

GRADUATE STUDY PROGRAMME OF ARCHITECTURE AND
URBAN PLANNING
SYLLABUS

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I. YEAR

1. semester

ISVU	COURSE NAME
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189723	Architecture and Technology I
189725	Sustainable Building 1
189727	Modern Housing
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190879	Research Seminar Architecture 1
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189732	Urban Planning Workshop 1: Planning of Settlements
190881	Research Seminar I: Planning of Settlements

2. semester

ISVU	COURSE NAME
69579	Theory of Architecture 2
189735	Architecture in Croatian Regions - Dalmatia
189724	Architecture and Technology II
189726	Sustainable Building 2
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II. YEAR

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ISVU	COURSE NAME
192512	Auditory Workshop
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192516	Workshop 3: Architectural Design
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4. semester

ISVU	COURSE NAME
192518	Master's Degree Workshop

ELECTIVE COURSES – winter semester 2022/2023

ISVU	COURSE NAME
159654	Architectural Structures of Wooden Houses
79206	Croatian Architects – Authorial Approaches
189205	Surveying and Recording of Built Heritage
148561	Energy-efficiency Improvement of Buildings
79196	English for Architecture 4
189210	Project Domain
79194	Croatian Vernacular Architecture
81949	Industrial Archaeology
162996	Summer school Ambientura
79216	Summer School: Tradition, Creativity and Sustainability – Motovun
159659	Non-normative Housing
189208	Building Form and Thermo-technical Installations
177540	Sustainability in Urban and Spatial Planning
121321	Methods of Rehabilitation and Strengthening of Existing Structures
148676	Practicing Architecture
189209	Materials and Constructions in Landscape Architecture
79201	Sociology of Culture
189219	Contemporary Landscape Architecture
189207	Field Analysis in Built Heritage Preservation
189221	Tourism in Urban and Physical Planning
189223	Traffic Planning and Design Issues
159658	Heritage Urbanism
79193	High-tech Architecture
135434	Buildings for Culture
135433	Buildings for Work
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79211	Sound in Architecture

ELECTIVE COURSES – summer semester 2022/2023

ISVU	COURSE NAME
153537	Architectural Office: Practice and Management
20712	Drawing and Architectural Graphics
189205	Surveying and Recording of Built Heritage
81955	English for Architecture 3
233845	Generative and Parametric Modelling in Architecture
193224	Industrial Archaeology
81951	Engineering Structures
79214	Japanese Spatial Concept
233846	Design Thinking and Spatial Development
181219	Participative Space Design
81954	History of Croatian Urban Planning
159662	Materials and Building Methods before the Industrial Revolution
242079	Adaptability of Buildings
234443	Applied Research Workshop
125988	Religious Architecture, Introduction to Design
248220	Structure and Space. Learning from Architects of the 20 th & 21 st Century
233756	Contemporary Approaches to Urban Design
189207	Field Analysis in Built Heritage Preservation
81953	Urban Sociology
167107	Heritage Urbanism

Learning outcomes of the study programme Graduate Study Programme of Architecture and Urban Planning

Upon completion of the graduate study programme, the student will be able to:

- D1** creatively connect knowledge and methods in the field of technical sciences and arts, as well as social and natural sciences, in the process of researching, designing and implementing an architectural and urban planning solution that meets the aesthetic and technical requirements of the discipline
- D2** make creative decisions regarding the principles of sustainability in architectural and urban planning
- D3** develop a programme of architectural and urban planning design that can be identified in a real, everyday context
- D4** undertake research on the selected topic through the development of an architectural and urban project
- D5** design an architectural and urban planning conceptual design in accordance with a given design programme of considerable complexity within a realistic physical, economic, social, cultural, legislative, technical and artistic context, which meets the requisite aesthetic and technical standards
- D6** interpret theoretical concepts that utilise universal principles to argue in favour of contemporary design decisions.
- D7** utilise the conceptual design, previous and technical documentation in order to interpret the knowledge pertaining to the methods of protection and revitalisation of historical units and the renovation of individual buildings
- D8** in the development of the architectural and urban design project, propose creative solutions for the structure and the appropriate use of materials, technologies, technical, installation, transport and safety systems, with the aim of achieving sustainability and functional efficiency of the whole and meeting the basic requirements for the building, the protection of the building users, the buildings themselves and the environment
- D9** integrate knowledge of physical, technological and functional solutions into the project with the objective of protecting the building from external climatic influences and achieving a comfortable internal microclimate
- D10** independently design components of the architectural, physical planning and technical documentation and integrate these components into a unified whole
- D11** identify the principles and the legal and financial framework of project management and of the organisation of a professional practice
- D12** integrate knowledge of organisational structures, technologies, performance procedures and legal regulations in order to organise, plan and supervise construction and landscaping activities
- D13** organise the work of an architectural and interdisciplinary research or project team of experts with the objective of integrating the results of the team's work into the development and implementation of the project or plan
- D14** plan the continuation of their education by enrolling in postgraduate scientific and artistic studies in the field of architecture and urban planning
- D15** plan and develop personal competencies through continuous monitoring of achievements and by participation in the available training programmes in the field of architecture
- D16** promote the principles of professional ethics and the code of conduct within the context of architectural practice and the legal responsibilities of the architect

1st YEAR

FIRST SEMESTER

Theory of Architecture 1

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Karin Šerman
Course associate(s)	Šerman
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	2.0

Framework of course content

The course presents and explores the conceptual frameworks and theoretical systems that define and inform architectural discourse in the period of modernism. Its scope spans from the period of the Enlightenment, which can be considered the foundation and cradle of Western modern thought, to the establishment of the Modern Architectural Movement and the period of high modernism. The researched theories are approached through selected and contextually discussed architectural examples and related original texts.

Development of general and specific competences – knowledge and skills:

The objective of this course is to provide an understanding of the fundamental theoretical systems and conceptual frameworks that define and inform architectural discourse and action during the modernist period. In addition to communicating basic knowledge from the relevant theoretical and historical areas, the course also addresses the relationship between architecture and its wider social, political and cultural context. It does so by observing and analysing the role of architecture in this established and analysed general context and developing a number of critical tools for thorough understanding and informed architectural intervention in the present challenging and complex moment.

Course curriculum

- 1 Enlightenment and the subsequent shift in paradigms of thought – a new position and role of architecture R. Descartes, C. Perrault, J.-J. Rousseau, Abbé de Cordemoy, Abbé Laugier, J.-G. Soufflot, G. B. Piranesi, C. de Mézières
- 2 Architects of the Revolution – “a visionary generation of architects”: Étienne-Louis Boullée and Claude-Nicholas Ledoux, students of Jacques-François Blondel
- 3 Panopticon and the idea of a direct relationship between spatial form and user behaviour: Jeremy Bentham and Antoine Petit
- 4 Normative and economic construction typology – creating a universal construction methodology: Jean-Nicolas-Louis Durand and “Architecture Tables”
- 5 Gottfried Semper and the question of true architectural style and practical aesthetics
- 6 Art Nouveau I: From Alois Riegl's theory to the idea of a new, free art: H. Guimard, V. Horta, Van de Velde et al.
- 7 Art Nouveau II: Ideas and characteristics of the Vienna Secession – J. Hoffmann, J. Olbrich et al.
- 8 Otto Wagner: between Semperian theory and Art Nouveau freedom
- 9 Adolf Loos and Cultural Criticism
- 10 Modernism and the shock of modernity – consumer society, metropolis and mental life: F. Tönnies, G. Simmel
- 11 The place and role of art in the age of technical reproduction: G. Lukacs, W. Benjamin
- 12 Artistic autonomy vs. social engagement: T. Adorno
- 13 Sigfried Giedion and the utopian vocation of reification: space, time and architecture
- 14 Codification of the modern movement in architecture: S. Giedion, N. Pevsner, Le Corbusier, M. van der Rohe, W. Gropius, H. Meyer and New Objectivity (Neue Sachlichkeit), founding of CIAM, Weissenhofsiedlung

Other forms of teaching and knowledge assessment:

Regular attendance at lectures and engagement with supplementary literature, active participation in discussions.

Compulsory literature

- 1 Kenneth Frampton, *Moderna arhitektura: kritička povijest*, Zagreb, Globus, 1992, selected chapters.
- 2 Robin Middleton and David Watkin, *Neoclassical and 19th Century Architecture 1+2*, Electa/Rizzoli, 1993, selected chapters.
- 3 Karin Šerman, "O problemu istine u arhitekturi: Gottfried Semper i pokušaj ustroja istinskog arhitektonskog sustava", *Prostor*, Year 9 (2001), No. 1 (21), pp. 137–174, Zagreb.
- 4 Walter Benjamin, "Umjetničko djelo u razdoblju tehničke reprodukcije" (1936), translated by Snješka Knežević, in: W. Benjamin, *Estetički ogleđi*, Zagreb, Školska knjiga, 1986.
- 5 Sigfried Giedion, *Prostor, vrijeme, arhitektura*, Građevinska knjiga, Belgrade, 1969.
- 6 Bruno Zevi, *Povijest moderne arhitekture I i II*, Zagreb, Golden marketing & Faculty of Architecture at the University of Zagreb, 2006 and 2010, selected chapters.

Additional literature

- 1 Emil Kaufmann, *Architecture in the Age of Reason*, New York, 1968.
- 2 Gottfried Semper, *The Four Elements of Architecture and Other Writings*, Cambridge, Cambridge University Press, 1989.
- 3 Wolfgang Herrmann, *Gottfried Semper: In Search of Architecture*, Cambridge: The MIT Press, 1984.
- 4 Adolf Loos, "Architecture" (1910) and other essays, in: *The Architecture of Adolf Loos*, London: Arts Council of Great Britain, 1985.
- 5 Theodor Adorno, "On the Fetish-Character in Music and the Regression of Listening" (1938), in: A. Arato and E. Gebhardt, ed., *The Essential Frankfurt School Reader*, New York, 1978.

Requirements for obtaining a signature

Regular attendance at lectures and proficiency in the prescribed literature.

Type of exam

Oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- differentiate the fundamental theoretical systems and conceptual frameworks that define the architectural discourse and action during the modernist period;
- identify the relationship between architecture and its wider social, political and cultural context;
- identify the ideas and elements that condition and direct architectural thought;
- anticipate theoretical critical tools during the development of an architectural project;
- demonstrate the theoretical foundations upon which architectural intentions are based;
- provide a critical assessment of contemporary architectural and urban planning solutions;
- provide a personal and contemporary interpretation of a theoretical concept;
- produce a written explanation of the architectural project, drawing upon the knowledge acquired in the field of theory of architecture.

Learning outcomes of the study programme

D01, D03, D06, D14, D15

European Urban Planning Heritage

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Marko Rukavina
Course associate(s)	Rukavina
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	2
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	3.0

Framework of course content

This course explores the evolution of cities within the European tradition and culture, starting with the earliest examples of urbanization in the ancient civilizations of Mesopotamia and Egypt, and their influence on Europe. It then moves through the classical urbanism of Greece and Rome, medieval city-building, Renaissance theories and the creation of ideal cities, Baroque and Classical concepts, and the urban planning and reconstruction of major cities in the 19th century. The course also examines the development of urban culture in Croatia, showcasing key examples that reflect both the European tradition and the distinct characteristics shaped by local geographical, socio-political, and historical circumstances.

The development of the city is structured chronologically, with a focus on key aspects of urban planning: general features, urban elements (such as squares, streets and public spaces), urban planning theories and theorists, legislation, typology, composition, as well as selected case studies.

Development of general and specific competences – knowledge and skills:

The objective of this course is to provide students with the knowledge and skills to recognise the cultural and historical context of cities, based on their understanding of urban development, and how this context can influence contemporary architectural and urban interventions. Students will also learn to identify enduring urban planning and urban-architectural values and principles that remain applicable today and in the future, regardless of the cultural and historical period, when considering cities and settlements through the perspective of urban planning and architecture. The course seeks to highlight 25 centuries of urban culture and tradition in Croatia, within the broader European context and under various influences.

Course curriculum

- 1 Introduction to the course; Definitions and typology of historic cities
- 2 Prehistoric settlements; Cities of Egypt and the Ancient East
- 3 Cities of Greek civilisation; Greek urban culture in Croatia
- 4 Cities of Roman civilisation; Roman urban culture in Croatia
- 5 Medieval cities in Europe
- 6 Medieval urban culture in Croatia
- 7 Renaissance city-building
- 8 Renaissance cities in Italy
- 9 Renaissance cities in Europe
- 10 Renaissance urban culture in Croatia
- 11 17th and 18th centuries city-building in Europe
- 12 17th and 18th centuries city-building in Europe; Military-baroque urban culture in Croatia
- 13 19th century city-building in Europe
- 14 Urban culture of the 19th century in Croatia
- 15 European urban culture in America from the 17th to the end of the 19th century; European city-building at the beginning of the 20th century

Other forms of teaching and knowledge assessment:

Other than attending lectures, this course does not envisage other forms of teaching.

Compulsory literature

- 1 Obad Šćitaroci, Mladen (2009) *Povijest europskog urbanizma do 20. stoljeća* – lecture summaries; Obad Šćitaroci, Mladen (1998) *Urbanizam III - povijest gradograditeljstva do 20. stoljeća*, script – lecture summaries, Zagreb: Faculty of Architecture at the University of Zagreb (<http://www.arhitekt.hr/skripte>)
- 2 Milić, Bruno (1994) *Razvoj grada kroz stoljeća I – prapovijest/antika*, Zagreb: Školska knjiga, ISBN 86-03-99124-3
- 3 Milić, Bruno (1994) *Razvoj grada kroz stoljeća II – srednji vijek*, Zagreb: Školska knjiga, ISBN 953-0-31641-0
- 4 Milić, Bruno (2002) *Razvoj grada kroz stoljeća III*, Zagreb: Školska knjiga and the Faculty of Architecture at the University of Zagreb, ISBN 953-0-31687-9.
- 5 Bojanić Obad Šćitaroci, Bojana; Obad Šćitaroci, Mladen (2004) *Gradski perivoji Hrvatske u 19. stoljeću – javna perivojna arhitektura hrvatskih gradova u europskom kontekstu*, Zagreb: «Šćitaroci» d.o.o. and Faculty of Architecture at the University of Zagreb, ISBN 953-97121-3-0.

Additional literature

- 6 Knežević, Snješka (1996) *Zagrebačka zelena potkova*, Zagreb: Školska knjiga, ISBN 953-0-60524-2
- 7 Mutnjaković, Andrija (1991) *Ranorenesansni grad*, Zagreb: published by the author
- 8 Mutnjaković, Andrija (1993) *Sretan grad*, Zagreb: published by the author
- 9 Mutnjaković, Andrija (2010) *Arhitektonika pape Sixta V.*, Zagreb: Art Studio Azinović, ISBN 978-953-6271-67-2.
- 10 Sitte, Camillo (2010) *Gradogradnja prema umjetničkim načelima*, Zagreb: Litteris, ISBN 978-953-7250-39-3.
- 11 Suić, Mate (1976) *Antički grad na istočnom Jadranu*, Zagreb: Sveučilišna naklada Liber; reprint: 2003, Zagreb: Golden Marketing.
- 12 Prelog, Milan (1991) *Prostor Vrijeme* (Djela, sv. 1), Zagreb: Grafički zavod Hrvatske.
- 13 Szabo, Gjuro (1920) *Sredovječni gradovi u Hrvatskoj i Slavoniji*, Zagreb: Matica hrvatska, pp. 1–29; reprint.
- 14 Krajnik, Damir (2011) *Preobrazba bastionskih utvrđenja u europskim i hrvatskim gradovima*, Zagreb: Faculty of Architecture at the University of Zagreb, ISBN 978-953-6229-78-9.
- 15 Frampton, Kenneth (1992) *Moderna arhitektura - kritička povijest*, Zagreb: Globus, pp. 22–23, 27–35.
- 16 Rossi, Aldo (1999) *Arhitektura grada*, Zagreb: Biblioteka Psefizma.
- 17 Obad Šćitaroci, Mladen; Bojanić Obad Šćitaroci, Bojana (1996) *Parkovna arhitektura kao element slike grada*, in: *Prostor* (Zagreb), Vol. 4, No. 1(11), pp. 79–94.
- 18 Obad Šćitaroci, Mladen (1992) *Hrvatska parkovna baština - zaštitna i obnova*, Zagreb: Školska knjiga, ISBN 86-03-00085-9.
- 19 *Antički Grci na tlu Hrvatske*, 2010., exhibition catalogue, Zagreb: Galerija Klovićevi dvori, ISBN 978-953-271-043-4.

Requirements for obtaining a signature

Regular class attendance.

