

INTRODUCTION

The purpose of the Diploma Supplement is to provide sufficient independent data to improve the international '*transparency*' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It is free from any value judgements, equivalence statements or suggestions about recognition. This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO.

1 INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 Last name(s)

BETTI

1.2 First name(s)

DAVIDE

1.3 Date of birth (dd/mm/yyyy)

17/03/2000

1.4 Student identification number or code (if available)

936227

2 INFORMATION IDENTIFYING THE QUALIFICATION

2.1 Name of the qualification and title conferred (in the original language)

Laurea in ARCHITECTURAL DESIGN
Dottore

2.2 Main field(s) of study for the qualification

Architecture (L-17)
ISCED code: 0731

2.3 Name (in original language) and status of the awarding institution

Politecnico di Milano (Istituzione statale), Piazza Leonardo da Vinci 32, 20133 Milano

2.4 Name and status of institution (if different from 2.3) administering studies (in original language)

Same as in 2.3

2.5 Language(s) of instruction/examination

Italian

3
INFORMATION ON THE LEVEL AND DURATION OF THE QUALIFICATION
3.1
Level of qualification

First Cycle QF-EHEA - Level 6 EQF

3.2
Official duration of the programme in credits and/or years

180 CFU/ECTS - 3 full time years

3.3
Access requirement(s)

Italian secondary school leaving qualification or other comparable foreign qualification (level 4 EQF)

Admission is based on national selection procedures.

4
INFORMATION ON THE CONTENTS AND RESULTS GAINED
4.1
Mode of study

The course is full time and includes courses made up of lessons and practice, obligatory laboratories, seminars and visits.

4.2
Programme learning outcomes

Graduates will:

- possess adequate knowledge of the history of architecture and building, and related tools and stylistic forms as well as knowledge of the methodological-operational aspects of mathematics and of the other sciences fundamental to the subject matter and be able to use this knowledge to interpret and describe problems regarding architecture and building;
- possess thorough knowledge of the technical, scientific, methodological and operational aspects of the disciplines pertaining to the course chosen and be able to use this knowledge to identify and solve complex problems regarding architecture and building, using up-to-date methods, techniques and tools;
- possess adequate knowledge regarding technical and economic practicalities, cost and production process calculations, and the realization of artisan work for architectural work and building.
- be able to use tools and techniques of the design of architectural and building manufacturing
- be able to effectively communicate, in written and oral form, in at least one European Union language other than Italian.

4.3 Programme details, individual credits gained and grades/marks obtained

Code	Educational activities	SSD Code		CFU/ECTS credits	Recognition	Grade	Date
053339	IC MATHS	MAT/05	4.00	8.00		30 L	23/01/2020
		MAT/07	4.00				
095957	FUNDAMENTALS OF REPRESENTATION	ICAR/17	8.00	8.00		26	03/02/2020
095955	HISTORY OF ARCHITECTURE 1	ICAR/18	8.00	8.00		24	13/02/2020
095748	ARCHITECTURAL DESIGN STUDIO 1	ICAR/14	12.00	16.00		30	17/06/2020
		ICAR/17	4.00				
095956	HERITAGE PRESERVATION FUNDAMENTALS	ICAR/19	4.00	4.00		30	29/06/2020
095968	URBAN PLANNING STUDIO	ICAR/20	4.00	12.00		26	02/07/2020
		ICAR/21	8.00				
095971	ARCHITECTURAL TECHNOLOGY FUNDAMENTALS	ICAR/12	4.00	4.00		27	08/09/2020
053453	WORKSHOP			4.00		--	08/10/2020
052921	BUILDING PHYSICS	ING-IND/11	8.00	8.00		29	15/01/2021
056649	TYPOLICAL CHARACTERS OF ARCHITECTURE	ICAR/14	6.00	6.00		29	28/01/2021
055917	DIGI SKILLS (C) SPACE REPRESENTATION IN DIGITAL ENVIRONMENT	ICAR/17	4.00	4.00		--	30/01/2021
097345	STATICS	ICAR/08	4.00	4.00		27	01/02/2021
097347	HISTORY OF ART	L-ART/03	4.00	4.00		27	18/02/2021
097358	URBAN PLANNING	ICAR/20	2.00	4.00		27	17/06/2021
		ICAR/21	2.00				
055540	ARCHITECTURAL DESIGN LABORATORY 2	ICAR/08	4.00	12.00		30	22/06/2021
		ICAR/14	8.00				
097361	HISTORY OF ARCHITECTURE 2	ICAR/18	8.00	8.00		30	25/06/2021
097366	BUILDING TECHNOLOGY STUDIO	ICAR/12	12.00	12.00		27	08/07/2021
099386	ARCHITECTURAL DESIGN STUDIO 3	ICAR/14	8.00	12.00		30 L	12/01/2022
		ICAR/15	4.00				
099409	MECHANICS OF MATERIALS AND STRUCTURES	ICAR/08	8.00	8.00		21	24/01/2022
050502	INTERIOR DESIGN STUDIO	ICAR/16	12.00	12.00		28	17/02/2022
099507	INTERNSHIP			4.00		--	25/04/2022
053005	FINAL DESIGN WORKSHOP	ICAR/14	4.00	12.00		30 L	16/06/2022
		ICAR/15	2.00				
		ICAR/17	2.00				
		ICAR/19	2.00				
		M-FIL/04	2.00				
099483	PROJECT EVALUATION	ICAR/22	4.00	4.00		29	21/06/2022
082557	FINAL EXAM			4.00		--	21/06/2022
Total CFU/ECTS credits				182			

