action between knowledge and action, the most effective method for responding to current professional requirements.

Methodology of Project Development I

Main field of study: ISME/01

2nd year

Lesson hours 100

Credits: 8

Joint compulsory exam with Technical Drawing

Oral exam, presentation of course work

Course integrated with ISDR/03 activity Modelling (50 hours/ 2 credits)

The course is characterised by preparatory-illustrative activities which guide students towards the acquisition of autonomy in project development. Alongside preparation based on a series of practical exercises, a theoretical-informative part is developed in conjunction with companies, with focus on design issues. The course aims to develop critical capacities in students, the ability to

take on commitments, acquire a greater self-awareness, and express one's own personality (development of fantasy and creativity) and the ability to cultivate interests in the project culture sphere.

Modelling

Main field of study: ISDR/03

2nd year

Lesson hours: 50

Credits: 2

Assessment: presentation of course work and prototypes

The aim of the course is to develop the necessary skills for three-dimensional representation, a fundamental element for project understanding and communication. Simultaneously students will embark upon a personalised route, strictly linked to their project, in which the learning of solid construction techniques, the application of materials used in modelling, the observation of principles used in the reproduction of objects, the use of machinery for rapid prototyping and the processing of surfaces will forge the competencies and operative instruments that are indispensable for manual design. The purpose is to create synergistic action between knowledge and action, the most effective method for responding to current professional requirements.

Methodology of Project Development III

Main field of study: ISME/01

3rd year

Lesson hours 100

Credits 8

Compulsory exam

Oral exam, presentation of course work

Course integrated with ISDR/03 activity Modelling (50 hours/ 2 credits)

The course provides students with tools of methodology and knowledge to tackle the topic of interior design, seen not as mere furnishing accessories but as a possibility, by means of what is commonly referred to as design, of conforming an interior free from wall structures. Through the study of modern architecture, useful for understanding and elaborating aesthetic-formal trends in the evolution of behaviours and languages referring to the culture of living, project exercises aim to encourage students to reconsider traditional types of furnishing, develop new conceptions and a different formal vocabulary.

Modelling

Main field of study: ISDR/03

3rd year

Lesson hours: 50

Credits: 2

Assessment: presentation of course work and prototypes

The aim of the course is to develop the necessary skills for three-dimensional representation, a fundamental element for project understanding and communication. Simultaneously students will embark upon a personalised route, strictly linked to their project, in which the learning of solid construction techniques, the application of materials used in modelling, the observation of principles used in the reproduction of objects, the use of machinery for rapid prototyping and the

processing of surfaces will forge the competencies and operative instruments that are indispensable for manual design. The purpose is to create synergistic action between knowledge and action, the most effective method for responding to current professional requirements.

Industrial Ceramic Processes

Main field of study: ISST/03

3rd year

Lesson hours 50

Credits: 4

Mid-course assessment, oral assessment

The course focuses on different industrial processes linked to ceramic production, highlighting its peculiarities, potentials and limits, drawing inspiration from traditional ceramic materials before going on to cover and describe advanced ceramic materials. Processes are examined from raw materials to consolidation, with particular focus on aspects which condition design the most, for example with respect to the limits and possibilities which each material and processing techniques present. A further objective is to apply the student's field of knowledge by introducing them to certain principles regarding 4.0 Manufacturing and Circular Economy.

Metal and Polymer Industrial Processes

Main field of study: ISST/03

3rd year

Lesson hours 50

Credits: 4

Oral Exam

The course aims to place students in contact with issues linked to the transformation and rational use of polymer and metal materials, convey the main elements for evaluating project and production solutions, with particular focus on thermoplastic materials and injection moulding. The main topics covered refer to the most widespread processing techniques for project materials, their general characteristics, particular qualities, limits for use and main sectors of application. Conventional teaching activities are supplemented by visits to plants to discover the latest on base methodologies and special technologies which cannot be ignored by design professionals.

Science of Materials

Main field of study: ISST/02

1st year

Lesson hours 75

Credits: 6

Compulsory exam

Oral Exam

The course provides an introduction to the knowledge of nature and the chemical, physical and technological properties of various materials in view of their use in projects and in relation to chemical and physical phenomena, production processes and possible applications.

After covering fundamental basics for the investigation of materials, taken to mean scientific study, an overview of materials is prepared by means of their definition and classification. Lastly, the most significant properties are examined for current and prospective use.

The course also aims for students to acquire an awareness of environmental properties and to provide the tools required for organising information on productive processes and product life cycles, to select organisational and technological solutions as conditions for sustainable development.

Science and Technology of Materials

Main field of study: ISST/02

2nd year

Lesson hours 50

Credits: 4

Joint compulsory exam with Ceramic technology and Ceramic product design

Oral Exam

The course aims to provide students with knowledge on materials used in design, competencies pertaining to implicit processes and main processing technologies.

The properties of metals and polymers will be studied in further depth, along with their structures and techniques for use. Upon completing the course, students will have developed competencies regarding the structure and properties of materials, polymers in particular.