Type of exam

Written and oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- identify the cultural-historical, socio-political, and urban-architectural context of the formation and development of cities, not only in Europe but also, by analogy, in other parts of the world;
- apply knowledge to the design and planning of historical parts of cities (protected cultural-historical units, historical cores, and settlements);
- analyse the development and changes of cities and settlements over historical periods;
- recognise and identify elements of urban identity, enduring urban principles, and compare them with similar examples;
- evaluate and critically assess the changes and development processes of cities influenced by functional, engineering-technical, aesthetic, socio-political, cultural-historical and other factors;
- explain and write about the key characteristics of urban development in different cultural-historical periods.

Learning outcomes of the study programme

D04, D05, D06, D07, D14

Architecture and Technology I

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Zorana Protić
Course associate(s)	Biluš; Binički; Duplančić; Mrinjek Kliska; Muraj; Plavec; Protić; Šneler; Veršić; Prodan Abramović
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	3
Field Course (days)	0
ECTS credits:	2.0

Framework of course content

The course content systematically and comprehensively addresses architecture from an engineering and sustainability perspective, examining the impact of contemporary technological concepts and the use of specific materials through an interdisciplinary and integrated design approach. The seminar work emphasises the importance of research-based engagement with the broader technical field, acquiring specialised technical and technological professional knowledge and developing individual tools within the design process.

The course includes the following areas of study: reconstruction and rehabilitation (energy, structural, and functional), concepts of energy-efficient design G0EZ and energy-active buildings, energy renovation of modernist buildings, material-driven design, economically-driven design, high-tech, prefab and modular design, design with innovative and high-tech materials, modern thermo-technical systems using renewable energy sources, physical planning and energy concepts of buildings, bioclimatic design, the use of new technologies – digital prefabrication – 3D technologies, detailed and small-scale design, low-tech contemporary construction and recycled materials, ecological sustainability, contemporary use of traditional and artisanal techniques and materials, alternative building approaches, and low-tech traditional building concepts.

Integrating the knowledge acquired in the undergraduate study programme and through the topics covered in the course Sustainable Building 1, the course emphasises the design process itself rather than the built outcome. The diversity of topics and assignments allows the course to adapt to the dynamic nature of contemporary technological developments, trends and their application in architecture.

Development of general and specific competences – knowledge and skills:

The aim of the course is to foster student independence in research, enabling them to further acquire knowledge and proficiency in navigating the vast field of information and contemporary technologies in architecture, based on sustainable design and building concepts. Students will develop the ability to identify the potential of specific technological concepts and the use of various materials, depending on the requirements of a given project, as well as the ability to apply these in architectural practice. Through a multidisciplinary approach that integrates the conceptual, qualitative, and technological distinctions of various examples, students will be able to use existing knowledge to develop a unique creative approach, where materialisation can become the primary medium of design.

Course curriculum

The course is divided into 7 thematic groups corresponding to different areas of research.

It is better to learn from other people's mistakes than from one's own. – *The course deals with the analysis of derived examples of buildings from the point of view of architectural and construction mistakes. In addition to documenting and presenting the selected example, students will make suggestions in the form of sketches, descriptions and details as to how it should be (correctly) designed or executed.* Mateo Biluš, Assistant Professor of Arts

nZEBARHupunktura – *With the method of acupuncture (energy balancing technique), it is necessary to locate the building, the observation point, within the urban fabric and, using careful engineering interventions, implement mechanical technologies in it in such a way as to preserve the architectural value of the selected example and to improve its energy efficiency.* Vedran Duplančić, Assistant Professor of Arts, in collaboration with Tihomir Rengel, Senior Lecturer, and Damir Prodan-Abramović, Senior Lecturer

Circular approach to building materialisation – *The course situates the materialisation of a building within the broader context of temporality. Research can be conducted at three levels: at the level of construction and space, at the level of joints and details, and at the level of materials. These frameworks examine the concepts of adaptability, durability, sustainability and reusability over time.* Dr. Sc. Neda Mrinjek Kliska, Assistant Professor

User comfort – *The research of the existing condition of buildings focuses on basic parameters, structure, energy parameters, type of use, changes over time and indoor climate. Particular emphasis is placed on identifying factors that influence the quality of indoor comfort for the user. The aim of the research is to investigate the impact of transparent building envelopes on indoor comfort and, consequently, on human health. The shape, size, appearance and arrangement of the building envelope have a significant impact on the external appearance of the building and the spaces within it, as well as the comfort of the user: thermal and acoustic insulation, safety, humidity, visual comfort, solar shading and exposure to daylight.* Dr. Sc. Iva Muraj, Professor

Innovative models in prefabricated and modular construction – *How to build with as few workshop prefabricated elements as possible, which can be easily and quickly handled without the use of sophisticated construction techniques, using simple assembly methods.* Ivica Plavec, Professor of Arts, and Marino Šneler, Senior Lecturer

Hidden Details – *The theme of the semester research is the designed detail. The research focuses on the complex interconnection of structure, material and space in study examples of contemporary spatial practice. What the detail design determines on an abstract level becomes invisible in the material reality. The detail not only determines the technique of execution, the types of materials used and the specifics of their interaction, but also reveals the idea of the house itself. The main part of the semester work is the research of study examples and their deconstruction. The semester concludes with the creation of a model of a characteristic detail of the selected study example.* Zorana Protić, Associate Professor of Arts

Zero Emission Buildings – *The course addresses the assessment of the environmental impact of buildings through the analysis of greenhouse gas emissions. Related topics, such as operational and embodied energy and their connection with the energy efficiency of buildings and the selection of materials, are also discussed. Furthermore, the course covers topics related to energy production in buildings.* Dr. Sc. Zoran Veršić, Professor, and Marin Binički, Senior Lecturer

Other forms of teaching and knowledge assessment:

- seminar paper

Compulsory literature

It is subject to change, reflecting the specific research areas covered in each academic year. It comprises compulsory literature and a reader, which is a compilation of texts.

Additional literature

It is subject to change, reflecting the specific research areas covered in each academic year.

Requirements for obtaining a signature

Regular course attendance and registering a seminar paper topic with the selected supervisor.

Type of exam

A seminar paper on the selected topic submitted by the end of semester.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 01 develop an integrated approach to design, utilising the latest technological innovations for building projects;
 - 02 adopt a creative and systematic approach to architectural design from an engineering and sustainability perspective;
 - 03 creatively connect knowledge and methods in the field of technical sciences and arts, as well as social and natural sciences, in the process of researching, designing and implementing an architectural design solution that meets the aesthetic and technical requirements of the discipline;
 - 04 creatively conceptualise and design energy-efficient building or settlement projects;
 - 05 creatively conceptualise and design architectural details, including the selection of materials and building structures;
 - 06 devise energy and structural concepts for buildings in accordance with ecological and bioclimatic design principles;
 - 07 propose creative solutions for the structure and the appropriate use of materials, technologies, technical, installation, transport and safety systems, with the aim of achieving sustainability and functional efficiency of the whole and meeting the basic requirements for the building, the protection of its users, the buildings themselves and the environment for highly complex building projects.
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Learning outcomes of the study programme
D07, D08, D09, D10, D13, D14

Sustainable Building 1

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Mateo Biluš
Course associate(s)	Begović; Biluš; Duplančić; Mrinjek Kliska; Muraj; Pavlović; Rengel; Prodan Abramović; Protić
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Concept of construction from the point of view of the application of the sustainability methodology.

Areas of focus: sustainable building in general, materials, reconstruction, rehabilitation, projects, installation systems and integration of greenery.

Development of general and specific competences – knowledge and skills:

Students will be introduced to bioclimatic design, the use of contemporary, ecological and traditional materials and installation technologies, the rehabilitation of existing structures based on sustainability principles and the repurposing of historic buildings, the international building rating systems based on basic sustainability concepts, the advanced installation systems and renewable energy sources. The aim is to develop skills in conceptual design that meet contemporary requirements for sustainable building, from basic design approaches to the selection of materials, structures, technical systems and optimal energy sources.

Course curriculum

- 1 Elements of sustainable building and energy characteristics of buildings
- 2 Bioclimatic design approach
- 3 Circular economy in building
- 4 Sustainable building with traditional and recycled materials
- 5 Holistic approach to construction based on the sustainability concept
- 6 Energy rehabilitation of buildings
- 7 Sustainability in 3LHD projects
- 8 Case study of the renovation of a traditional Dalmatian house
- 9 Contemporary thermo-technical systems and renewable energy sources
- 10 Integration of greenery in architecture

Other forms of teaching and knowledge assessment:

Compulsory literature

- Edwards, B; Turrent, D: Sustainable Housing, Principles & Practise, E&FN Spon, London, 2000.
- Roaf, S., Ecohouse 2, A Design Guide; Architectural Press, Linacre House, Oxford, 2003.
 - Gonzalo, R., Habermann, K. J.; Energy-Efficient Architecture, Basis for Planning and Construction, Birkhäuser, Munich, 2006.
 - Andrew Watts: Modern Construction Handbook.; Springer, Wien/New York, 2010.
 - Rowland Mainstone, Developments in Structural Form, Architectural Press; 2 edition (16 October 2001)
 - Klostermeier, C.; Wieckhorst, T.: Umbauen, Sanieren, Restaurieren, Bauhandwerk Band 1, Bauverlag BV GmbH, Gütersloh, 2006.
 - Feireiss K., Feireiss L. (2008), Architecture of Change – Sustainability and Humanity in the Built Environment, Die Gestalten Verlag
 - Cost-Effective Building, Christian Schittich (ed.), Edition in Detail, 2009.
 - Bauen im Bestand, Schäden, Massnahmen und Bauteile – Katalog für die Altbauerneuerung, Bundesarbeitskreis, Altbauerneuerung e.V. (BAKA), Institut für Bauforschung e.V. (IFB), Rudolf Müller GmbH & Co.KG, Cologne, 2006

Additional literature

Supplementary literature is provided by each supervisor depending on the selected topic.

Requirements for obtaining a signature

Regular class attendance.

Type of exam

The student has to pass the parallel research course in the technical field of Architecture and Technology I.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 1 support the bioclimatic approach in architectural and urban planning projects;
- 2 evaluate buildings based on the sustainability concept and applied technological solutions;
- 3 identify advanced installation systems and renewable energy sources;
- 4 interpret the principles of sustainable building in contemporary architectural and urban solutions;
- 5 promote the importance of the sustainability concept in all elements of architectural and urban planning solutions.

Learning outcomes of the study programme

D01, D02, D08, D09, D13, D16

Modern Housing

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Alenka Delić
Course associate(s)	Delić
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Housing is one of the most important aspects of the development of urban life. The construction of new housing and the renovation of existing housing units and neighbourhoods are among the most pressing social issues in society. From an economic perspective, the strategy for building new and renovating existing housing resources is one of the key factors in housing development. The extension of traditional forms of housing with new ways of living in the city requires continuous research into new housing typologies. New (experimental) spatial systems will be explored in accordance with the changing needs, desires and aspirations of housing users; multifunctionality of use, individualisation of multi-dwelling housing, participation, implementation of ICT, contemporary design using the latest available technologies; "intelligent" environment and living spaces in line with sustainable development strategies and ecological approaches.

Development of general and specific competences – knowledge and skills:

Students will be familiarised with the issues surrounding the building of multi-dwelling housing in the context of socio-economic changes in society. They will be taught to design high quality innovative solutions that address changing housing needs in line with social and economic changes, alongside sustainable development strategies and ecological approaches.

Course curriculum

- 1 – Course introduction.
- 2 – Modernism in Croatia and Europe
- 3 – Global urbanisation – new visions
- 4 – Transformation of the family
- 5 – How to write a seminar paper – guest lecturer
- 6 – Croatia – Zagreb – urbanisation
- 7 – Croatia – Zagreb – population – social profile
- 8 – Intelligent and sustainable housing
- 9 – Height and density
- 10 – New directions in multi-dwelling typology
- 11 – Globalisation, individualisation and ICT
- 12 – Housing for different social groups
- 13 – Interchangeability/flexibility in multi-dwelling housing
- 14 – Flexibility/variability/adaptability in design of the home
- 15 – Living environment

Other forms of teaching and knowledge assessment:

Regular attendance at lectures and engagement with supplementary literature, active participation in discussions.

Compulsory literature

1 Bruno Zevi: Znati gledati arhitekturu – ogled o interpretaciji prostora u arhitekturi Lukom d.o.o., 2000.

2 Migayrou F., Brayer M. – ArchiLab –Radical Experiments in Global Architecture Thames&Hudson, London, 2001.

3 Gausa M. – Housing: new alternatives – new systems

Birkhauser Publishers, Basel, Boston, Berlin, Actar, Barcelona, 1998.

4 Radermacher F. J.: Ravnoteža ili razaranje, Eko-socijalno-tržišno gospodarstvo kao ključ svjetskog održivog razvoja Intercon – Nakladni zavod Globus, Zagreb 2003.

Additional literature

Requirements for obtaining a signature

Regular class attendance and a seminar paper.

Type of exam: Written exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to independently:

- define the problems related to the building of multi-dwelling housing and the social profile of society;
- interpret the quality of multi-dwelling housing solutions and housing policies;
- apply knowledge of multi-dwelling housing, together with contemporary technical and technological solutions, to explore new housing typologies;
- evaluate strategies for constructing new housing resources and renovating existing ones;
- design high quality innovative solutions that address changing housing needs in line with social and economic changes, alongside sustainable development strategies and ecological approaches.

Learning outcomes of the study programme

D01, D02, D03, D04, D05, D06

Architectural Design Workshop I – Housing+

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator: Branimir Rajčić
Course associate(s)	Miščević; Ergić; Jošić; Rajčić; Pelivan; Ilić; Virag; Kasun, Modrčin; Delić; Horvat
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	8
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	11.0

Framework of course content

Development of general and specific competences – knowledge and skills (course objectives)

The course aims to deepen and integrate the knowledge and skills acquired during the undergraduate study programme through research work on the complex programme of building multi-dwelling housing. It aims to develop the ability to tackle complex projects that meet functional, technical and aesthetic requirements, by understanding human needs, the relationship between humans and their environment, and the increasing demands for sustainable architecture and energy and environmental conservation measures, as well as construction and technical-technological challenges. New housing concepts will be explored, where flexibility, ecology (sustainable development) and virtuality are of paramount importance.

Course curriculum

The Architectural Design Workshop 1 is based on a research approach to housing issues. The workshop includes focused seminars, presentations and discussions throughout the semester, culminating in a final project presentation and defence. 1 Introductory research – defining the assignment 2 Concept presentation 3 Design solution 4 Exhibition and presentation of works

Other forms of teaching and knowledge assessment:

Compulsory literature: As per the recommendation of the course lecturer and in relation to the semester topic

Additional literature: As per the recommendation of the course lecturer and in relation to the semester topic

Requirements for obtaining a signature: Regular class attendance, submission and presentation of the project.

Type of exam: Students' knowledge is assessed through successfully completed project assignments.

Learning outcomes of this course

The student will be able to:

- independently design a complex conceptual architectural and urban planning design solution for a hybrid complex intended primarily for residential use;
- create technical and technological solutions for the architectural object based on spatial-functional concepts;
- integrate acquired theoretical knowledge with creative choices;
- link the research process within the thematic framework to the design process;
- categorise the relationship between the architectural object, its environment and social relations;
- develop the ability to make reasoned decisions related to the design process;
- explain the architectural project, both in writing and orally, using the necessary conceptual, professional and technical representations.

Learning outcomes of the study programme

D01, D03, D04, D05, D06, D09, D10, D14, D15

Research Seminar Architecture 1

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Leo Modrčin
Course associate(s)	Mrduljaš; Barović; Krmpotić Romić; Čeko
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	1
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Selected texts by different authors, divided into themes, are read, analysed, discussed and applied. Topics are freely chosen and explored in relation to contemporary issues in architecture as a discipline.

Development of general and specific competences – knowledge and skills (course objectives)

Selected texts by different authors, divided into themes, are read, analysed, discussed and applied. Topics are freely chosen and explored in relation to contemporary issues in architecture as a discipline.

Course curriculum

Other forms of teaching and knowledge assessment:

Regular attendance at lectures and engagement with supplementary literature, active participation in discussions.

Literature:

In consultation with the lecturer, according to the chosen topic

Requirements for obtaining a signature

Regular class attendance, research, essay

Type of exam: Written and oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to independently:

1. compare different interpretations of architecture and various architectural works;
2. interpret the architectural stances of theorists and practitioners in the field;
3. present an architectural theme through writing, models, film, or other appropriate media.