Thesis/Final Exam

Title	Supervisor	Reference discipline
GREEN BUILDING A MILANO: Analisi del patrimonio certificato LEED 2011-2021	DALL'O' GIULIANO	ING-IND/11 - BUILDING PHYSICS AND BUILDING ENERGY SYSTEMS

4.4 Grading system and, if available, grade distribution table

Individual subjects are graded on a scale from 18 to 30, with 18 and 30 as minimum and maximum grade respectively. A "cum laude" can be added to the maximum grade as a special distinction.

GRADE DISTRIBUTION TABLE

ISCED code: 0731			Architecture (L-17)										First Cycle QF-EHEA - Level 6 EQF	
GRADE	18	19	20	21	22	23	24	25	26	27	28	29	30	30 cum laude
N marks	1768	880	1348	1198	1599	2307	3515	4519	6257	7930	8311	4948	8223	3918
%	3,12	1,55	2,38	2,11	2,82	4,07	6,20	7,97	11,03	13,98	14,64	8,72	14,50	6,91
Cumulative %	100,00	96,00	95,00	92,00	90,00	88,00	83,00	77,00	69,00	58,00	44,00	30,00	21,00	6,00
Years considered: from 01/11/2018 to 31/10/2021									Total number of final marks considered: 56721					

4.5 Overall classification of the qualification (in original language)

Final mark: 110/110

Date 20/07/2022

For I and II cycle programmes the final grade is based on a maximum of 110points, with 66/110 as the lowest passing grade. In case of excellence, 110 cum laude may be awarded. The final grade is based on the curriculum as well as on the final exam.

GRADE DISTRIBUTION TABLE

Architecture (L-17)			
ISCED code: 0731		First Cycle QF-EHEA - Level 6 EQF	
GRADE	N marks	%	Cumulative %
82	2	0.08	100,00
83	2	0.08	99,00
84	1	0.04	99,00
85	7	0.27	99,00
86	8	0.31	99,00
87	11	0.43	99,00
88	17	0.66	98,00
89	8	0.31	98,00
90	27	1.05	97,00
91	19	0.74	96,00
92	25	0.98	96,00
93	41	1.60	95,00
94	49	1.91	93,00
95	61	2.38	91,00
96	70	2.73	89,00
97	90	3.51	86,00
98	82	3.20	82,00
99	91	3.55	79,00
100	177	6.91	76,00
101	100	3.90	69,00
102	143	5.58	65,00
103	147	5.74	59,00
104	157	6.13	54,00
105	158	6.16	47,00
106	141	5.50	41,00
107	153	5.97	36,00
108	153	5.97	30,00
109	99	3.86	24,00
110	259	10.11	20,00
110 cum laude	265	10.34	10,00
Years considered: from 01/11/2018 to 31/10/2021			
Total number of final marks considered: 2563			

5
INFORMATION ON THE FUNCTION OF THE QUALIFICATION
5.1
Access to further study

The qualification grants access to "Laurea Magistrale" (2nd degree), "Corso di Specializzazione di primo livello" (1st level Specialization Course) and "Master Universitario di primo livello" (1st level University Master)

5.2
Access to a regulated profession (if applicable)

This Bachelor Course complies with the path of the EU Directive 2005/36 on the recognition of professional qualifications and allows access to Master's Degree Courses (Class LM-4)