Semiotics of Design

Main field of study: ISDC/01

1st year

Lesson hours 50

Credits: 4

Oral and/or practical assessment

The course aims to develop critical and analytical skills regarding the logic/ semiotics of design, as an approach to meta-design, based on reasoning and representation tools capable of guiding interaction with complexity.

In addition to function of use, social function (status, image, self-fulfilment), environmental and socio-environmental function (sustainability, harmony and social equity) will also be analysed. Along with the foundations of the semiotic approach to project development, a laboratory part will focus on developing research and self-learning skills, with reference to the scenario concept.

Contemporary Art History

Main field of study: ISSC/01

1st and 2nd years

Lesson hours per year: 50

Credits per year: 4

2nd year exam

Oral Exam

Articulated into a two-year syllabus, the course is dedicated to knowledge of the artistic movements and styles which distinguished 20th century art history, from the "historic avant-garde" in the first half of the Twentieth Century, to new languages and experimental artistic practices of the last few decades, such as photography, videoart, performance and installation. Cultural paradigms and emerging stylistic features in art will be analysed in relation to the historic period and technical-scientific inventions. During both years students will study critical-methodological aspects in greater depth, along with characterising concepts of contemporary art.

History and Critique of Contemporary Design

Main field of study: ISSC/01

3rd year

Lesson hours 50

Credits: 4

Exam

Oral Exam

The course aims to provide students with an overview of the history and theories of design, from the neo-avant-garde in the second half of the Twentieth century, up to the latest trends, with particular focus on the production of Italian design and relations with contemporary art. The analysis will take into account the cultural, social and industrial context, with further analysis dedicated to different issues of design and single authors. By reflecting on the interdisciplinary nature of design, the transversal vision of creative territories aims to activate the capacity for critically interpreting the multitude of factors which determine contemporary project development culture.

History and Culture of Design

Main field of study: ISSC/01

1st and 2nd year

Lesson hours per year: 50

Credits per year: 4

Compulsory exam 2nd year

Oral Exam

The two-year course syllabus aims to provide students with a general overview of project culture in relation with transformations of the socio-economic, technological and artistic-architectonic context, in a period spanning from the mid 19th century to after the Second World War. With the purpose of understanding the concept of design, knowledge of the discipline's founding cornerstones will refer not only to industrial production but also to experiences which go against the current, with the re-activation of artisan procedures or open embracing of critical and experimental drift.

Communication Tools and Techniques

Main field of study: ISDC/02

2nd year

Lesson hours: 50

Credits: 4

Joint exam with Illustration and Photography and postproduction

Presentation of drawings

The course aims to provide students with the concepts and a basic knowledge of image management software and the creation of graphical layouts (Adobe Suite). Issues linked to project methodologies for visual design are also covered, along with others pertaining to theoretical elements regarding the critical analysis of product communication strategies, material or immaterial, the use of characters and layout. As part of a more extensive analysis of new communication systems, some multimedia experiences are also examined.

Computerised Techniques for Design

Main field of study: ISDC/07

1st year

Lesson hours 50

Credits 4

Joint compulsory exam with Mathematics for design

Practical assessment

The course provides students with the technical tools necessary for producing graphic and digital material which is functional for the development and presentation of their own projects. Some theoretical lessons provide the necessary knowledge for the correct management of moodboards, graphic material and layout execution, for the management and digitalisation of press files. As an integral part of the course, students will be required to prepare a presentation book as support for design courses, along with the development of a themed graphic project to be executed autonomously.

Theory of Perception

Main field of study: ISME/03

1st year

Lesson hours 50

Credits: 4

Oral and practical assessment

The course analyses perception phenomena with the aim of providing students with the necessary tools to acquire an awareness of mental processes linked to image elaboration. The analysis of psychological principles and vision mechanisms will be carried out by means of theoretical, philosophical and practical study, delving deeper into topics such as the phenomenon of colour, balance, composition, form, space, light and movement. Works by ancient and modern artists, from the East and West, will be taken into consideration, so as to develop a suitable visual intercultural culture.

Autonomous Student Activities

1st, 2nd and 3rd year

Autonomous activities consist of themed workshops proposed by ISIA. Compulsory attendance at one such event is required once in the 2nd year and once in the 3rd year. Autonomous activities also include supplementary activities organised by ISIA during the entire three-year period (conferences, events, other workshops, etc.) or activities proposed by single students, subject to authorisation from the Academic Council. Attendance of autonomous activities earns credits, based on hours of attendance and subject to approval by the Academic Council, as specified in the programme of studies.

Final Dissertation Assessment

3rd year

Credits: 9

The First Level Academic Diploma dissertation constitutes the final assessment of competencies acquired by the student and must culminate in a project which clearly demonstrates project development aspects and phases as well as research carried out by the candidate, leveraging previous years of study. The final assessment project must also demonstrate aspects of a cultural and socio-economic nature, with particular focus on production and relative market factors. According to preference, the final assessment may be carried out with companies and research centres, to enable "on the field" project verification, to this effect it may also involve internship activities included in the programme of studies. Under such circumstances, the student can be mentored by an external dissertation advisor who operates at universities or partner companies.

The topic of the final dissertation and final method of assessment must be decided with a mentor who teaches at ISIA and they may be supported by one or more advisers, subject to project complexity.