Learning outcomes of the study programme D04, D06

Physical Planning

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Lea Petrović Krajnik
Course associate(s)	Petrović Krajnik
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Characteristics of physical planning – society and space, planning and space, ethical foundations of physical planning, spatial objectives, instruments for implementing spatial design. Physical planning theories and methods. Europe in the world – spatial relations. International organisations and documents on physical planning. Trends and scenarios of territorial development in Europe. Physical and strategic planning in European countries. European integration, development characteristics and physical planning in the Republic of Croatia. Spatial design and spatial economics. Demographic and social characteristics in physical development planning. Information systems for spatial design. Transport as a factor of economic and social development. Regional transport and infrastructure systems. Land use and transport networks. Physical form of cities and transport. Regionalisation, regionalism and urban regions in Europe. Territorial division of space. Macro-regional strategies and territorial development scenarios. Urban systems. Urbanisation in Europe and characteristics of territorial development. Urban and rural space. The city and its agglomeration. Marine physical planning. Physical planning in the Republic of Croatia. Position and definitions of the Spatial Development Strategy of the Republic of Croatia. This course is thematically linked to the theoretical courses Introduction to Physical Planning and Architecture and Urban Planning Legislation.

Development of general and specific competences – knowledge and skills:

The Physical Planning course provides knowledge of the fundamental links between spatial development in the Republic of Croatia and territorial development planning in Europe, as well as physical planning in European countries. By comparing methods, contents and approaches to the development and presentation of physical plans, students will gain an understanding of spatial processes, especially in relation to spatial changes in line with the perspectives of EU development. The course covers knowledge from the European level to transnational, national, regional and local levels, as well as specific issues addressed by international organisations and associations related to planning and sustainable development. The course aims to deepen knowledge of the importance and necessity of physical planning, to establish criteria and procedures for the development and protection of space, and to improve understanding of the conditions imposed by European, national and regional guidelines and definitions of planned spatial development.

Course curriculum:

1 Introductory lecture – space; 2 Theory of physical planning; 3 International organizations, documents and starting points of physical planning and sustainable development; 4 Territorial planning in Europe – scenarios and visions for development; 5 Physical and strategic planning in European countries; 6 Physical planning in Slovenia; 7 ESPON research; 8 Transport and infrastructure systems; 9 Information systems for physical planning; 10 Regions and regionalisation; 11 Macro-regional strategies and territorial development scenarios; 12 Urban systems; 13 Urban space planning; 14 Rural space planning; 15 Marine physical planning.

Other forms of teaching and knowledge assessment:

- written exam
- oral exam

Compulsory literature

Marinović-Uzelac, A. (2001) Prostorno planiranje, Zagreb: Dom i svijet
Pegan, S. (2019) Prostorno planiranje, compendium predavanja, AF

Additional literature

- Adams, N. & Alden, J. (2006) *Regional Development and Spatial Planning in a Enlarged European Union*, England, Ashgate Pub.Ltd.
- Altrock, U., et al.(eds.) (2006) *Spatial Planning and Urban Development in the New EU Member States: From Adjustment to Reinvention*, Ashgate Publ. Ltd.
- Birch L. E. (ed.) (2009) *The Urban and Regional Planning (Reader)*, London, New York: Routledge
- Campbell, S. (ed.) (2003) *Readings in Planning Theory*, USA: Wiley-Blackwell; 2nd ed.
- EU Kommission (1999) *Europäisches Raumentwicklungskonzept: Auf dem Wege raumlich ausgewogenen und nachhaltigen Entwicklung der Europäischen Union*
- Evans, A. W. (2004) *Economics&Land Use Planning*, Blackewll Pub.
- Faludi, A. (ed.) (2002) *European Spatial Planning*, Lincoln Institute of Land Policy, Cambridge Massachusetts
- Fujita, M. et al. (1999) *The Spatial Economy; Cities, Regions and International Trade*; Cambridge, Massachusetts, London England: MIT Press
- Hall, P. (2002) *Urban and regional planning*, London: Routledge
- Hrvatski zavod za prostorni razvoj (2017) *Strategija prostornog razvoja RH*
- Kunzmann, R. K. (2006) *Reflexionen über die Zukunft des Raumes*, Dortmund: IRPUD
- Langenhagen – Rohrbach, C. (2006) *Raumordnung und Raumplanung*, Darmstaadt: WBG
- Larsson, G. (2006) *Spatial planning Systems in Western Europe: An Overview*, IOS Press
- Maier, G. & Tödting, F. (2012) *Regional-und Stadtökonomik 1: Standorttheorie und Raumstruktur*, Wien: Springer Verlag
- Maier, G., et al. (2010) *Regional-und Stadtökonomik 2: Regionalentwicklung und Regionalpolitik*, Wien: Springer Verlag
- McLoughlin, J. B. (1969) *Urban and Regional Planning: A Systems Approach*, London: Faber & Faber
- Ministarstvo prostornog uređenja, graditeljstva i državne imovine (Ministry of Physical Planning, Construction and State Assets) (2021), *Izvešće o stanju u prostoru RH za razdoblje 2013.–2019. godine*
- Ministarstvo regionalnoga razvoja fondova Europske unije (2021) *Nacionalna razvojna strategija RH do 2030. godine (NRS)*
- Šimunović, I. (2007) *Urbana ekonomika*, Zagreb: Školska knjiga
- Šimunović, I. (1996) *Grad u regiji ili regionalni grad*, Split: Logos
- Thornley, A. & Rydin, Y. (2002) *Planning in a Global Era*, London: Routlegde.
- Vresk, M. (2009) *Grad i urbanizacija*, Zagreb: Školska knjiga
- Vrsek, M. (1990) *Osnove urbane geografije*, Zagreb: Školska knjiga
- Webster, C., et al. (2003) *Property Rights, Planning and Markets, Managing Spontaneous Cities*, E.E.Publ.Inc.

Requirements for obtaining a signature: Regular class attendance.

Type of exam:

- oral exam
- written exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 1 identify the social, economic, ethical and other foundations of physical planning;
- 2 support the significance of physical planning;
- 3 recognise the criteria and procedures for spatial development and protection;
- 4 distinguish between the elements, classifications and organisation of planned space;
- 5 list the instruments for implementing physical planning;
- 6 highlight significant examples relevant to contemporary understanding of physical planning processes;
- 7 compare physical planning solutions with established examples.

Learning outcomes of the study programme

D06, D10, D14, D15, D13, D16

Urban Planning Workshop 1: Planning of Settlements

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator: Petrović Krajnik
Course associate(s)	Krajnik; Gašparović; Ivanković; Šmit; Karač; Mlinar; Žunić, Sironić
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	4
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The assignment within the course **Urban Planning Workshop 1** explores the possibilities for sustainable spatial development of a part of a city or a smaller settlement (with a population of 10 000 to 15 000 people) over a 10 to 15 year period. This assignment is thematically linked to the course Physical Planning. Based on a pre-defined concept of spatial development, a detailed programme is developed and an urban development plan is drawn up. The focus is on planning areas that are primarily intended for non-residential purposes (such as commercial, business, retail, etc.).

As part of the project, which will be based on the level of detail required by the urban development plan, students will be expected to develop:

- land use designations for specific parts of the settlement (or city);
- a proposed building structure;
- areas for the protection of the cultural, historical and natural heritage;
- a system of urban public spaces (squares, urban forests, parks, promenades, etc.);
- solutions for parking facilities (car parks, garages, etc.).

Development of general and specific competences – knowledge and skills:

Students will become familiar with the methodology of preparing an urban development plan (scale 1 : 5000) for part of a city or a smaller urban unit (settlement).

They will be trained to establish planning assumptions and development possibilities for the given area while respecting its cultural, historical and natural heritage.

The course involves the creation of urban planning solutions with complex spatial, functional and design characteristics, focusing on non-residential purposes (such as business, retail, etc.).

Course curriculum

As an open form of work and teaching, the workshop enables and encourages students to develop analytical and critical thinking about the programme, the medium they are using and the cultural situation. The role of the supervisor is to help the student to define the problem and its context and to present it as a question to be explored by the student through the proposed design.

Elements of the assignment:

- 1 Analysis (of the existing situation, physical planning documentation, etc.)
 - 2 Evaluation of construction and landscape features (natural values, built heritage, tourism and development possibilities, etc.)
 - 3 Problem chart
 - 4 Planning programme – numerical indicators
 - 5 Development concept proposal (spatial development of a settlement or part of a settlement with basic spatial and functional solutions, conditions and designs of individual spatial units)
 - 6 Development of the selected concept (spatial organisation scheme – land use, traffic system, proposal of the structure of construction)
 - 7 Urban planning solution – land use, traffic system, proposal of the structure of construction
 - 8 Written description of the plan
 - 9 Space rendering (3D simulations or a photograph of the model)
-

Other forms of teaching and knowledge assessment:

During the semester, the students develop a programme on the given topic of the workshop and submit graphical contributions in two reviews when set assignments will be checked.

Compulsory literature (please provide detailed information about the publisher and year of publication)

- 1 Marinović-Uzelac, A. (2001) Prostorno planiranje, Dom i svijet, Zagreb, ISBN 410511020
 - 2 Pegan, S. (2019) Prostorno planiranje - zaštita prirode i okoliša – compendium predavanja, SZAF.
 - 3 Physical planning journals and magazines
-

Additional literature

- 3 Echenique, M & Saint, A. (eds.) (2001) Cities for the New Millennium, London: Spon Press, ISBN 0-415-23183-3
 - 4 Graafland, A. (ed.) (2001) Cities in transition, Rotterdam: 010 Publishers, ISBN 90-6450-415-6
 - 5 Burton, E. et al. (eds.) (1996) The Compact City: a Sustainable Urban Form?, Oxford: Spon Press, ISBN 0-419-21300-7
 - 6 Koolhaas, R. (2001) Project on the city 2, Cologne: Taschen GmbH, ISBN 3-8228-6047-6
 - 7 Short, J. R. (2001) The urban order: An Introduction to Cities, Culture and Power, Oxford: Blackwell Publishers Ltd, ISBN 1-55786-361-x
 - 8 Guallart, V. & Müller, W. (2004) HiperCatalunya: Research territories, Barcelona: Actar, ISBN 84-95951-40-1
 - 9 Physical Planning Act of the Republic of Croatia (Official Gazette "Narodne novine" 153/13, 65/17, 114/18, 39/19, 98/19, 67/23)
 - 10 Hrvatski zavod za prostorni razvoj (Croatian Institute for Spatial Development) (2017), Strategija prostornog razvoja, MGIPU Zagreb
 - 11 Ministarstvo prostornog uređenja, graditeljstva i državne imovine (Ministry of Physical Planning, Construction and State Assets) (2021), Izvješće o stanju u prostoru RH za razdoblje 2013.–2019. godine
 - 12 SPURH (2011) (Physical Planning Strategy of the Republic of Croatia), Smjernice i kriteriji za arhitektonsku vrsnoću građenja, MZOPUG Zagreb
 - 13 Prostor, Znanstveni časopis za urbanizam, prostorno planiranje i pejzažnu arhitekturu, SZ, AF.
 - 14*** Physical planning journals and magazines.
-

Requirements for obtaining a signature

Regular class attendance and submission of parts of the plan in stages with presentations before the exam, i.e. final presentation.

Type of exam: Submission and presentation of the plan.

Learning outcomes of this course

The student will be able to:

- single out the features of a wider spatial context relevant for establishing the relationship with the scope of the relevant plan;
 - evaluate the factors of spatial identity;
 - explain the starting points of planning based on set of defined limitations and possibilities;
 - prepare a complete and rationalised spatial design on the level of an urban development plan.
-

Learning outcomes of the study programme

D01, D02, D03, D04, D05, D10

Research Seminar I: Planning of Settlements

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator: Petrović Krajnik
Course associate(s)	Krajnik; Gašparović; Ivanković; Šmit; Karač; Mlinar; Žunić, Sironić
Year of study	First
Semester of study	First
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	1
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Depending on the topics chosen, physical planning documentation, professional and academic literature and reference examples will be read, analysed, presented and discussed to provide a basis for conclusions that will inform planning in the relevant area. Topics will be determined by the assignment and developed in line with contemporary physical planning theory and practice.

Development of general and specific competences – knowledge and skills (course objectives)

The aim of the course is to cultivate knowledge and skills for organising and conducting scientific and professional research, including analysis, evaluation, presentation and discussion, whilst developing the ability to think critically and draw conclusions that inform planning in the chosen area.

Course curriculum

1. Introductory lecture
- 2–15 Individual/group work, presentations and discussion on the given topic

Other forms of teaching and knowledge assessment:

Continuous work on the assignment, i.e. selected topics, involving the analysis of physical planning documentation and other literature, evaluation of spatial characteristics, presentation of findings, active participation in discussions and conclusions, and preparation of a seminar paper.

Literature:

In consultation with the lecturer, according to the chosen topic

Requirements for obtaining a signature

Regular class attendance, research, presentation, seminar paper

Type of exam: Submitted and positively graded seminar paper

Learning outcomes of this course

Upon successful completion of this course, the student will be able to independently:

- 1 apply skills for conducting research on the subject area and chosen topic;
- 2 apply methods of spatial analysis and evaluation
- 3 present and discuss the results of the conducted research
- 4 synthesise the findings and use them as a starting point for planning in the chosen area.

Learning outcomes of the study programme

D01, D02, D04, D06, D13, D16

SECOND SEMESTER

Theory of Architecture 2

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Karin Šerman
Course associate(s)	Šerman
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	2
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	3.0

Framework of course content

The course introduces and explores conceptual frameworks and theoretical systems that define and inform architectural discourse and practice in recent periods: from the crisis of Modern movement in the 1950s, through postmodernism, to the present day. The researched theories are approached through selected and contextually discussed architectural examples and related original texts.

Development of general and specific competences – knowledge and skills:

In addition to providing an insight into the fundamental theories and concepts that have underpinned and enabled the understanding, interpretation and production of architecture in the postmodern and contemporary periods, the course also develops the ability to reflect critically and analytically on architectural issues. It does this by examining how architecture interprets and embraces its role in a given socio-historical moment, as well as the roles and positions that architectural theory, as a distinct branch, assumes during such historical upheavals. In this way, through the establishment of various analogies and comparative parallels, the course encourages active and critical learning from architectural history, affirming it as a functional and operational discipline engaged in informing and guiding architectural and urban practices.

Course curriculum

- 1 Architectural modernism – exceptions: Alvar Aalto and Luis Kahn
- 2 The crisis of the Modern movement and Team X
- 3 Alison and Peter Smithson, New Brutalism and UR (Urban Re-Identification)
- 4 Aldo van Eyck: the theory and foundations of "carpet construction"
- 5 Aldo Rossi: the architecture of the city and the "third typology" (Rossi, Argan, Vidler)
- 6 Colin Rowe: the city-collage and the design strategy of contextualism
- 7 Structuralism: Ferdinand de Saussure, Claude Levi-Strauss
- 8 Roland Barthes, Robert Venturi: sign, game, myth
- 9 Peter Eisenman, phase one: syntactic systems and "zero degree" architecture
- 10 Peter Eisenman, phase two: from the structure of the object to the textualization of the site
- 11 Manfredo Tafuri and "Architecture in the boudoir"
- 12 Poststructuralism and deconstruction: Jacques Derrida, Bernard Tschumi
- 13 Phenomenology: meaning, place and body – Herzog & de Meuron and recent Swiss production
- 14 Rem Koolhaas and the theoretical weft: Gilles Deleuze, Felix Guattari, folding and rhizomatic structures
- 15 Rem Koolhaas and theory testing: discussion of selected examples of OMA's oeuvre

Other forms of teaching and knowledge assessment:

Regular attendance at lectures and engagement with supplementary literature, active participation in discussions.

Compulsory literature (please provide detailed information about the publisher and year of publication)

- 1 Kenneth Frampton, *Moderna arhitektura: kritička povijest*, Zagreb: Globus, 1992, selected chapters.
- 2 K. Michael Hays, ed., *Architecture Theory since 1968*, The MIT Press, Cambridge, Massachusetts / London, England, 1998, selected chapters.
- 3 Kate Nesbitt, ed., *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965–1995*, Princeton Architectural Press, New York, 1996, selected chapters.
- 4 Neil Leach, *Rethinking Architecture*, London and New York: Routledge, 1997, selected chapters.
- 5 Bruno Zevi, *Povijest moderne arhitekture I i II*, Zagreb, Golden marketing & Faculty of Architecture at the University of Zagreb, 2006 and 2010, selected chapters.
- 6 Joan Ockman, ed., *Architecture Culture 1943-1968*, Columbia Book of Architecture, New York: Rizzoli International Publications, 1993, selected chapters.