Gives access to the state exam required to practice as: ARCHITETTO IUNIOR, INGEGNERE CIVILE AMBIENTALE IUNIOR

6
ADDITIONAL INFORMATION
6.1
Additional information
Innovative teaching: non-curricular items

Code	Educational activities	SSD Code	CFU/ECTS credits	Recognition	Grade	Date
057818	ESTIMO IMMOBILIARE - REAL ESTATE APPRAISAL		1.00		--	11/07/2022

6.2
Further information sources

<http://www.polimi.it/>; <http://www.miur.it/>;

7**CERTIFICATION OF THE SUPPLEMENT****7.1****Date (*)****7.2****Signature (*)**

Dott.ssa Assunta Marrese

7.3**Capacity**

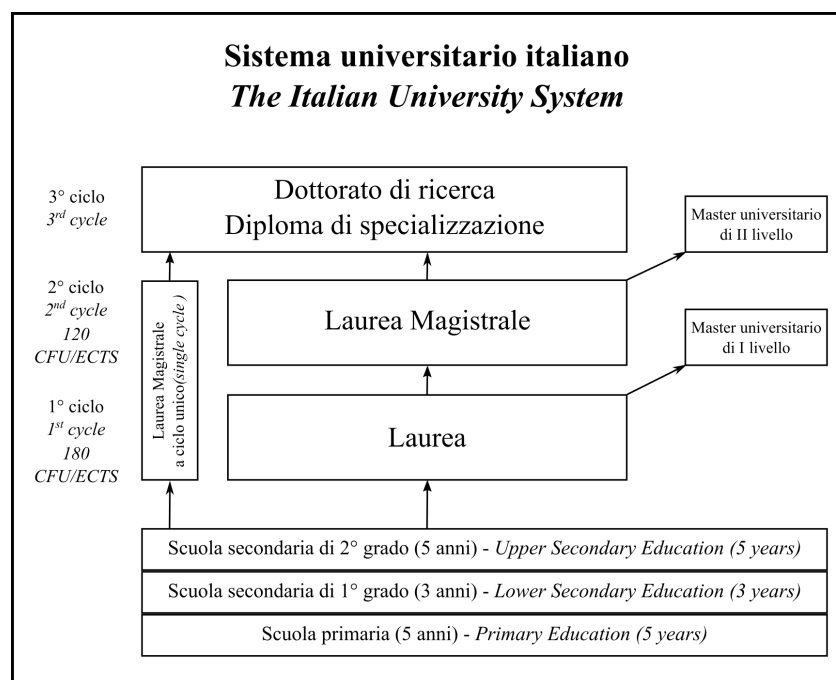
La Dirigente dell'Area Didattica

7.4**Official stamp or seal (*)**

(*) Date, signature and stamp are available only if requested by the holder of the Diploma Supplement

8
INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

The Italian university system is organised in three cycles, according to the Bologna structure: the main academic degrees are the Laurea (1st cycle), the Laurea Magistrale (2nd cycle) and the Dottorato di Ricerca (3rd cycle). The system also offers other study programmes and related qualifications.


First cycle

This cycle consists exclusively of Corsi di Laurea. These degree programmes provide students with an adequate command of general scientific methods and contents as well as with specific professional skills. The general access requirement is the Italian school leaving qualification awarded after completion of 13 years of schooling and passing the relevant State examination; comparable foreign qualifications may also be accepted. Admission to some degree courses may be based on specific course requirements. The studies last 3 years. The Laurea is awarded to students who have gained 180 ECTS credits (called Crediti Formativi Universitari - CFU) and satisfied all curricular requirements, including the production of a final written paper or equivalent final project. The Laurea gives access to the Corsi di Laurea Magistrale as well as to other 2nd cycle study programmes.

Second cycle

The main degree programmes in this cycle are the Corsi di Laurea Magistrale. They provide education at an advanced level for the exercise of highly qualified activities in specific areas. Access is by a Laurea degree or a comparable foreign degree; admission is based on specific course requirements determined by single universities. The studies last 2 years. The Laurea Magistrale degree is awarded to students who have gained 120 ECTS/CFU credits and satisfied all curricular requirements, including the production and public defence of an original dissertation.