Additional literature (please provide detailed information about the publisher and the year of issue and ensure that it is as recent as possible)

- 1 Aldo Rossi, *The Architecture of the City*, Cambridge, MIT Press, 1982.
- 2 Colin Rowe and Fred Koetter, *Grad kolaž*, Građevinska knjiga, Belgrade, 1988.
- 3 Rem Koolhaas, *Delirious New York, A Retroactive Manifesto for Manhattan*, Monacelli Press, 1997.
- 4 Hashim Sarkis, *Le Corbusier's Venice Hospital*, Prestel & Harvard University Graduate School of Design, 2001.
- 5 Alison i Peter Smithson, *Ordinariness and Light: Urban theories 1952-60, and their application in a building project 1963-70*, Cambridge, MIT Press, 1970.
- 6 *Oppositions Reader*, New York, Princeton Architectural Press, 1998, selected chapters.
- 7 Roland Barthes, *Mitologije*, Pelago, Zagreb, 2009.
- 8 Manfredo Tafuri and Francesco dal Co, *Modern Architecture*, New York, Abrams, 1979, selected chapters.
- 9 Jacques Derrida, "Structure, Sign and Play in the Discourse of Human Sciences", in: *Structuralist Controversy*, Baltimore, Johns Hopkins University, 1972.
- 10 Jay Stein and Spreckelmeyer, ed., *Classic Readings in Architecture*, Boston, WCB/McGraw-Hill, 1999.

Requirements for obtaining a signature

Regular attendance at lectures and proficiency in the prescribed literature.

Type of exam

Oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- differentiate the fundamental theoretical systems and conceptual frameworks that define the architectural discourse and action during the postmodern and recent contemporary period;
- identify the role of architectural theory in shaping the role of architecture in its socio-historical context;
- evaluate theoretical concepts as starting points for architectural production;
- discuss an architectural example through a theoretical discourse;
- write a review of an architectural work informed by theoretical discourse.

Learning outcomes of the study programme
D01, D03, D06, D10, D14, D15

Architecture in Croatian Regions - Dalmatia

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Tin Sven Franić
Course associate(s)	Franić; Smode Cvitanović; Čavlović; Martinis
Year of study	First
Semester of study	2 nd
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours)	48
Field Course (days)	4
ECTS credits:	2

Framework of course content

The field course organised as part of the course Croatian space and architecture – Dalmatia provides a general overview of the architectural and urban heritage of Dalmatia. The basic division of the discipline of architecture into urban planning, historical and contemporary architecture and architectural design is used as a framework for the syllabus of the course, which deals with spatial resources, urban structures, architecture in urban or natural contexts, architecture for tourism and architectural works as the work of an author.

The itinerary of the tour has been designed to highlight the specific values of each of the site's characteristics, ranging from cultural and historical peculiarities, terrain configurations, morphologies of urban structures, etc., to the peculiarities of architects' oeuvres and current architectural and social issues, in an effort to clarify the origin of each architectural work and its valorisation.

During the four-day tour of the Dalmatian region from Nin to Dubrovnik, the course will follow the established programme of visits to local sites and buildings, including presentations on site and thematic lectures.

Development of general and specific competences – knowledge and skills:

The main aim of the course is to get to know the places visited and the entire urban and architectural heritage of Dalmatia, as well as to cultivate a critical attitude towards current issues in the discipline of architecture.

The field course as an educational method offers a way of directly observing cities and buildings in their actual environment.

The expert guidance, with its programme, evaluation and selection criteria for the selected examples and on-site exposés, seeks to inform the students of the specificities of this type of direct observational communication in the discipline of architecture.

The origins of this field course as an educational method are based not only on the creative origins of prominent twentieth-century architects, but also on their architectural practices.

Course curriculum

Itinerary: Nin, Zadar, Šibenik, Trogir, Split, Brela, Makarska, Vid – Narona, Ston, Trsteno, Dubrovnik. The course is taught by lecturers from the Faculty of Architecture, as well as experts from other disciplines and architects who have made a special mark on the Dalmatian region with the quality of their work. During the visit, students will sketch, photograph and analyse the cities and buildings they visit. After the trip, they should select a number of relevant examples from their diaries and reproduce them in an originally designed booklet with accompanying expert commentary, which they should then submit as a seminar paper – Field Course Diary. (Depending on the resources of the Faculty, the syllabus may be extended to the area from Pag to Cavtat, the islands and the Dalmatian hinterland; a study trip to Vienna may also be organised for students in the winter term of the graduate study programme).

Other forms of teaching and knowledge assessment:

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Compulsory literature

1 Uchytíl, A., Barišić Marenčić, Z. (ed.) (2000), Dnevnik terenske nastave – Dalmacija (priručnik za studente), Faculty of Architecture at the University of Zagreb, Zagreb
(authors of contributions: A. Uchytíl, T. Žarnić, Z. Barišić, M. Kovačević, A. Kuzmanić, A. Vulin, N. Kozulić)

2 Uchytíl, A., Žarnić, T., Karač, Z., Barišić, Z. (1998), Elementarni arhitektonski vodič – Dalmacija, Faculty of Architecture at the University of Zagreb, Zagreb

3. *** (1998.-2010.), Hrvatski prostor i arhitektura – Dalmacija – special edition of the field course in Dalmatia, Uchytíl, A., Faculty of Architecture at the University of Zagreb, Zagreb

4 Special editions of the field course in Dalmatia

Additional literature

1 HPA-Dalmacija, library-repository

Requirements for obtaining a signature

Active participation in the field course.

Type of exam

Seminar paper – Field Course Diary.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

1. identify the most important historical and modern architectural achievements in the Dalmatian region;
 2. understand the genesis of the visited historical and contemporary architectural achievements;
 3. present the basic spatial qualities of the visited historical and contemporary architectural works;
 4. draw basic spatial features of the architectural works visited;
 5. promote the architect's responsibility to preserve the values of the natural and built environment.
-

Learning outcomes of the study programme

D01, D06, D07

Architecture and Technology II

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Vedran Duplančić
Course associate(s)	Andrić; Bačić; Cvitanović; Duplančić; Jaklenec; Mance; Medić; Prodan-Abramović; Stepinac; Turčić
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	3
Field Course (days)	0
ECTS credits:	2.0

Framework of course content

The course content systematically and comprehensively addresses architecture from an engineering and sustainability perspective, examining the impact of contemporary technological concepts and the use of specific materials through an interdisciplinary and integrated design approach. The seminar work emphasises the importance of research-based engagement with the broader technical field, acquiring specialised technical and technological professional knowledge and developing individual tools within the design process, with an emphasis on the design of a large, financially demanding and installation-complex building project of a higher degree of complexity.

The research areas of this course are topics selected in this context, specifically defined at the level of each individual semester, from the following areas: material-based design, economic-based design, cost optimisation and planned project management, high-tech, prefabricated and modular design, design with innovative and high-tech materials, contemporary thermo-technical systems of RES application, application of new technologies – digital prefabrication – Building Information Modelling (BIM), design and testing of constructive systems, design in detail and on a small scale, environmental sustainability, alternative approaches to construction.

Integrating the knowledge acquired in the undergraduate study programme and through the topics covered in the course Sustainable Building 1 and 2, the course emphasises the design process itself rather than the built outcome. The diversity of topics and assignments allows the course to adapt to the dynamic nature of contemporary technological developments, trends and their application in architecture. During the semester, students prepare written and graphic submissions and briefly present analyses and periodical research to their own seminar group or to several groups. Students show the final result of their work at the final presentation, exhibition and in the written form of the research seminar as an individual or group work.

Development of general and specific competences – knowledge and skills:

The aim of the course is to develop the student's independence in research work, the possibility of further acquiring knowledge and mastering the comprehensive field of information and contemporary technologies in architecture in connection with a complex project programme with special emphasis on constructive installation and financial aspects of design and planning. Students will develop the ability to identify the potential of specific technological concepts, construction systems, installation systems, as well as the use of various materials, depending on the requirements of a given project, as well as the ability to apply these in architectural practice. Through a multidisciplinary and integrative approach that integrates the conceptual, qualitative, and technological distinctions of various examples, students will be able to use existing knowledge to develop their own creative approach, where materialisation, ecological and economic conditions can become the primary medium of design.

Course curriculum

The course content systematically and comprehensively addresses architecture from an engineering and sustainability perspective, examining the impact of contemporary technological concepts and the use of specific materials through an interdisciplinary and integrated design approach. The seminar work emphasises the importance of research-based engagement with the broader technical field, acquiring specialised technical and technological professional knowledge and developing individual tools within the design process.

The diversity of topics and assignments allows the course to adapt to the dynamic nature of contemporary technological developments, trends and their application in architecture.

The framework of the course curriculum is organised around three thematic areas:

ARCHITECTURAL CONSTRUCTIONS AND BUILDING INSTALLATIONS – Vedran Duplančić, Damir Prodan Abramović: nZEB ARHupunktura

In the area of architectural structures and building installations, the subjects of research are:

- energy reconstruction and rehabilitation;
- the concepts of energy-efficient design of G0EZ and energy-active buildings
- the integration of technical building systems through the use of contemporary energy-efficient mechanical installation systems and the application of RES.

BEARING STRUCTURES

Davor Andrić: Pneumatic and pneumatically adjustable structures

Lucija Stepinac: Topologically optimised structures and 3D printing

Nenad Turčić: Sustainable building and building with wood

Berislav Medić: Stadiums

The "Bearing structures" thematic area deals with various current, technically feasible and appropriate topics through the following aspects:

- materials – those that have not yet been covered in detail in regular courses, such as structural glass, aluminium, polymer, cross-laminated timber, various composite materials, etc.;
- building and construction techniques – contemporary methods of strengthening and repairing existing structures, engineering and special structures, contemporary structural forms, etc.;
- design techniques – computer-designed structures, simulations of structure systems, structural behaviour and effects on the structure (e.g. seismic and dynamic loads, topological optimisation, etc.), biomimetic generative methods, etc.;
- contemporary methods of production and construction of load-bearing structures – construction with cross-laminated timber, innovative solutions of adaptive, mobile, temporary, etc. structures, as well as CNC, 3D and robotic production, construction and structures, etc.

PROJECT AND CONSTRUCTION MANAGEMENT

Dubravko Bačić: Economics of construction

Teodor Cvitanović: Economically responsible design

Tajana Jaklenec: Prefabrication

Damir Mance: Information architecture: The role of the architect in the age of digital transformations

The thematic area of project and construction management includes:

- familiarisation with the methods of estimating the construction value of buildings, designing within the given budget, filling in cost estimates with "designer prices" and working with contractors and manufacturers of construction products;
- high-tech, prefabricated and modular design, where the subject of prefabrication is approached through two methodological frameworks: design-driven research and project-driven research.
- Building Information Modelling (BIM) using the concept of Level of Information Need (LOIN): through practical work on the BIM model, defining the level of information needed, both in the role of the client and the user, and adjusting the level of model elaboration depending on the information needs.

Other forms of teaching and knowledge assessment:

Professional lectures, field trips, modelling, seminar paper

Compulsory literature

ARCHITECTURAL CONSTRUCTIONS AND BUILDING INSTALLATIONS

- Deplazes A., *Constructing Architecture*, Birkhäuser, Basel, 2005.
- Zimmermann A., *Constructing Landscape*, Birkhäuser, Basel, 2009.
- U. Knaack, T. Klein, M. Bilow, T. Auer: *Fasades; Principles of Construction*, Birkhäuser, Basel, 2007.
- Hegger, M., Rosenkranz, T. (ed.), *Construction Material Manual*, Birkhäuser, Basel, 2006.
- Bernhard, Schreiber, Stark: *Sustainable building services; Principles, Systems, Concept*, 2011.

BEARING STRUCTURES

- Llorens, J. (ed.) (2015). *Fabric structures in architecture*. Elsevier.
- Truong, Q. (2020). *Composite Architecture: Building and Design with Carbon Fiber and FRPs*. Germany: Walter de Gruyter GmbH.
- Engelsmann, S., Spalding, V., Peters, S., Stein, R. (2010). *Plastics: In Architecture and Construction*. Germany: Walter de Gruyter GmbH.
- Knippers, J., Cremers, J., Gabler, M., Lienhard, J. (2012). *Construction Manual for Polymers + Membranes: Materials, Semi-finished Products, Form Finding, Design*. Germany: De Gruyter.
- Seidel, M. (2009). *Tensile Surface Structures: A Practical Guide to Cable and Membrane Construction*. Germany: Ernst & Sohn.
- West, M. (2016). *The Fabric Formwork Book: Methods for Building New Architectural and Structural Forms in Concrete*. United Kingdom: Taylor & Francis.
- Galić, J., Vukić, H., Andrić, D., Stepinac, L. (2020). *Tehnike popravaka i pojačanja zidanih zgrada*, Hrvatska: Faculty of Architecture at the University of Zagreb
- Galić, J., Vukić, H., Andrić, D., Stepinac, L. (2020). *Priručnik za protupotresnu obnovu postojećih zidanih zgrada*, Croatia: Faculty of Architecture at the University of Zagreb
- Kolb, J., Kolb, H., Müller, A. (2024). *Holzbau mit System: Tragkonstruktion und Schichtaufbau*. Germany: Birkhäuser Verlag GmbH.
- Boake, T. M. (2015). *Architecturally Exposed Structural Steel: Specifications, Connections, Details*. Germany: Walter de Gruyter GmbH.
- Meyer Boake, T. (2020). *Complex Steel Structures: Non-Orthogonal Geometries in Building with Steel*. Germany: Walter de Gruyter GmbH.
- Chilton, J. (2007). *Space Grid Structures*. United Kingdom: Taylor & Francis.
- Gruber, P. (2011). *Biomimetics in Architecture: Architecture of Life and Buildings*. Austria: Springer Vienna.
- MacDonald, A. J. (2001). *Structure and Architecture*. United Kingdom: Architectural Press.
- Charleson, A. (2014). *Structure As Architecture: A Source Book for Architects and Structural Engineers*. United Kingdom: Taylor & Francis.
- Moussavi, F., Lopez, D. (n.d.). *The Function of Form: Second Edition*. Spain: Actar D.
- Wells, M. (2005). *Skyscrapers: Structure and Design*. United Kingdom: Laurence King Publishing.
- Kronenburg, R. (2008). *Portable Architecture: Design and Technology*. Germany: De Gruyter.
- Rice, P., Dutton, H. (1995). *Structural glass*. Germany: E & FN Spon.
- Wurm, J. (2007). *Glass Structures: Design and Construction of Self-supporting Skins*. Germany: Boston.
- Adriaenssens, S., Gramazio, F., Kohler, M., Menges, A., & Pauly, M. (eds.). (2016). *Advances in architectural geometry 2016*. vdf Hochschulverlag AG.
- Hensel, M., Menges, A., & Weinstock, M. (2006). *Techniques and Technologies in Morphogenetic Design (Architectural Design March April 2006 Vol. 76 No. 2*

PROJECT AND CONSTRUCTION MANAGEMENT

- Kieran, S., Timberlake, J. (2003) *Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction*. McGraw Hill.
- Smith, Ryan E. (2010) *A Prefab Architecture - A Guide to Modular Design and Construction*. John Wiley & Sons, Inc. New Jersey.
- Knaack, U., Chung-Klatte, S., Hasselbach, R. (2012). *Prefabricated Systems: Principles of Construction*. Birkhauser
- Eichler, C. C.; Schranz, C.; Krischmann, T.; Urban, H.; BIMcert Handbook; Basic Knowledge openBIM Edition, buildingSMART Austria 2023
- Jurčević, M., Pavlović, M., Šolman, H., *Opće smjernice za BIM pristup u graditeljstvu*. Zagreb: Hrvatska komora inženjera građevinarstva, 2017
- Eastman, C.; Teicholz, P.; Sacks, R.; Liston, K.; *BIM Handbook – A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers, and Contractors*, John Wiley & Sons, Inc, 2008.

Additional literature

It is subject to change, reflecting the basic research areas of a particular academic year, and includes trade journals.

Requirements for obtaining a signature

Regular course attendance and registering a seminar paper topic with the selected supervisor.

Type of exam

Seminar paper on the chosen topic.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

1. develop an integrated approach to design, utilising the latest technological innovations for highly complex building projects;
 2. creatively combine knowledge and methods from the technical, artistic, social and natural sciences in the process of researching, designing and implementing an architectural solution that meets the aesthetic and technical requirements of the discipline;
 3. design the concept of integrated technical building systems;
 4. design the concept of structural elements of the building
 5. justify the selection of materials, structures and installation systems of the building;
 6. devise energy and structural concepts for buildings in accordance with ecological and bioclimatic design principles;
 7. creatively propose a structural solution and the appropriate use of materials, technologies, technical, installation, transport and safety systems, with the aim of achieving sustainability and functional efficiency of the whole and meeting the basic requirements of a building, protecting the building users, the buildings themselves and the environment for highly complex construction projects.
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Learning outcomes of the study programme

D01, D02, D03, D07, D08, D09, D12, D13, D14, D15

Sustainable Building 2

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Dr. Sc. Zoran Veršić, Professor
Course associate(s)	Veršić; Galić; Rengel; Andrić; Binički, Mance, Vukić, Prodan-Abramović
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Environmental protection and the impact of buildings on the environment. Concept of construction from the point of view of the application of the sustainability methodology. The environmental impact of buildings throughout their life cycle. Presentation of sustainability components and their impact. Ecological building materials and the impact of products on the environment. Embodied and operational energy throughout the life cycle of the building. Circular model of space and building management. Presentation of the certification system for sustainable building and the indicators that affect the evaluation. Requirements and solutions to achieve a space with a high level of comfort for a pleasant and desirable stay. Environmental noise management, noise protection, action plans and noise maps. Life cycle CO₂ footprint and CO₂ footprint of building materials. Logical design of advanced installation systems and use of renewable energy sources. A sustainable approach to managing the built environment through re-use strategies and themes of constructive rehabilitation of buildings and repurposing of historic structures. Conceptual design that meets contemporary requirements for sustainable building, from basic design approaches to the selection of building materials, structures, thermo-technical systems, lighting and optimal energy sources. Application of BIM in the context of sustainable building.

Course objectives:

Students will be introduced to environmental protection, the impact of building on the environment and a sustainable approach to design through the components of sustainable building and certification systems. Introduction to ecological materials and the assessment of the environmental impact of materials and buildings throughout their life cycle. A sustainable approach to managing the built environment through re-use strategies and themes of constructive rehabilitation of buildings and repurposing of historic structures. Noise management in the environment, noise protection, action plans and noise maps as a basis for professional work in this area and as an important component of environmental protection.

The aim is to develop skills in conceptual design that meet contemporary requirements for sustainable building, from basic design approaches to the selection of building materials, structures, thermo-technical systems and optimal energy sources.

Course curriculum

- 1 Environmental protection, sustainability and sustainable building
- 2 Components of sustainability in buildings, IAQ
- 3 Sustainable building certification systems
- 4 Presentation of the selected system of certification of sustainable construction (DGNB, LEVELS)
- 5 Circular management of buildings, the whole life cycle of the building
- 6 Noise – types of noise and its impact
- 7 Legislation in the field of noise protection (noise maps, action plans)
- 8 CO₂ footprint in the entire life cycle of the building
- 9 CO₂ footprint of embodied energy
- 10 Contemporary thermo-technical systems 2 - an overview
- 11 Contemporary thermo-technical systems 2 – renewable energy sources
- 12 Rehabilitation of load-bearing structures – methods
- 13 Rehabilitation of load-bearing structures with the aim of re-use
- 14 Contemporary materials and structures
- 15 BIM

Other forms of teaching and knowledge assessment:

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Compulsory literature

- 1 Course material on the course website (AF Virtual) – Lectures
- 2 Course material on the course website (AF Virtual) – DGNB Academy

Additional literature

- 1 Zelena budućnost grada, Ministarstvo graditeljstva i prostornog uređenja, Faculty of Architecture at the University of Zagreb, 2020.
- 2 Level(s) – A common EU framework of core sustainability indicators for office and residential buildings (<https://susproc.jrc.ec.europa.eu/product-bureau//product-groups/412/documents>)
- 3 DGNB System (<https://www.dgnb.de/de/zertifizierung/gebäude>)
- 4 Gutiérrez, R. U. and Hidalgo, L.: Elements of Sustainable Architecture, Routledge, 2020.
- 5 Giebeler, G., Fisch, R., Krause, H., Musso, F., Petzinka, K.-H., Rudolphi, A.: Refurbishment Manual - Maintenance, Conversions, Extensions, Birkhäuser, Edition Detail, 2009.
- 6 Hegger, M., Fuchs, M., Stark, Th., Zeumer, M.: Energy Manual – Sustainable Architecture, Birkhäuser, Edition Detail, 2008.
- 7 El Khouli, S., John, V., Zeumer, M.: Sustainable Construction Techniques, Edition DETAIL Green Books, 2015.
- 8 Noise Protection Act of the Republic of Croatia (NN No. 30/09)
- 9 Ordinance on maximum permissible noise levels with regard to the type of noise source, time and place of occurrence (NN 143/21)
- 10 Ordinance on the method of preparation and content of noise maps and action plans (NN 05/07).

Requirements for obtaining a signature

Regular class attendance, written seminar paper.

Type of exam

Written/oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 1 creatively choose the principles of sustainability in making architectural and urban design decisions that preserve the values of the natural and built environment in physical planning and architectural design;
- 2 creatively choose the principles of sustainability in the management of the built environment through the reuse approach and the issues of energy, structural and thermal rehabilitation of buildings, conversion of historic buildings and industrial architecture;
- 3 utilise the conceptual design, previous and technical documentation in order to interpret the knowledge pertaining to the methods of protection and revitalisation of historical units and the renovation of individual buildings;
- 4 in the development of the architectural and urban planning project, propose creative solutions for the structure and the appropriate use of materials, technologies, technical and installation systems, with the aim of achieving sustainability and functional efficiency of the whole with high energy efficiency and meeting the basic requirements for the building, the protection of the building users, the buildings themselves and the environment;
- 5 integrate knowledge of physical, technological and functional solutions into the project with the objective of protecting the building from external climatic influences and achieving a comfortable internal microclimate;
- 6 integrate knowledge of thermo-technical and other installation systems of buildings and settlements into project solutions with the aim of achieving high energy efficiency and using renewable energy sources;
- 7 integrate knowledge of organisational structures, technologies, performance procedures and legal regulations in order to organise, plan and supervise construction and landscaping activities.

**Learning outcomes of the study programme
D02, D05, D07, D08, D09, D12, D15**

Sports Facilities

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Vladimir Kasun
Course associate(s)	Kasun
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	2.0

Framework of course content

The lectures provide an insight into the historical and contemporary development of the architecture of sports buildings as an introduction to the complex phenomenology of sports and the wide range of architectural forms that follow this complexity. The lectures are constructed in such a way that they explain the architecture created in sports, which was created from the programme of sports competitions that require the visual aspect of architecture (swimming halls, sports halls, stadiums) in the broadest sense and fundamentally belong to the European cultural tradition.

Development of general and specific competences – knowledge and skills:

The aim of the course is to introduce students to the historical development, social and individual significance, normative circumstances, design methods and demonstrative expression of architectural forms arising from sport and parasport phenomena.

The architectural research of sport and parasport phenomena is based on the Architectural Design Workshop 2: Sport +, combining theoretical teaching and architectural work, always in relation to the specific situation, and the heritage of the discipline with a simultaneous understanding of its enduring nature, i.e. the duration, meaning and use of the designed artefact in the future.

Course curriculum

- 1 – PHENOMENOLOGY OF SPORTS AND FORMS OF ARCHITECTURE
- 2 – SWIMMING HALLS – historical development
- 3 – SWIMMING HALLS – planning and elements
- 4 – SWIMMING HALLS – functioning based on reference examples
- 5 – SPORTS HALLS – historical development
- 6 – SPORTS HALLS – planning and elements
- 7 – SPORTS HALLS – functioning based on reference examples
- 8 – STADIUMS – historical development
- 9 – STADIUMS – planning and elements
- 10 – STADIUMS – functioning based on reference examples
- 11 – SPORTS COMPLEXES
- 12 – OLYMPIC GAMES OF THE NEW ERA
- 13 – SPORT+ – hybrid architecture
- 14 – SUSTAINABILITY IN THE ARCHITECTURE OF SPORTS BUILDINGS
- 15 – SPORTS ARCHITECTURE – guest lecture

Other forms of teaching and knowledge assessment:

- seminar paper
-

Compulsory literature

- ZGRADE ZA SPORT – script – Prof. Emil Špirić, PhD
- ENCIKLOPEDIJA FIZIČKE KULTURE
- SPORTSKA ENCIKLOPEDIJA
- MODELI FIZIČKE KULTURE – vol. VII – posebni uvjeti građenja i opremanja objekata fizičke kulture: RSIZ fizičke kulture RH, 1987
- STADIA – A DESIGN AND DEVELOPMENT GUIDE: Geraint John, Rod Sheard, Architectural Press, 2001
- SPORTS ARCHITECTURE: Rod Sheard, Spon Press, London&NY, 2001
- ARCHITECTURE FOR SPORT – NEW CONCEPTS AND INTERNATIONAL PROJECTS FOR SPORT AND LEISURE; Peter Sturzebecher, Sigrid Ulrich; Wiley-Academy, 2002
- SPORTS AND LEISURE: architecture in Finland, SAFA 1977
- SPORTSKA ARHITEKTURA U ZAGREBU – Ariana Štulhofer, Zagreb 2005 – AF edition

Additional literature

- Preporuke za projektiranje, izgradnju i održavanje športskih dvorana i igrališta u Zagrebu – vol. 2: Zagrebački športski savez, Zagreb, June 2007
- Preporuke o održivom programiranju, prostornom planiranju i projektiranju javnih plivališta u gradu Zagrebu – vol. 3: Zagrebački športski savez, Zagreb, April 2008
- STADIEN 2006 – DER FUSSBALLWELTMEISTERSCHAFT; Gernot Stick, birkhauser, 2005

Architectural journals:

- s & b – sport&baeder – Magazine for Sports Architecture
- Casabella, 694/2001, new stadia
- Architectural Review 1146/1992 – OG Barcelona
- Architectural Review 1182/1994 – OG Atlanta
- Architectural Review 1186/1995
- Architectural Review 1244/2000 – OG Australia
- Baumeister 8/1992 – OG Barcelona
- l'ARCA 122/1998 – SPORTS FACILITIES
- AW – architectur+wettbewerb 188/2001 – Buildings for Sport and Leisure

Requirements for obtaining a signature: Regular class attendance + seminar paper.

Type of exam

Seminar paper or oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 1 evaluate contemporary sports architecture in the context of its historical development;
- 2 critically assess the relationship between the function, structure and form of a sports facility;
- 3 interpret the phenomenological conditionality of sports architecture;
- 4 explain architectural examples important for the development of the contemporary approach to an architectural sports facility project;
- 5 interpret elements and functional schemes of certain types of sports facilities;
- 6 draw a design programme for a sports facility.

Learning outcomes of the study programme

D01, D02, D03, D16

Architectural Design Workshop 2: Sport +

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator: Vanja Rister
Course associate(s)	Rister; Paver Njirić; Bertina; Latin; Kasun; Žarnić; Bakić; Franić I.; Mišković; Krmpotić Romić
Year of study	First
Semester of study	1 st or 2 nd
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	8
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	11.0

Framework of course content

Architectural Design Workshop 2: Sport + is a form of research through design that explores more complex architectural projects in a contemporary context, emerging occurrences in society, discipline and space, technical and technological discoveries.

It consolidates the knowledge acquired in previous years of study, and guest lecturers contribute to broadening this knowledge of the context in which architecture emerges, of analogies with other disciplines, and of the multifaceted aspects of contemporaneity.

Research is focused on the growth of a new model of sports facilities with additional programme that enables a wider social impact. The given sports content is transformed into a new type of social centre through both the project and the additional programme. The programme +, which is individually defined by the student, must be the result of research into different contexts within the assignment.

Thematic frameworks include unencumbered space, structure rhetoric, the relationship between served and serving space, sustainable building, spatial vs. material organisation, cross/trans/disprogramming, and other themes upon which a certain assignment relies. The assignments are carried out in bi-semesteral cycles.

The project explores how the language of architecture articulates and describes specific function(s), spatial character and the choreography of use of space, the public appearance of a building, the aspect of sustainability, continuous use in a social sense, adaptability, etc.

Development of general and specific competences – knowledge and skills:

As an open form of work and teaching, the workshop enables and encourages students to develop critical thinking about the project, the medium they are using and the cultural situation. The supervisor defines the problem and its context and presents it to the student in the form of a question, which the student then explores through an architectural project.

Students will gain an understanding of the complex parameters, from conceptual to technical, from which architecture emerges, as well as an understanding of the rationale for their choices as they progress through the project.

The ability to solve more complex architectural problems and to critically engage with new phenomena is also developed, using the latest technical tools, materials and designs.

Course curriculum

Architectural Design Workshop 2 is based on intensive studying of a design problem and investigative approach to architectural design. The workshop includes focused seminars, joint presentations and discussions throughout the semester, culminating in a final project presentation and defence.

It is carried out according to the following steps:

1 Thematic context study – seminar paper

2 Preliminary study

Additional programme definition

Site analysis

Site plan study using real models

Representation of architectural type, materialisation and form of spatial organisation

Use scenario

Space rendering

Other contributions explaining the concept

Concept presentation

3 Design solution

Site plan (broader context); scale 1 : 2000

Site plan; scale 1 : 1000

Floor plans, sections, fronts; scale 1 : 200

Characteristic section; scale 1 : 100

Characteristic details; scale 1 : 20

Structure scheme; scale 1 : 500

Model of the structure; scale 1 : 200, or a specific element in an appropriate scale

Space rendering of the structure and its surroundings and interior

Technical Description

4 Exhibition and presentation of works

Other forms of teaching and knowledge assessment:

- Project assignments, seminar papers, presentations, successful project defence.

Compulsory literature

Reader (compilation) contains excerpts from compulsory literature and references additional reading. It is subject to change according to the thematic framework of the project assignment.

Additional literature

Current trade journals and monographs

Requirements for obtaining a signature: Regular class attendance, written seminar paper and successful defence of the project.

Type of exam: Students' knowledge is assessed through successfully completed project assignments.

Learning outcomes of this course

1. Students will be able to independently produce a highly complex preliminary architectural and urban planning design.
2. Students will be able to creatively develop a technical and technological design of an architectural structure in relation to the spatial and functional concept.
3. Students will be able to creatively link the process of researching a thematic framework of an architectural problem to design decisions.
4. Students will be able to modify the heritage of functional typologies according to contemporary requirements.
5. Students will be able to interpret theoretical concepts through their design decisions.
6. Students will be able to critically assess the relationship between an architectural structure and urban or natural surroundings, as well as its social influence.
7. Students will be able to develop a programme for a social-purpose architectural structure.
8. Students will be able to explain the architectural design and explain complex conditions in which a highly complex architectural structure is built.
9. Students will be able to provide an in-depth explanation of an architectural project using conceptual and technical representations and illustrations, both in writing and orally.

Learning outcomes of the study programme

D01, D03, D04, D05, D06, D09, D10, D14, D15

Research Seminar Architecture 2

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Žarnić
Course associate(s)	Mrduljaš; Barović; Krmpotić Romić; Čeko
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	1
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Selected texts by different authors, divided into themes, are read, analysed, discussed and applied. Topics are freely chosen and explored in relation to contemporary issues in architecture as a discipline.

Development of general and specific competences – knowledge and skills (course objectives)

Selected texts guide students in a structured way through the study and reflection of architecture. Students are required to take an active part in the discussion of architecture through clearly defined commitments and to present a particular topic through writing, a model, a film or other appropriate media.

Course curriculum

Other forms of teaching and knowledge assessment:

Regular attendance at lectures and engagement with supplementary literature, active participation in discussions.

Literature:

In consultation with the lecturer, according to the chosen topic

Requirements for obtaining a signature

Regular class attendance, research, essay

Type of exam: Written and oral exam.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to independently:

1. compare different interpretations of architecture and various architectural works;
2. interpret the architectural stances of theorists and practitioners in the field;
3. present an architectural theme through writing, models, film, or other appropriate media.

Learning outcomes of the study programme D04, D06

Urban Transformations

Course status	Compulsory
Course lecturer(s)	Krunoslav Šmit
Course associate(s)	Šmit
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	2.0

Framework of course content

To acquaint students with the development of cities and urban concepts in the world and in Croatia in the 20th century. The development of the city and urban concepts will be presented in chronological order. The course introduces students to the theme of the transformation of the city, as well as the impact of social, economic and political changes on the transformation of the urban fabric, and introduces them to specific aspects of this transformation. Theoretical models of urban development that have not been implemented, but have influenced planning processes at the end of the 20th and the beginning of the 21st century will also be presented.

Development of general and specific competences – knowledge and skills:

The aim of this course is to introduce students to the processes of continuous urban transformation, as well as the contemporary urban transformation in Croatia and worldwide. Students will be taught to recognise and critical examine urban planning concepts and their impact on the recent events at home and worldwide.