Some programmes (namely, those in dentistry, medicine, veterinary medicine, pharmacy, architecture, construction engineering/architecture, law, primary education) are defined "single cycle programmes" (Corsi a ciclo unico); for these programmes access is by the Italian school leaving qualification (or a comparable foreign qualification); admission is based on entrance exams. The studies last 5 years (6 years and 360 ECTS/CFU credits in the cases of medicine

and dentistry). A Laurea Magistrale degree is awarded to students who have gained 300 ECTS/CFU credits and satisfied all curricular requirements, including the production and public defence of an original dissertation.

A Laurea Magistrale degree gives access to Corsi di Dottorato di Ricerca as well as to other 3rd cycle study programmes.

Third cycle

The main degree programmes in this cycle are Corsi di Dottorato di Ricerca (research doctorate programmes); the students/young researchers enrolled in these programmes will acquire methodologies for advanced scientific research, will be trained in new technologies and will work in research laboratories, wherever appropriate. Access is by a Laurea Magistrale degree (or a comparable foreign degree); admission is based on a competitive exam; studies last at least three years and include the completion and public defence of an original research project.

Other programmes

- **Corsi di Specializzazione:** these are 3rd cycle programmes intended to provide students with the knowledge and skills required for the practice of highly qualified professions, mainly in medical, clinical and surgical specialities. Admission is by a Laurea Magistrale degree (or by a comparable foreign degree) and is based on a competitive exam; studies may last from 2 (120 ECTS/CFU credits) to 6 years (360 ECTS/CFU credits) depending on the discipline. The final degree awarded is a Diploma di Specializzazione.
- **Corsi di Master Universitario di primo livello:** these are 2nd cycle programmes intended to provide students with further specialization or higher continuing education after completion of the first cycle. Access is by a Laurea degree (or a comparable foreign degree); admission may be subject to additional requirements. Studies last at least 1 year (60 ECTS/CFU credits). The qualification awarded (Master Universitario di primo livello) does not give access to Corsi di Dottorato di Ricerca or to any other 3rd cycle programme, since this type of course does not belong to the general requirements established at national level, but it is offered under the autonomous responsibility of each university.
- **Corsi di Master Universitario di secondo livello:** these are 3rd cycle programmes intended to provide students with further specialization or higher continuing education studies after completion of the second cycle. Access is by a Laurea Magistrale degree (or a comparable foreign degree); admission may be subject to additional requirements. Studies last at least 1 year (60 ECTS/CFU credits). The qualification awarded (Master Universitario di secondo livello) does not give access to Corsi di Dottorato di Ricerca or to any other 3rd cycle programmes, since this type of course does not belong to the general requirements established at national level, but it is offered under the autonomous responsibility of each university.

CREDITS

Degree courses are structured in credits (Crediti Formativi Universitari - CFU). University credits are based on the workload students need in order to achieve the expected learning outcomes. Each credit corresponds to 25 hours of student workload, including independent study. The average workload of a full time student is conventionally fixed at 60 credits per year. Thus, the CFU fully coincide with ECTS credits

Classes of Degree Courses

All degree programmes of Laurea and Laurea Magistrale sharing general educational objectives are grouped into "classes". In developing the specific learning outcomes of single programmes, Universities have to comply with some national requirements for each class concerning the types (and corresponding amount of credits) of teaching-learning activities to be included. Degrees belonging to the same class have the same legal value.

Academic Titles

Those who receive the Laurea are entitled to be called "Dottore", the holders of a Laurea Magistrale have a right to the title of "Dottore Magistrale", the Dottorato di ricerca confers the title of "Dottore di Ricerca" or "PhD".

Joint Degrees

Italian universities are allowed to establish degree programmes in cooperation with Italian and foreign partner universities, on completion of which joint or double/multiple degrees can be awarded.

Further information

Italian Qualifications Framework (Quadro dei Titoli Italiani - QTI) <http://www.quadrodeititoli.it>



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1**INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION****1.1****Last name(s)**

BETTI

1.2**First name(s)**

DAVIDE

1.3**Date of birth (dd/mm/yyyy)**

17/03/2000

1.4**Student identification number or code (if available)**

936227

2**INFORMATION IDENTIFYING THE QUALIFICATION****2.1****Name of the qualification and title conferred (in the original language)**

Laurea in ARCHITECTURAL DESIGN

Dottore

2.2**Main field(s) of study for the qualification**

Architecture (L-17)

ISCED code: 0731

2.3**Name (in original language) and status of the awarding institution**

Politecnico di Milano (Istituzione statale), Piazza Leonardo da Vinci 32, 20133 Milano

Description of curriculum**IC MATHS**

Code: 053339
Credits: 8.00
Grade: 30 L
Date: 23/01/2020

Subject groups

MAT/05 MATHEMATICAL ANALYSIS, MAT/07 MATHEMATICAL PHYSICS

The programme

The integrated course in Mathematics provides the principles and operational tools of mathematics to approach the study and understanding of the disciplines structural design and architectural morphology and patterns of physical, technological, economic, social and urban planning. The course illustrates the numerical sets and their extensions, the elements of analytic geometry in the plane and in space, linear algebra and its applications, the differential and integral calculus, mathematical models. In addition to providing the tools necessary for the study of cognitive structural disciplines, the course aims to build the logical rigor required for the formation of an architect.

FUNDAMENTALS OF REPRESENTATION

Code: 095957
Credits: 8.00
Grade: 26
Date: 03/02/2020

Subject groups

ICAR/17 REPRESENTATION OF ARCHITECTURE

The programme

The course in Fundamentals of representation provides graphic skills, manuals and technical, necessary for the understanding and the design of architectural space through the basic projective forms of representation, that is, plans, elevations, sections, axonometry and perspective, as well as through non projective forms, and three-dimensional models, physical and digital. The course aims at training and testing the essential knowledge for elaborating graphic representations of projects and built architecture.

HISTORY OF ARCHITECTURE 1

Code: 095955
Credits: 8.00
Grade: 24
Date: 13/02/2020

Subject groups

ICAR/18 HISTORY OF ARCHITECTURE

The programme

The course in History of architecture 1 provides the basic knowledge of the history of architecture, from the antiquity to the first half of the 18th century, and an introduction to the understanding of the language, techniques and knowledge that characterize the different ages and different historical and geographical contexts. The course illustrates the architecture of the time period considered the most significant and analyzes their formal and expressive components, materials and construction, ideological and social. The course aims to form a critical basis for knowledge and understanding of architecture, while also providing specific bibliographies and indicating sources and further reading

ARCHITECTURAL DESIGN STUDIO 1

Code: 095748
Credits: 16.00
Grade: 30
Date: 17/06/2020

Subject groups

ICAR/14 ARCHITECTURAL AND URBAN DESIGN, ICAR/17 REPRESENTATION OF ARCHITECTURE

The programme

The Architectural design studio 1 intends to gradually introduce the student to the complexity of the project by focusing on the theoretical, analytical and instrumental grounds and the necessary knowledge. The student undertakes basic exercises of design and architecture representation through the means of drawing taught in their different techniques and expressive ways. The student acquires basic theoretical, analytical and design skills as well as elements to evaluate and control both characters and quality of spaces and volumes in the different phases of the design process, from the first idea to its formal definition. The student acquires the competence to connect the concept with its representation.

HERITAGE PRESERVATION FUNDAMENTALS

Code: 095956
Credits: 4.00
Grade: 30
Date: 29/06/2020

Subject groups

ICAR/19 CONSERVATION AND RESTORATION OF ARCHITECTURE

The programme

The course in Historical Preservation Fundamentals introduces the theme of conservation and preservation culture in Italy, starting from the etymology of the word "heritage" and its meaning as a collective good transmitted from generation to generation. Preservation is synonymous with protection and care. In the case of the architectural heritage, it is carried out through programs and projects of conservation, reuse and valorisation. Students will gain awareness of the extent of protection - which by law in Italy deals with the cultural heritage and landscape. The course involves students in the process of identifying and defining everything - tangible and intangible cultural heritage - that the past passes on to future generations. The method proposed by the course, applicable to buildings, both contemporary and traditional architecture, is functional to the project and can be enriched and extended.

URBAN PLANNING STUDIO

Code: 095968
Credits: 12.00
Grade: 26
Date: 02/07/2020

Subject groups

ICAR/20 URBAN AND REGIONAL PLANNING, ICAR/21 URBAN DESIGN AND LANDSCAPE

The programme

The Urban Planning Studio introduces urban design through the fundamentals of the discipline as a critical reading of the city and the territory at different scales, knowledge of theories and experiences of urban design and spatial planning of the twentieth century, the understanding of planning instruments in use and legal references and legislation. Further investigation is the understanding of the dynamics of territorial transformation in recent decades and the significant themes of the contemporary city (urban sustainability practices of living, material welfare, urban mobility, public space, redevelopment and reuse, etc.). Through technical preparatory activity, the objective of the workshop is to develop the ability to design and theming material definition of an urban space, experiencing communication techniques and appropriate representation.