Course curriculum

- 1 Development of urban space concept of the 20th century
- 2 19th/20th century: types of cities: linear, garden, industrial, new block (New Amsterdam), etc.
- 3 Urban transformation between the two world wars in Croatia and worldwide
- 4 Werkbund, Bauhaus, CIAM
- 5 20th century functionalism and a trend for a modern city
- 6 City and totalitarian regimes (Nazism, fascism)
- 7 Concepts of urban fabric after World War II
- 8 Development of the cities after World War II in Croatia
- 9 New City of the 20th century (new English and Scandinavian cities, Brasilia, Chandigarh, Canberra, etc.)
- 10 Urban utopias of the 20th century
- 11 Typological and morphological elements of urban transformations in the 1970s and 1980s
- 12 Contemporary urban planning in the world
- 13 Contemporary urban planning in Croatia
- 14 Socio-economic and socio-political aspects of city transformation in the early 21st century
- 15 Discussion on contemporary city planning theories and urban transformations (hybrid city, cinematic city, virtual city, network city, cyborg city, buzz city, intransitive city, informational city, creative city) – seminar

Other forms of teaching and knowledge assessment (in addition to attending classes, it is recommended that other forms of continuous student work and assessment be introduced, such as homework, tests, seminar papers, project work, etc.)

- test;
- writing a seminar paper (min. 7 standard pages) on the topic of urban transformations.

Other forms of teaching and knowledge assessment:

- test;
 - seminar paper
-

Compulsory literature

- 1 Graafland, A. (2001) Cities in transition, Rotterdam
 - 2 Frampton, K. (1992) Moderna arhitektura - Kritička povijest, Globus nakladni zavod, Zagreb, ISBN 86-343-0647-X
 - 3 Deakin, M.; Mitchell, G.; Nijkamp, P.; Vreeker, R. (2007) Sustainable Urban Development, London ISBN 978-0-415-3221
 - 4 Zevi, B. (2006), Povijest moderne arhitekture, Faculty of Architecture, Golden marketing, Zagreb
 - 5 Ellin, N. (1999) Postmodern urbanism, Princeton architectural press, New York
 - 6 Andrusz, G; Harloe, M.; Szelenyi, I. (1996) Cities after socialism – Urban and regional changes and conflict in post-socialist societies, Blackwell Publishers Inc Oxford, UK
 - 7 Low, S. M. (2006) Promišljanje grada, Jesenski i Turk, Zagreb, ISBN 953-222-205-7
-

Additional literature (please provide detailed information about the publisher and the year of issue and ensure that it is as recent as possible)

- 1 Jukić, T. (1997) Strukturalne promjene rubnih dijelova grada-prilog proučavanju urbanističkog razvoja, dissertation
 - 2 Ellin, N. (2006) Integral urbanism, Routledge, New York
 - 3 Colquhoun, I. (1995) Urban Regeneration, B. T. Batsford, Ltd-London, ISBN 0 7134 7087 9
 4. -----, (2000) Wien, Stadterhaltung, Stadterneuerung; Stadtplanung Wien
 5. -----, The transformation on the city space on the background of political-economic changes in central Europe
– Examples of contemporary urban transformations from recent trade journals
 - 6 Castex, J.; Depaule, J. C.; Panerai, P. (2003), Urbane forme, Građevinska knjiga, Belgrade
 - 7 Hubbard, P. (2006) City, Routledge, London, ISBN 978-0-415-33100-5
-

Requirements for obtaining a signature

Regular class attendance.

Type of exam

- oral exams;
 - defended seminar paper.
-

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

1. provide examples of the development of urban space in cities that are relevant for contemporary understanding of urban transformations;
 2. analyse urban planning tendencies in Croatia and in the world;
 3. interpret typological and morphological elements of urban space transformation;
 4. interpret the acquired knowledge in the preparation of urban development design;
 5. compare the urban development design with well-known examples.
-

**Learning outcomes of the study programme to which the course contributes
D02, D04, D06, D10, D14, D15, D16**

Urban Planning Workshop 2: Transformation of the City

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator:
Course associate(s)	Petrović Krajnik; Ivanković; Šmit; Obad Šćitaroci, Žunić; Mlinar; Rukavina
Year of study	First
Semester of study	1 st or 2 nd
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	4
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The course focuses on the systematic and comprehensive planning of complex residential and commercial urban areas and their integration into the existing planned urban fabric.

Emphasis is placed on the planning of public, social, commercial and office buildings, as well as residential housing as the main component of a city. Special emphasis is placed on the planning of new public areas (streets, squares, parks, etc.). Residential and office buildings are planned at the level of a detailed development plan in the selected unregulated urban areas that require intervention in the form of redevelopment, extension or new construction. The planning of residential and commercial urban areas should be coordinated with the use and preservation of existing values and sustainable building.

Course objective – development of general and specific competences – knowledge and skills

The course aims to teach students how to analyse, design, produce and present a high quality spatial solution for a residential and commercial urban area that fits structurally, functionally and programmatically into the existing urban fabric.

The course provides an overview of urban planning as a complex interdisciplinary process. It deepens knowledge of the function and design of the city as a whole and the functioning and development of specific urban areas. In parallel, knowledge of urban space management and planning procedures and controlled development measures is further developed. Emphasis is on acquiring knowledge of residential and commercial urban areas and their relationship to other urban areas and their functions.

The course develops the skills necessary to understand the large scale in which the evaluation, comparison and planning of residential and commercial urban areas and their relationship to the city as a whole takes place.

Course curriculum

As an interactive teaching mode, the workshop enables and encourages students to individually explore and develop the methods for analysing, preparing and presenting an urban area development plan. The supervisor's task is to define and explain the assignment and subsequently direct and guide the students through the process of preparing an urban development plan. Elements of the assignment:

- 1 Analysis and presentation of the existing state (scale 1 : 5000) and planning documentation
- 2 Analysis and presentation of reference examples
- 3 Problem chart – limitations and possibilities of space utilisation development (scale 1 : 5000)
- 4 Planning programme with the calculation and identification of urban planning indicators
- 5 Concept proposal – spatial organisation scheme (scale 1 : 5000)
- 6 Concept development and presentation – planned spatial structure
- 7 Development of the concept and design of a broader zone – a detailed intended use of the space and structure proposal (scale 1 : 5000)
- 8 Urban design – the level of a detailed urban planning development plan (scale 1 : 1000)
- 9 Detailed urban design – site plan with the rendering of the fifth façade, characteristic sections and elevations (scale 1 : 1000)
- 10 Detailed urban design – site plan with ground-level floor plans
- 11 Floor plans of all characteristic underground and aboveground floors and sections of buildings within a narrow zone (scale 1 : 1000)
- 12 Written explanation of the plan and identification of urban planning indicators
- 13 Details of urban space development
- 14 Space rendering
- 15 Setting up the exhibition and defending the project assignment

Other forms of teaching and knowledge assessment:

- During the semester, students prepare written and graphic submissions and briefly present analyses and phase-by-phase designs to colleagues and experts. They exhibit the final result of their work at the final exhibition, a public defence of the project and in a publication.
-

Compulsory literature

Suggested compulsory and additional reading for the following courses of the Department for Urban Planning, Physical Planning and Landscape Architecture:

Urban Transformations, Urban Planning I, Urban Planning II, Urban Planning III, Landscape Architecture, Public Urban Space Development, Utility Development in Settlements, Urban Transportation Design Issues, History of European Urban Planning, Physical Planning, etc.

Additional literature

- 1*** Recent examples from architecture and urban planning magazines (Study Archive)
- 3.*** Urban planning regulation
- 4.*** (2001-2006), Prostorni plan grada Zagreba, Official Gazette of the City of Zagreb 8/2001, 16/2002, 11/2003 and 2/2006, Zagreb
- 5.*** (2007-2008), Generalni urbanistički plan grada Zagreba, Official Gazette of the City of Zagreb 16/2007, 2/2008 and 6/2008, Zagreb
- 6 Adopted reference urban planning and detailed development plans (Decisions on adoption published in the Official Gazette of the City of Zagreb) and publications of relevant urban planning and architectural tenders.

Requirements for obtaining a signature

Regular attendance and active participation in class.

Individually prepared, completed and defended designated programme of an urban area development plan within the given deadline.

Type of exam

Positively graded programme defence and the programme itself.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

1. develop the programme of an architectural and urban planning project of a mixed residential/commercial part of the city;
2. interpret the city as a complex whole with carefully planned amenities and programme;
3. Interpret the knowledge of urban space management and planning procedures and controlled development measures;
4. compare mixed residential/commercial parts of the city in accordance with a set of adopted criteria;
5. prepare a preliminary study of the urban transformation of a part of a city.

Learning outcomes of the study programme

D03, D06, D10, D14, D15, D16

Research Seminar II: Transformation of the City

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator:
Course associate(s)	Petrović Krajnik; Ivanković; Šmit; Obad Šćitaroci, Žunić; Mlinar; Rukavina
Year of study	First
Semester of study	Second
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	1
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Depending on the topics chosen, physical planning documentation, professional and academic literature and reference examples will be read, analysed, presented and discussed to provide a basis for conclusions that will inform planning in the relevant area. Topics will be determined by the assignment and developed in line with contemporary physical planning theory and practice.

Development of general and specific competences – knowledge and skills (course objectives)

The aim of the course is to cultivate knowledge and skills for organising and conducting scientific and professional research, including analysis, evaluation, presentation and discussion, whilst developing the ability to think critically and draw conclusions that inform planning in the chosen area.

Course curriculum

2. Introductory lecture
- 2–15 Individual/group work, presentations and discussion on the given topic

Other forms of teaching and knowledge assessment:

Continuous work on the assignment, i.e. selected topics, involving the analysis of physical planning documentation and other literature, evaluation of spatial characteristics, presentation of findings, active participation in discussions and conclusions, and preparation of a seminar paper.

Literature:

In consultation with the lecturer, according to the chosen topic

Requirements for obtaining a signature

Regular class attendance, research, presentation, seminar paper

Type of exam

Submitted and positively graded seminar paper.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to independently:

- 1 apply skills for conducting research on the subject area and chosen topic;
- 2 apply methods of spatial analysis and evaluation
- 3 present and discuss the results of the conducted research
- 4 synthesise the findings and use them as a starting point for planning in the chosen area.

Learning outcomes of the study programme

D01, D02, D04, D06, D13, D16

2nd YEAR

THIRD SEMESTER

Auditory Workshop

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Miroslav Geng
Course associate(s)	Geng; Franić T. S.
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

The Auditory Workshop applies the pedagogical principle of *docendo discimus* ("we teach by learning") through active participation of the students, developing creative criticism through the set oppositions: artificial/natural; abstract/material; gestural/structural; conceptual/contextual; incentives/determinations; continuous/discontinuous; articulated/inarticulated; transparent/non-transparent, etc.

Development of general and specific competences – knowledge and skills:

Linking theoretical thinking with the design process, reflecting a specific architectural educational process from the basic to the complex. Interaction between artistic and specific architectural modes.

Course curriculum

- spacious / flat
- simple / complex
- analytical / synthetic
- mystical / spiritual
- abstract / material
- spontaneous / meaningful
- active / passive
- visible / invisible
- scientific / artistic
- subject / non-subject
- open / hidden
- finished / unfinished
- deductive / inductive
- conceptual / contraceptive
- modern / contemporary
- time layers / moment
- dependence / independence
- determinations / incentives
- rational / irrational
- analysis / game
- metaphor / quote
- sensory / physical states
- sketch / thought recording
- stereotomic / tectonic
- gestural / structural
- voluminous / transparent
- discontinuity / continuity
- membrane determination / boundaries
- permeable / impermeable
- transparent/non-transparent
- articulated / non-articulated
- enigma of measure / scale

Other forms of teaching and knowledge assessment (in addition to attending classes, it is recommended that other forms of continuous student work and assessment be introduced, such as homework, tests, seminar papers, project work, etc.)

Compulsory literature

- 1 Le Corbusier, 1985: *Towards a new architecture* (original title: Vers une architecture). Dover Publications.
- 2 Eco, U., 1965: *Otvoreno djelo* (original title: Opera aperta. Translation: N. Miličević). Veselin Masleša, Sarajevo.
- 3 Frampton, K., 1992: *Moderna arhitektura: kritička povijest*. Globus, Zagreb.
- 4 Frampton, K., 2001: *Studies in tectonic culture: the poetics of construction in nineteenth and twentieth century architecture*. The MIT Press, Cambridge, Massachusetts.
- 5 Hertzberger, H., 1991: *Lessons for students in architecture*. 010 Publishers, Rotterdam.
- 6 Hertzberger, H., 2000: *Space and the architect: Lessons in architecture 2*. 010 Publishers, Rotterdam.
- 7 Norberg-Schulz, C., 1966: *Intentions in architecture*. MIT Press, Cambridge, Massachusetts.
- 8 Siza, A., 2006: *Zapisi o arhitekturi* (original title: Scritti di architettura. Translation: J. Gudelj). AGM, Zagreb.
- 9 Van Eyck, A., 1979: *The enigma of size*. Signs and insights: annual report Urbino 1979. International laboratory of architecture and urban design 1979: 42–53
- 10 Venturi, R., 2008: *Complexity and contradiction in architecture*. The Museum of Modern Art, New York.
- 11 Zumthor, P., 2003: *Misliti arhitekturu* (original title: Architektur Denken. Translation: D. Barbarić). AGM, Zagreb.

Additional literature

- 1 Baudrillard, J., Nouvel, J., 2008: *Singularni objekti: arhitektura i filozofija* (original title: Les objets singuliers: architecture et philosophie. Translation: L. Kovačević). AGM, Zagreb.
- 2 Boudon, P., 2006: *O arhitektonskom prostoru: esej o epistemologiji arhitekture* (original title: Sur l'espace architectural. Translation: M. Bekić Milinović). Institut za povijest umjetnosti, Zagreb.
- 3 Conrads, U., 1997: *Programi i manifesti arhitekture XX. stoljeća* (original title: Programme und Manifeste zur Architektur des 20. Jahrhunderts. Translation: N. Petrak). Psefizma. Udruženje hrvatskih arhitekata, Zagreb.
- 4 Harries, K., 1998: *The ethical function of architecture*. MIT Press, Cambridge, Massachusetts.
- 5 Hartoonian, Gevork, 1997: *Ontology of construction: on nihilism of technology in theories of modern architecture*. Cambridge University Press, Cambridge; New York.
- 6 Rasmussen, S. E., 2000: *Experiencing architecture*. MIT Press, Cambridge, Massachusetts.
- 7 Tschumi, B., 2004: *Arhitektura i disjunkcija* (original title: Architecture and disjunction. Translation: S. Kalčić). AGM, Zagreb.

Requirements for obtaining a signature

Regular class attendance.

Type of exam (written and/or oral/seminar paper/passed test, etc.)

Seminar paper and discussion on one of the proposed topics, explained in front of the study group and the course lecturer.

Learning outcomes of this course

Upon successful completion of this course (presented seminar paper), the student will be able to:

- integrate specific theoretical considerations into the design process;
- develop an architectural creative process from simple to complex;
- contrast certain specific architectural modes;
- choose specific architectural modes according to the particularities of the architectural or urban planning project;
- identify universal architectural principles that argue for an independent architectural choice.

Learning outcomes of the study programme

D01, D06

Interior

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Dina Vulin Ileković
Course associate(s)	Vulin Ileković
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

Starting from the elements of form which, in elementary or complex interrelationships, determine the concept of space as the essence of architecture, the architectural values of the interior as the origin of the architectural composition are analysed on the basis of examples of the achievements of architects of the 20th and 21st centuries.

Development of general and specific competences – knowledge and skills:

The aim of the course is for the students to develop a professional and critical approach to interior design. This is achieved through the systematic analysis of the elements of spatial design, which develops the ability to perceive and analyse the interior as the basis of the architectural composition; through the enrichment of architectural culture in the segment of interior design in the context of the historical development of architecture in the 20th century; through the recognition of architectural values in the works of selected authors, which are key to the development of interior design in the 20th and 21st centuries. The theoretical course Interior is closely linked to the practical course Interior Workshop, where the theoretical knowledge acquired in the lectures is applied in solving practical tasks.