**ARCHITECTURAL TECHNOLOGY FUNDAMENTALS**

Code: 095971
Credits: 4.00
Grade: 27
Date: 08/09/2020

Subject groups

ICAR/12 ARCHITECTURAL TECHNOLOGY

The programme

The course in Architectural technology fundamentals provides the basic knowledge on materials, components, building systems, the structure of the building process, the participants and their roles in this process. Students also study the performance and durability of materials, components and construction systems and their mutual interrelationships in terms of requirements for use, environmental compatibility and economy of the system within the building. The aim of the course is to train the abilities and skills of the architect needed to identify the criteria to be taken in the choice between the options of alternative techniques at the design stage and for the entire life cycle of the building.

WORKSHOP

Code: 053453
Credits: 4.00
Grade: --
Date: 08/10/2020

Subject groups

Unavailable

The programme

See section "DETAILS OF INTERNSHIP ACTIVITIES" in this attachment for more information.

BUILDING PHYSICS

Code: 052921
Credits: 8.00
Grade: 29
Date: 15/01/2021

Subject groups

ING-IND/11 BUILDING PHYSICS AND BUILDING ENERGY SYSTEMS

The programme

The main aim of the course in Building physics is the study of the energy and environmental performance of buildings and its consequent connections with urban, architectural and HVAC design. The course deals with the topics essential to understand the interaction between external environment - building - internal environment, exploitation of energy sources (with particular reference to renewables) and fulfillment of environmental comfort (mainly hygrothermal). Requirements for an energy-efficient, eco-friendly and sustainable design will be developed.

TYOPOLOGICAL CHARACTERS OF ARCHITECTURE

Code: 056649
Credits: 6.00
Grade: 29
Date: 28/01/2021

Subject groups

ICAR/14 ARCHITECTURAL AND URBAN DESIGN

The programme

The course in Elements of architectural typology deals with the typological and morphological aspects of architecture, focusing on the relationships with composition and distributional features of buildings and related settlements. By means of the critical analysis of emblematic architectures, cities and parts of the city, design thinking of prominent architects the course provides the knowledge for better understanding the fundamentals and principles of architectural and urban design in a wide historical perspective from ancient to contemporary age. The course allows students to develop a critical point of view on design and its techniques in order to face the project at different scales of complexity.

**DIGI SKILLS (C) SPACE REPRESENTATION IN DIGITAL ENVIRONMENT**

Code: 055917
Credits: 4.00
Grade: --
Date: 30/01/2021

Subject groups

ICAR/17 REPRESENTATION OF ARCHITECTURE

The programme

See section "DETAILS OF INTERNSHIP ACTIVITIES" in this attachment for more information.

STATICS

Code: 097345
Credits: 4.00
Grade: 27
Date: 01/02/2021

Subject groups

ICAR/08 STRUCTURAL MECHANICS

The programme

The course in Statics focuses on the basic concepts in the statics of rigid bodies and of isostatic systems of beams, each conceived as rigid. The determination of the internal actions at a cross-section of a beam is an important topic covered in the course. Common structural typologies are also described and interpreted, starting from elementary examples like the simply supported beam, the cable and the three-hinged arch. The student is led to a first level of understanding of the structural issues so that she/he can make proper choices with regard to bearing structures when carrying out design activities in the studios. The course also gives first hints to the relationship between structural typologies and construction technologies.

**HISTORY OF ART**

Code: 097347
Credits: 4.00
Grade: 27
Date: 18/02/2021

Subject groups

L-ART/03 HISTORY OF CONTEMPORARY ART

The programme

The course in History of art analyses some changes occurred through the Centuries to some fundamental themes of painting and sculpture, referring them to their relationship with architecture. The course does not offer a chronological overview on history of art, but it focuses on some significant episodes in which fundamental characters of a period or of a theme, or the terms of a cultural and aesthetic turn arise. The aim is to propose a method of profound interpretation of art events, taken as samples, in relation to their various historical contexts. Drawing inspiration from the proposed argumentations and iconographical references, students will be encouraged to participate actively by offering their observations and interpretations.