Course curriculum

The curriculum consists of 15 units divided into 3 thematic parts. All three parts include selected examples of residential and public interiors by local and foreign architects. Part I: Introduction and examples in the context of a systematic reading of the elements that define interior space. 1. Course introduction – the concept of the interior and its role in the creation of architectural values, a review of the history of the course and its purpose as part of an architect's education. 2. Introduction to the standards used in interior design – from the whole to the detail, with examples of residential and public interiors. 3. Characterisation of space through form, analysis of spatial units as starting points for architectural composition with emphasis on the design of horizontal surfaces (examples of residential and public interiors). 4. Characterisation of space through form, analysis of spatial units as starting points for architectural composition with emphasis on the design of vertical surfaces (examples of residential and public interiors). 5. Elements that emphasise the emotional experience of space – the basics of colour theory and different principles of its application on examples of residential and public interiors. 6. Characterisation of space through the interplay of light and shadow and different principles of application of this relationship on examples of residential and public interiors. Part II: Examples in the context of the historical development of architecture. 7. Examples of residential interiors from the first half of the 20th century (domestic and foreign authors) in the context of the historical development of architecture. Comprehensive analysis of spatial arrangements and characteristic details, furniture elements, use of materials. 8. Examples of public interiors of different purposes from the first half of the 20th century (domestic and foreign authors) in the context of the historical development of architecture. Comprehensive analysis of spatial arrangements and characteristic details, furniture elements, use of materials. 9. Examples of residential interiors from the second half of the 20th century (domestic and foreign authors) in the context of the historical development of architecture. Comprehensive analysis of spatial arrangements and characteristic details, furniture elements, use of materials. 10. Examples of public interiors of different purposes from the second half of the 20th century (domestic and foreign authors) in the context of the historical development of architecture. Comprehensive analysis of spatial arrangements and characteristic details, furniture elements, use of materials. Part III: Comprehensive presentations of the works of selected architects. 11–15. Five thematic units are devoted to the presentation of the work of five architects who have played a key role in the development of residential and public interiors in the 20th and 21st centuries. By bringing together themes already covered (elements of form and their interrelationships), each unit provides an integral overview of the work of a single architect or team of architects. Selected thematic units will be analysed in the following order: architect – building – interior – object of use, with examples of residential and public interiors.

Other forms of teaching and knowledge assessment:

Compulsory literature

1 Ching, D. K. F.: Architecture: Form, Space & Order, John Wiley & Sons, 2014. 2. Massey, Anne: Interior Design since 1900, London, 2020. 3. Tanhofer, Nikola: O boji, Zagreb, 2008. 4. Vulin Ileković, Dina: Ishodišta zagrebačkih interijera: prostori privatnosti, Zagreb, 2022.

Additional literature

1 Albers, Josef: Interaction of Color, Yale University Press, 2013. 2 Brooker, Graem; Stone, Sally: Re-readings: Interior Architecture and the Design Principles of Remodelling Existing Buildings, RIBA Publishing, 2018. 3 Brooker, Graem; Stone, Sally: Re-readings: 2: Interior Architecture and the Design Principles of Remodelling Existing Buildings, RIBA Publishing, 2004. 4 Itten, Johannes: The Art of Color, John Wiley & Sons, 1997. 3. Rüegg, Arthur: Le Corbusier: Furniture and Interiors 1905-1965, Scheidegger and Spiess, 2016. 5. Smith, Elizabeth A. T.: Case Study Houses: The Complete CSH Program 1945-1966, Taschen, 2016. 5. Unwin, Simon: Analysing architecture, Routledge, 2020. 6. Wingler, Hans M.: Bauhaus, MIT Press, 1978. 7. Vulin Ileković, Dina; Ileković, Boris: Chair Architectonics, Prostor 31(66), 2023. 8. Vulin Ileković, Dina; Ileković, Boris: Hugo Ehrlich and villa Karma, Prostor 32(67), 2024.

Requirements for obtaining a signature: Regular class attendance.

Type of exam

Seminar paper and oral exam.

Learning outcomes of this course

- 1 Critically evaluate the designed or constructed interior by placing it in a spatial and temporal context.
 - 2 Demonstrate knowledge of language, principles and theoretical concepts that articulate and express ideas in the discipline of architecture in the field of interior design.
 - 3 Identify universal principles in anthological examples that inform contemporary design choices in the field of interior design.
 - 4 Identify the cultural, technical and economic conditioning of interior design.
 - 5 Integrate interior design knowledge into an architectural project
-

Learning outcomes of the study programme

D01, D03, D06

Interior Workshop

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Coordinator: Dina Vulin Ileković
Course associate(s)	Vulin Ileković; Filep; Tadej; Plavec; Kasun; Bertina; Porto
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	3
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	3.0

Framework of course content

Preparation and presentation of an interior design project with independent and individual development of a programme that can be identified in a real and everyday context.

Development of general and specific competences – knowledge and skills:

Developing a creative fusion of technical and artistic knowledge and methods in the interior design process as an integral part of the architectural project.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: to be determined in consultation with the course lecturer, depending on the topic.

Additional literature:

1 Brooker, Graem: Key Interiors since 1900, Laurence King Publishing, 2013. 2. Herrmann, Eva; Marcus Kaiser, Marcus; Tobias Katz, Tobias: Furnishing | Zoning, Birkhäuser, 2014. 3. Hudson, Jennifer: Interior Architecture Now, Laurence King Publishing, 2007. 4. Schittich, Christian: In Detail, Exhibitions and Displays, Birkhäuser, 2009. 5. * Detail Inside 1/2019, European Professional Publishing Group, 2019.

Requirements for obtaining a signature: Regular class attendance, submission of the program.

Type of exam: interior design project in a given space

Learning outcomes of this course

- 1 Select information and criteria essential for the development of an interior design project.
- 2 Develop an interior design programme that can be identified in a real, everyday context.
- 3 Independently design the interior as an integral part of the architectural documentation.
- 4 Creatively propose a structure solution and the appropriate use of materials, colours, light, technical and technological components during the creation of an interior design project, with the aim of achieving an aesthetically high-quality and functional spatial organisation and articulation.
- 5 Accurately present an interior design project graphically, textually and verbally.
- 6 Critically evaluate an interior design project.

Learning outcomes of the study programme

D01, D04, D06, D10, D14

Project Management

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Damir Mance
Course associate(s)	Mance
Year of study	Second
Semester of study	3 rd
Teaching mode	
Lectures (hours per week)	1
Exercises (hours per week)	0
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	1.0

Framework of course content

An overview of the basic principles of project management, as well as topics that complement the technical and artistic level of knowledge of students of the graduate study programme of architecture, with an emphasis on the role of the architect in all phases of a building's life cycle. Familiarisation with the latest international standards, technologies and computer tools that are key to successful project management.

The course is designed as a logical continuation of the knowledge acquired in other related courses (Planning and Project Management, Cost Estimation, Architecture and Urban Planning Legislation and the elective course Architectural Office: Practice and Management).

Development of general and specific competences – knowledge and skills:

The aim of the course is to acquire relevant local and international knowledge and skills in the field of entrepreneurship and project management in architecture, based on the Project Management Institute (PMI) PMBOK guides (6th and 7th edition). The basic skills developed include the management of different types of projects, with particular emphasis on the role of the architect in the project phases of the building life cycle. As part of the course, students will also acquire the knowledge necessary to plan and manage a project as a complex and unique undertaking, defined by an objective, budget, time and other resources, and taking place in a specific technological, economic and legislative context. At the same time, future architects are made aware of the complex tasks of managing (construction) projects faced by managers.

The course familiarises students with project management processes and their interdependencies, and develops theoretical and practical knowledge for initiating, planning, executing, controlling, monitoring and finishing projects. By working on the assignment, they will learn how to define the content of deliverables in each phase, create a breakdown of the project and project parts, and plan the time frame, costs, quality, resources, communication and risks.

Course curriculum

1. Course introduction. General information about work methods and the assignment of seminar papers.
2. Historical overview of project management. Project and legal environment: project documentation, contractual relations, building regulations.
3. Management basics. International project management standards (PMI, IPMA, ICB, ISO 21500, PRINCE2, IPD).
4. Project life cycle. Project stakeholders.
5. Project and business environment. Setting up the organisational structure.
6. Planning processes.
7. Job structuring. Work Breakdown Structure (WBS).
8. Time management. Quality and Risk Management.
9. Cost Management. Evaluation, budget, control. Fundamentals of construction economics.
10. Resource management.
11. Communication management. Business communication.
12. Implementation, monitoring and control.
13. Contemporary methods of managing and coordinating architectural projects – technology and computer tools, BIM.
14. Corporate social responsibility and business ethics / guest lecture on project management.
15. Closing the project.

Other forms of teaching and knowledge assessment:

Guest lectures by recognised experts in the field of project management, discussions, questionnaires, individual consultations. Teaching will be delivered using the flipped classroom method, where lectures become an interactive learning environment. Through the application of concepts and active participation, students will learn about key aspects of project management, from project preparation and management to corporate social responsibility and business ethics. Prior preparation is required for each of the topics (script/audio/video presentation of the lecture, as well as excerpts from compulsory and additional literature shall be prepared as an integral part of the script prior to each lecture).

Compulsory literature:

- Project Management Institute (PMI), A Guide to the Project Management Body of Knowledge (PMBOK GUIDE) Sixth Edition, Newtown Square: Project Management Institute, 2017 – pp. 541–635
 - Project Management Institute (PMI), A Guide to the Project Management Body of Knowledge and The Standard for Project Management (PMBOK GUIDE) Seventh Edition, Newtown Square: Project Management Institute, 2021 – *The Standard for Project Management*, pp. 1–61
 - International Project Management Association (IPMA), Temeljne individualne kompetencije za upravljanje projektima KNJIGA 1, Verzija 4.0, Zagreb: Hrvatska udruga za upravljanje projektima (HUUP), 2018
 - EU BIM Task Group, Priručnik za uvođenje modeliranja informacija o građevinama (BIM) od strane europskog javnog sektora, EU BIM Task Group, 2020
 - Jurčević, M.; Pavlović, M.; Šolman, H., Opće smjernice za BIM pristup u graditeljstvu, Zagreb: Hrvatska komora inženjera građevinarstva, 2017
 - Succar, B. (editor in chief); Mance, D. (Croatian translation editor)
-

Additional literature:

- Bielefeld, B. (ed.), Basics Project Management – Architecture. Basel: Birkhauser, 2013.
 - Hayes, R. L., The Architect's Handbook of Professional Practice, Fifteenth Edition, Hoboken: John Wiley & Sons, 2014.
 - Recent professional and scientific articles and other chapters from the literature, to be agreed with the lecturer, depending on the chosen topic.
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Requirements for obtaining a signature: Regular class attendance.

Type of exam: Submission of a seminar paper, oral exam.

Learning outcomes of this course

1. Independently prepare a project management plan based on project requirements and the principles of PMI project management standards.
 2. Analyse and synthesise project requirements and objectives in order to manage resources and time effectively and to ensure that projects are delivered to the expected quality and in accordance with international standards and local regulations.
 3. Develop critical thinking and decision-making skills in complex and dynamic environments, including the ability to anticipate potential project issues and adjust plans and strategies in real time.
 4. Argue the interdependence of different influences on project objectives.
 5. Communicate and collaborate in multidisciplinary teams, demonstrating the ability to lead a team and communicate effectively with different project stakeholders, including investors, engineers, contractors and end users.
 6. Identify and apply project management techniques using specific tools and technologies (such as BIM and project management software), including simulations of real project situations, so that students acquire practical skills that they will apply in their professional careers.
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Learning outcomes of the study programme

D11, D12, D13, D14, D15, D16

Research on specific Topic: Architecture

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Lecturer with an artistic and teaching or research and teaching rank from the Department of Architectural Design.
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

Research, intensive analysis and classification of selected emerging phenomena in the discipline of architecture. The field of research is contemporaneity and the future as a project. Case study projects are used as one of the research tools.

Development of general and specific competences – knowledge and skills:

An insight into the growing and specific aspects of architectural creation as a form of professional and research profile of the student. Focus on a chosen aspect or phenomenon with the aim of gaining an in-depth insight into the problem.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- evaluate and categorise contemporary architectural phenomena;
- explain the sources and relevance of new architectural stances;
- use a case study project as a research tool.

Learning outcomes of the study programme
: D04, D06, D14

Research on specific Topic: Theory of Architecture

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Karin Šerman
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

Research module: The Theory of Architecture course introduces and critically examines the fundamental ideas, concepts, models and approaches that have shaped the theory and history of the design and planning disciplines. Concepts from the field of architectural theory itself, as well as from related, relevant disciplines, such as philosophy, sociology, linguistics, history, art history and cultural studies, are considered and their role and potential in the development and direction of architectural thought and action are explored. Various theoretical corpora from modernity to the present are discussed. The focus is on recognising the potential of a particular theoretical concept to inform and guide the conceptualisation and creation of an architectural work, but also on considering the architectural and urban planning work itself as a legitimate bearer of theoretical potential and critical effect and action. At the same time as questioning the strength and relevance of a particular theoretical model for guiding architecture, it is also necessary to examine concrete design and planning operations and strategies that actually implement and achieve the intended theoretical effect. In this way, through this course, a student necessarily moves from the sphere of theoretical models and systems to the level of reflection and questioning of the design process and action itself.

Teaching is carried out through close readings of key theoretical texts and their in-depth critical analysis, discussion and interpretation, as well as through analogical critical interrogation of paradigmatic architectural and urban planning examples and projections of possible new theoretically structured design operations, procedures and tools.

Development of general and specific competences – knowledge and skills:

The aim of the course is to introduce students to research procedures in the field of architectural theory. Just as architectural theory is a set of different complex concepts and systems of thought, so its research requires the mastery of different methods, interpretive strategies and critical approaches. The course is therefore dedicated to the elaboration of the main theoretical models that inform and guide the development, understanding and practice of architecture. The aim is to master the fundamental methods of scientific analysis and the basic tools of research, the principles of critical debate, and the skills of argumentative interpretation and articulation of one's own theses and points of view, as well as their clear and structured presentation in written and oral form.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 1 – Critically evaluate the fundamental concepts, approaches and systems of architectural theory that inform and guide architectural thought and action.
- 2 – Evaluate the potential of different theoretical models for stimulating and guiding innovative and engaged design and planning interventions.

Learning outcomes of the study programme

: D01, D04, D06, D07, D14

Research on specific Topic: Built Heritage

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Alan Braun
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

Preparation of analytical and design documentation as part of the complex process of an integral approach to the restoration of built heritage. Theoretical and practical introduction to methods, procedures and experience in the restoration of immovable cultural heritage.

At the selected heritage site, the students, in consultation with their supervisor, will draw up a programme and a project assignment for the restoration of the heritage site and take part in the following:

Exercises: analysis of the existing documentation and preparation of the necessary preliminary conservation documentation, preparation of the restoration project in stages, and final defence and presentation of the project.

Seminar: collection, processing and critical review of previous research, research and reconstruction of the historical-spatial development of a historical building or complex, research and analysis of the historical construction system, analysis of the existing state, valorisation of historical layers, proposal of restoration methods and acceptable future use, techniques, materials and systems in restoration and conservation.

Field course: visits to sites, construction sites and workshops – familiarisation with the issues on specific examples, as well as with specific works and materials in the process of heritage restoration.

Development of general and specific competences – knowledge and skills:

Students acquire knowledge of preparing general and specialist documentation for the project of restoration of immovable cultural heritage and are taught to cooperate in tasks in the field of protection and restoration of architectural heritage – documentation, research, design.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- critically evaluate previous research;
- analyse a historic building or complex through field and archival research;

- interpret the historical-spatial development of a historic building or complex;
 - evaluate a historic building or complex;
 - draw up guidelines for the restoration of a historic building or complex;
 - select and propose appropriate methods for the restoration of a historic building or complex;
 - propose a project programme for a selected historic building or complex;
 - prepare a design concept for the restoration of a historic building or complex;
 - integrate the acquired knowledge of constructions, materials, technical-technological systems, building physics and performance technologies with the principles and methods of protection and restoration of built heritage;
 - explain and critically evaluate the appropriateness of proposed guidelines, project programme and construction methods in the conceptual design for the restoration of a historical building or complex.
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Learning outcomes of the study programme

: D01, D02, D03, D04, D05, D07, D08, D10, D13

Research on specific Topic: History of Architecture

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Nataša Jakšić
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The course Research Module 3: History of Architecture enables students to explore the main elements and basic operations of iconic buildings and projects of historical architecture and to question the possible emanations of influence on contemporary architectural activity. Students thus critically analyse architectural operations on an exemplary architectural solution and create a base of knowledge and information that is valuable for future successful architectural work. Strong historical buildings regularly activate, invigorate and modify their environment, including the users themselves as actors in this targeted and varied activation. It is this "internal mechanism" of the designed space, its inherent logic and power, that encompass and imply a whole range of architectural operations that are identified in this course using a comprehensive method of analysis. In addition to developing students' ability to research, analyse, critically review and evaluate an architectural work, special attention is given to the appropriate presentation of research results and conclusions using modern VR technologies.