URBAN PLANNING

Code: 097358
Credits: 4.00
Grade: 27
Date: 17/06/2021

Subject groups

ICAR/20 URBAN AND REGIONAL PLANNING, ICAR/21 URBAN DESIGN AND LANDSCAPE

The programme

The course in Urban Planning enables students to approach the theoretical basis and the main research methods of town planning and design. While being a unitary discipline, town planning has been the subject of numerous interpretations that have proposed a number of conceptualizations of its social role, with obvious consequences on its representation (both theoretical and historical) and its professional practices. In the 19th and 20th century, under the pressure of powerful processes of capitalist development, town planning has been oriented to growth and modernization in social, economic and urban terms. Today, new factors such as climate change, population ageing, the long-lasting economic crisis, and the pervasiveness of digital technology, are all contributing to alter the urban and social scenarios, thereby raising new planning questions. The knowledge provided by the course will allow students to integrate and reframe more critically the teaching previously received in the field of urban planning.

ARCHITECTURAL DESIGN LABORATORY 2

Code: 055540
 Credits: 12.00
 Grade: 30
 Date: 22/06/2021

Subject groups

ICAR/08 STRUCTURAL MECHANICS, ICAR/14 ARCHITECTURAL AND URBAN DESIGN

The programme

The Architectural design studio 2 offers a consolidation of basic knowledge by the strengthening of theoretical and technical basis with a special attention to the issue of the relations that the design has to build among places, shapes, typologies, building construction techniques and structures. The unity of the architectural fact - intended as a whole of complex formal contents (typological and morphological), reasons for uses (functional programs and plans), constructive elements (technical, material) - is the permanent reference for the design. In particular, through the analytical use of redesign intended as a tool of knowledge, the Studio intends to deepen the themes of composition and typology of architecture in its relation to the space and the characters of the city. Multiple contributions, within the Design Studio, give structure to the complexity of the design process underlying the need to create complex relations between different faced disciplinary fields and their relative levels of architectural and urban scale. The project applies to medium complexity architectural organisms, located in specific and characteristic urban contexts.

HISTORY OF ARCHITECTURE 2

Code: 097361
 Credits: 8.00
 Grade: 30
 Date: 25/06/2021

Subject groups

ICAR/18 HISTORY OF ARCHITECTURE

The programme

The course in History of architecture 2 deals with the main historical issues related to architecture and urbanism, from the half of the 18th century to the first half of the 20th century. The course will focus in particular on some of the most significant phenomena of Western architectural and urban culture (European and American), including the post-war period, until the present time. The teachers will introduce in the lessons different methodologies of reading buildings and urban contexts, highlighting the plurality of interpretations, between design and history, architecture and transformation of the city. The goal is to initiate the student to the critical reading of architecture and texts, in relation to the main developments of the history of architecture.

BUILDING TECHNOLOGY STUDIO

Code: 097366
Credits: 12.00
Grade: 27
Date: 08/07/2021

Subject groups

ICAR/12 ARCHITECTURAL TECHNOLOGY

The programme

The Building technology studio aims at fostering the ability to manage a relations system, which has to involve - in the process of architectural design - materials, construction systems, detailed techniques, plus environmental and functional requirements, regulations constraints and context characteristics. The project exercise is focused on a building of limited size with a "controlled complexity", developed at the different scales with a constant regard to its feasibility.

ARCHITECTURAL DESIGN STUDIO 3

Code: 099386
Credits: 12.00
Grade: 30 L
Date: 12/01/2022

Subject groups

ICAR/14 ARCHITECTURAL AND URBAN DESIGN, ICAR/15 LANDSCAPE ARCHITECTURE

The programme

The Architectural design studio 3 offers to the student the opportunity to have an in-depth and critical understanding of the context at different scales: local, urban, territorial and landscape. In this context, the project deals with complex situations, in which the settlements, the many functional contents, the typological principles, the architectural form and the appropriate technologies are elaborated. During the project activity, the student, moving from the study and interpretation of the context, comes to the formal and constructive definition of the building at the different scales. By mean of the design of complex architectures, interventions on built environments, urban and landscape renewals, the design studio shapes and organizes the skills related to the modalities of control of the different phases of the design process, from fine tuning of the concept to the drafting of the architectural drawings with sufficient level of deepening and detailing.

MECHANICS OF MATERIALS AND STRUCTURES

Code: 099409
Credits: 8.00
Grade: 21
Date: 24/01/2022

Subject groups

ICAR/08 STRUCTURAL MECHANICS

The programme

The course in Mechanics of materials and structures shows how, using appropriate models that describe in a simplified but essential way the static, kinematic and constitutive aspects determining the structural behaviour in the elastic field, one can predict and interpret the response of a single beam or a simple beam system subject to loads. Some elements of continuum mechanics are given, the study of the stress state being dealt with in more detail. The course also covers concepts and procedures for strength verifications and for buckling verification of compressed elements. In the tutorials, samples of design calculations are illustrated.

INTERIOR DESIGN STUDIO

Code: 050502
Credits: 12.00
Grade: 28
Date: 17/02/2022

Subject groups

ICAR/16 INTERIOR AND EXHIBIT DESIGN

The programme

The Interior design studio investigates interior architecture in its various articulations (adaptive reuse, urban interiors and open spaces, exhibition and furniture design) and on the different scales of critical reading and design intervention identified by the "human dimension" of space. Following on from the critical knowledge of the culture of Interiors, theoretical research develops its contemporary perspectives, while design activities are focused on the reuse of built environments (buildings and open spaces), on the enhancement of cultural and architectural heritage, on diffused systems of territorial rehabilitation. Particularly relevant are the study and the design of public spaces - such as knowledge (education, museums, libraries), work (office, trade, production of goods), religious (churches and interreligious centers), and leisure places - and private ones (the individual house, the residential building). Along with these topics, research by design is also focused on the project of urban and landscape open spaces and collective services for culture.

INTERNSHIP

Code: 099507
Credits: 4.00
Grade: --
Date: 25/04/2022

Subject groups

Unavailable

The programme

See section "DETAILS OF INTERNSHIP ACTIVITIES" in this attachment for more information.

FINAL DESIGN WORKSHOP

Code: 053005
Credits: 12.00
Grade: 30 L
Date: 16/06/2022

Subject groups

ICAR/14 ARCHITECTURAL AND URBAN DESIGN, ICAR/15 LANDSCAPE ARCHITECTURE, ICAR/17 REPRESENTATION OF ARCHITECTURE, ICAR/19 CONSERVATION AND RESTORATION OF ARCHITECTURE, M-FIL/04 AESTHETICS

The programme

The Final design studio aims at providing a complex and multi-disciplinary design experience, and also a problematic openness to practice, culture, contemporary architectural debate. Through a targeted series of design experimentation addressing different scales, the main goal of the Studio is to achieve a synthesis, combining theoretical contents connected to the assigned topic, and applied activities, in order to put into practice the design knowledge acquired in the former design workshop experiences. The design studio emphasizes the centrality of the experience in the design process, which is based on integration and synthesis of the different disciplines, promoting synergies among them, both technical and scientific, humanistic and artistic, in order to integrate and enrich the field of design knowledge from both technological and executive point of view.

**PROJECT EVALUATION**

Code: 099483
Credits: 4.00
Grade: 29
Date: 21/06/2022

Subject groups

ICAR/22 REAL ESTATE APPRAISAL

The programme

The course in Project evaluation focuses on appraisal and valuation. Appraisal deals with theories and methodologies for expressing an opinion of value about properties, business and plants, cost and rate of return forecasting. Valuation focuses on economic and financial feasibility analysis of investments, projects and plans at different scales. Furthermore, it investigates their market and not-market effects on natural and territorial resources by the use of monetary and not monetary evaluation approaches with reference to a broad taxonomy of values. More in deep, students will be addressed to the main methodological applications of the Appraisal principles: analysis of the economic factors employed in the construction process, real estate market survey, opinion of value definition through national and international approaches.

FINAL EXAM

Code: 082557
Credits: 4.00
Grade: --
Date: 21/06/2022

Subject groups

Unavailable

The programme

Thesis exam

**DETAIL OF INTERSHIP ACTIVITIES****Title****SUPPORTO UFFICIO RICERCA E SVILUPPO**

Period: from 01/02/2022 to 22/04/2022
At: THEMA SRL
Place: VERANO BRIANZA (ITALY)
Credits: 4.00

Description

La risorsa, con un affiancamento graduale del responsabile di dipartimento, si occuperà dell'analisi tecnica e strutturale di sistemi di serramenti e facciate in alluminio e della produzione di analisi comparative, anche in autonomia, di dati forniti dalla società e dai consulenti della stessa al fine di proporre le soluzioni necessarie per il raggiungimento degli standard richiesti dai clienti. Inoltre, la risorsa si occuperà dell'elaborazione di tavole grafiche, render, foto-inserimenti e dell'accompagnamento alla proposta tecnico-economica per il cliente. Inoltre, essendo inserito in un contesto di lavoro multifunzionale, imparerà a lavorare in modo flessibile su progetti diversi e in relazione con diverse figure professionali