The course is taught in three successive thematic parts that follow the logic of research activities. In the first part, students will be introduced to the basic scientific and research approach to architectural work, while in the second part a selected example will be analysed and critically evaluated using an elaborated comprehensive method, assessing possible influences of previous buildings on the architectural solution and the emanation of observed operations on later periods. In the third and final part of the course, students will consider different ways of presenting the architectural work in order to optimise the presentation of the knowledge acquired. The seminar paper consists of concise descriptions of the research results, supplemented by graphic representations of the main design operations of the building studied.

Development of general and specific competences – knowledge and skills:

The objectives of the course Research Module 3: History of Architecture are the acquisition of knowledge and skills of in-depth analysis and critical evaluation of architectural operations of key works of historical architecture, using basic scientific and research tools and comprehensive analytical methods, and the presentation of identified operations using modern VR technologies.

Course curriculum

The course will be taught according to the following schedule:

Part I: Introduction to research in historical architecture

- Introduction to selected architectural work and research methods of historical architectural works
- The "silent witness" and the importance of primary sources
- Research in historical architecture and the virtual world
- Research possibilities and issues – discussion

Part II: Analysis and evaluation of historic architecture: lessons from the past

- Reading of architecture and a comprehensive analytical method
- Project assignment and context
- Basic concept: the main idea and concern of the designer
- Spatial forms and understanding of space: form, function, beauty
- The impact of technology

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- 1 – Independently carry out basic research and analysis of the fundamental components of an architectural work.
 - 2 – Identify and critically evaluate the architectural operations that essentially define the architectural work.
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**Learning outcomes of the study programme
: D01, D04, D06, D07, D14**

Research on Specific Topic: Modern and Contemporary Architecture

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Melita Čavlović; Mojca Smode Cvitanović
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

Research module: The Theory of Architecture course introduces and critically examines the fundamental ideas, concepts, models and approaches that have shaped the theory and history of the design and planning disciplines. Concepts from the field of architectural theory itself, as well as from related, relevant disciplines, such as philosophy, sociology, linguistics, history, art history and cultural studies, are considered and their role and potential in the development and direction of architectural thought and action are explored. Various theoretical corpora from modernity to the present are discussed. The focus is on recognising the potential of a particular theoretical concept to inform and guide the conceptualisation and creation of an architectural work, but also on considering the architectural and urban planning work itself as a legitimate bearer of theoretical potential and critical effect and action. At the same time as questioning the strength and relevance of a particular theoretical model for guiding architecture, it is also necessary to examine concrete design and planning operations and strategies that actually implement and achieve the intended theoretical effect. In this way, through this course, a student necessarily moves from the sphere of theoretical models and systems to the level of reflection and questioning of the design process and action itself.

Teaching is carried out through close readings of key theoretical texts and their in-depth critical analysis, discussion and interpretation, as well as through analogical critical interrogation of paradigmatic architectural and urban planning examples and projections of possible new theoretically structured design operations, procedures and tools.

Development of general and specific competences – knowledge and skills:

The aim of the course is to introduce students to research procedures in the field of architectural theory. Just as architectural theory is a set of different complex concepts and systems of thought, so its research requires the mastery of different methods, interpretive strategies and critical approaches. The course is therefore dedicated to the elaboration of the main theoretical models that inform and guide the development, understanding and practice of architecture. The aim is to master the fundamental methods of scientific analysis and the basic tools of research, the principles of critical debate, and the skills of argumentative interpretation and articulation of one's own theses and points of view, as well as their clear and structured presentation in written and oral form.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

Modern and Contemporary Croatian Architecture

- 1 Evaluate the achievements of the discipline of architecture within the wider cultural, social and political context of their origins.
- 2 Identify the principles of architectural activity within the corpus of Croatian modern and contemporary architecture.
- 3 Analyse instructive examples of architectural production with the aim of identifying and understanding their essential determinants and conditions of creation.
- 4 Demonstrate and apply the identified essential determinants and architectural procedures in one's own architectural activity.
- 5 Explain and understand the architectural settings of Croatian modern and contemporary architecture in the international context.
- 6 Select prominent architectural examples from the corpus of Croatian architecture that are important for contemporary architectural practice.
- 7 Collect, research and interpret data for the evaluation of architectural work.

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Modern and Contemporary World Architecture

1. Understand the social responsibility of architects.
2. Recognise the principles that shape an idea in architecture.
3. Identify the principles of architecture in the function of shaping a contemporary architectural work.
4. Critically evaluate architectural works.

Learning outcomes of the study programme

: D01, D04, D06, D07, D14

Research on specific Topic: Modern and Contemporary Architecture

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Zrinka Barišić Marenić
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

For international students, the course language is English, while students studying at the Faculty of Architecture may choose between English and Croatian, depending on their individual preferences.

Female architects worldwide have been more active since the beginning of the 20th century, which marks the beginning of the development of modern architecture. In the international context, the pace at which women architects have gained recognition has varied. This course will explore the various beginnings, limitations, and activities of female architects in the 20th and 21st centuries, as well as the affirmation of their creative potential.

Foreign students analyse and evaluate the activities of female architects in the countries where they study, where they come from or for whom they have an affinity. Croatian students focus on and study the activities of two female architects according to their affinity.

Introductory lectures will cover specific topics and will focus on the work of female architects, i.e. women from different perspectives. The research is in line with the principles of the New European Bauhaus, which through architecture, design and art contribute to positive experiences in our daily lives and a more equitable way of life in creative and inclusive societies.

According to their preferences, students choose female architects whose work or activities inspire and fascinate them. They explore different professional aspects of their work in the context of different generations or socio-political situations. The scale of the female architects' activities stretches from architecture, urban planning and interior decoration to physical planning, heritage conservation, administrative tasks, photography, etc. By researching primary archives, expert literature, databases and the Internet, as well as on-site research and interviews, students analyse and evaluate the complete works of female architects and highlight their most important architectural and other professional or scientific works. Interviews with female architects are also encouraged.

The course aims to explore the socio-legal-economic aspects of different environments and analyse how these factors either encourage or hinder the full creative potential of female architects in the 20th and 21st centuries.

Through comparative analysis and presentations of student research, the course examines the activities of female architects in the international context (in the EU and beyond), with the aim to uncover the experiences and knowledge needed for the recognition of the professional activity of young female architects of the 21st century.

Course curriculum

- 1 Course introduction.
Student profiles and international starting points.
Individual research proposals based on personal affinities and the knowledge of female architects' works.
- 2 *Introductory lecture by prof. Zrinka Barišić Marenić, PhD: Contribution to Research of Architecture and Education in Croatia with the Focus at Women Architects (since 1919)*
Analysis of individual research proposals based on personal affinities and the knowledge of female architects' works.
- 3 Analysis of researched materials and works.
- 4 *Lecture by prof. Zrinka Barišić Marenić, PhD: Architect Zoja Dumengjić: The Remarkable Features of Her Oeuvre in the Context of Croatian Modern Architecture.*
Founding of foreign schools of architecture and analysis of first female architects' activity.
- 5 *Guest lecture (ev.)*
Analysis of the most important works and methods of research of historical works.
- 6 Presentation of the **first** phase of research and submission of posters. Discussion
- 7 *Guest lecture (ev.)* Analysis.
- 8 Analysis of the most significant major works.
- 9 Analysis of generational aspects of activity during the 20th and 21st centuries.
- 10 The work of female architects in the context of prominent figures from their era.
- 11 Presentation of the **second** phase of research and submission of posters. Discussion.
- 12 Typology of works and analysis of specific features.
- 13 Analysis of contemporary progress of female architects in international terms.
- 14 Final presentation and conclusions.
- 15 Submission of the final posters, final seminar paper and discussion. Preparation of a poster exhibition.

Literature:

1. Women's Creativity since the Modern Movement (1918–2018): Toward a New Perception and Reception / Seražin, Helena; Franchini, Caterina; Garda, Emilia (eds.). Ljubljana: France Stele Institute of Art History ZRC SAZU, ZRC Publishing House, 2018.
2. Kenneth Frampton, *Moderna arhitektura: kritička povijest*, Zagreb, Globus, 1992.
3. Harriet Harriss, Naomi House, Monika Parrinder, and Tom Ravenscroft: *100 Women—Architects in Practice*, RIBA Publishing, 2024.
4. Sekulić-Gvozdanović, Sena: *Žena u arhitekturi: tragom žene kreatora i žene teoretičara u povijesti arhitekture*; foreword Olga Maruševski ; post scriptum Itsuko Hasegawa. Zagreb: Nakladništvo Udruženja hrvatskih arhitekata, 1998.
5. Barišić Marenić, Zrinka: *Arhitektica Zoja Dumengjić*. Zagreb: Faculty of Architecture at the University of Zagreb i UPI 2M PLUS, 2020.

Additional literature

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Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

Upon successful completion of this course, the student will be able to:

- analyse an architectural project and its implementation;
- evaluate specific creative contribution;
- contextualize the architect's work;
- interpret analytically, in written, oral and visual form, the most significant architectural contribution of the analysed architectural work;
- Understand the specific social context of the work of female architects in various contexts;
- gain sensibility for the specific aspects of the professional work and private aspects of the life of women.

The final outcome is the empowerment of young women to be able to work and gain recognition in the 21st century by gaining the experience and the specific know-how of the previous generations of female architects.

Learning outcomes of the study programme

D01, D06, D14, D15

Research on specific Topic: Bearing Structures

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Josip Galić
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The intensive form of teaching is based on team research work, open to integral disciplines but also to other areas. The focus of the workshop is on the consistency of materialisation of the design concept developed in one of the architectural sections. The expected outcome of the assignment is a detailed project, from the choice of materials and the structure concept to the details of the execution, as well as an assessment of the possibility of its specific implementation on a scale of 1 : 1.

Development of general and specific competences – knowledge and skills:

An open form of work and teaching, based on the model of working in a professional design studio environment, which allows students to gain insight into the specificity and importance of research, design and the final stages of development of load-bearing structures. Students will master more complex structural systems and contemporary design of the load-bearing structure, taking into account the architectural requirements of the building, as well as the requirements of the performance technology, which is a prerequisite for the high quality implementation of the conceptual design. Students will also become familiar with the importance of a research approach and of proposing and deciding on solutions through the presentation of relevant arguments.

The ability to work out complex architectural tasks and analyse variants of structural solutions is developed through the use of contemporary technical means and materials in the discipline of architectural structures.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- creatively apply the principles of sustainability in making architectural design decisions that preserve the values of the built environment;
- use technical documentation to interpret knowledge of methods of protection and restoration of individual buildings;
- integrate knowledge of organisational structures, technologies, performance procedures and legal regulations in order to organise, plan and supervise construction and landscaping activities.

Learning outcomes of the study programme

: D01, D02, D04, D08, D09, D10, D13, D14

Research on specific Topic: Architectural Technology and Materials

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Zoran Veršić, Marin Binički, Stanka Ostojčić Ivica Plavec Zorana Protić; Hrvoje Spudić
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0, 1, 0
Exercises (hours per week)	0, 2, 4
Seminars (hours per week)	4, 1, 0
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The intensive form of teaching is based on team research work, open to integral disciplines but also to other areas. The focus of the workshop is on the consistency of the materialisation of the conceptual idea. The expected outcome of the assignment is a detailed project, from the choice of materials and the structure concept to the details of the execution, as well as an assessment of the possibility of its specific implementation on a scale of 1 : 1. The research approach, through the creation of own knowledge and tools, allows the development, expansion and modification/transformation of the initial idea up to the definition/determination/shaping/design of the prototype.

INCEPT (Veršić, Binički, Ostojčić). The work of the "INCEPT – Scales of Re-Use" group is linked to the Erasmus+ research project, one of the aims of which is to integrate sustainable design and building into the design studio through interdisciplinary guidance. The workshop within the project represents the testing phase; the experimental studio explores possible topics and an approach that considers both the wider scale of the project and the impact of the integrated space on the immediate context and community, and within the project it focuses on the scale of the reuse of existing buildings with the aim of affirming circular management, and on a small scale it develops innovative solutions to contemporary technical requirements of climate-neutral buildings. During the semester, and together with a series of guests, supervisors from three departments will lead groups of students in three different fields (urban planning, architecture and architectural structures), after a joint problem analysis and programming, to work on different criteria of reuse.

Modular and prefabricated construction (Plavec). Research, design and prototyping of elements, structural assemblies and units IN MODULAR AND PREFABRICATED CONSTRUCTION. Emphasis is also placed on the preparation of a presentation to arouse commercial interest, as well as market niche research, design, elaboration and researching opportunities for cooperation with potential manufacturers.

The research approach, through the creation of own knowledge and tools, allows the development, expansion and modification/transformation of the initial idea up to the definition/determination/shaping/design of the prototype.

Speculations on the material (Protić, Spudić). Empirical speculative research is carried out at the end of the architectural studies in the form of a course designed as an open workshop. The workshop deals with the specificity and spatial potential of materials with the aim of cultivating curiosity about material reality/substance. We will study the material in a studio, empirically and speculatively, as part of cultural (inter)relations, of different origins, original contexts and physical properties. On the verge of a new technological era, it seems important to refocus our attention on the physical world that surrounds us. The backbone of the course is research that seeks to explain the character of a material or the potential of a phenomenon.

Development of general and specific competences – knowledge and skills:

An open form of work and teaching, based on the model of working in a professional design studio environment, which allows students to gain insight into the specificity and importance of research, design and the final stages of development of load-bearing structures. Students will master more complex structural systems and contemporary design of the load-bearing structure, taking into account the architectural requirements of the building, as well as the requirements of the performance technology, which is a prerequisite for the high quality implementation of the conceptual design. Students will also become familiar with the importance of a research approach and of proposing and deciding on solutions through the presentation of relevant arguments.

The ability to work out complex architectural tasks and analyse variants of structural solutions is developed through the use of contemporary technical means and materials in the discipline of architectural structures.

INCEPT. In the "INCEPT – Scales of Re-Use" group, the proposed solutions must also take into account energy efficiency, the use of energy from renewable sources, the proposal of smart energy systems, adaptation to climate change, risk prevention and resilience to disasters, solutions for sustainable water management, solutions geared to the circular management of space and buildings, the promotion of biodiversity, green infrastructure in the urban environment and the reduction of pollution, in line with the objective of "a greener, low-carbon Europe by promoting clean and fair energy transition, green and blue investment, the circular economy, climate adaptation and risk prevention and management" (Proposal for a Regulation of the European Parliament and of the Council for the programme period 2021–2027).

Modular and prefabricated construction. A form of work and teaching that enables students to acquire knowledge of the importance of researching and designing new methods of construction, especially modular and prefabricated construction, through the design and production of prototypes of individual construction parts as well as the whole. The aim is to develop observation and structuring skills in order to simplify the construction method as much as possible, so that instead of complex shapes being built from many simple elements, simple shapes are built from a few complex construction elements.

Speculations on the material. Research is concerned with the specificity and spatial potential of material. The aim is to open up and develop a different view of standardised reality/substance and the way we use materials, techniques and technologies. The purpose of the research is not to find new construction models, but to explore the possibilities of all that already exists and to strengthen conceptual considerations in the field of materiality and technology. By linking abstract concepts to the real and material world, the research aims to raise students' awareness of the hidden potential of built space, to re-examine existing modes of physical action within contemporary spatial practice, and to broaden their own field of interest. The aim is to foster curiosity about material reality/substance. This research is a step towards understanding and finding alternatives within the current system, but also towards thinking about a possible different future.

Course curriculum

INCEPT 01. Introduction to the assignment, field tour. 02–04. Seminar: Lectures, individual research on topics (urban planning, architecture and architectural structures). 05–07. Joint work: Synthesis, programming, division into groups. 08–14. Group work: Workshop on urban planning, architecture and architectural structures. 15. Final presentation and exhibition.

Modular and prefabricated construction. 01. Introduction; lecture on the subject area of the course, analysis of possible topics and work methods.

02–03. Research work; market niche testing, literature, analysis of existing examples, collection of resources, presentation of research results; presentation of collected data and analysis at seminar group level. 04 – 13. Assignment selection; division into working groups, instructions for further work on the assignment; work on creating the assignment concept with consultations; presentation of the introductory analytical part; presentation at the level of student work groups; elaboration through drawings and working models, graphic presentations in digital form, technical drawings, elaboration of structural elements of the project, elaboration of the method of connecting structural elements into a whole, elaboration within the framework of prototyping. 14 – 15 Presentation of the final form of the work to potential producers and submission of the work.

Speculations on the material. The workshop will follow three theoretical and practical comparative methodologies: research, experimentation and speculation. The research approach includes the development of a theoretical framework, the study of examples of contemporary spatial practices, insights into other scientific and artistic fields, the collection of specific technical knowledge, field research and the documentation of the entire work process. The experimental approach consists of practical work on a series of samples and working models, using available tools, simple techniques and elementary skills. This physical approach conveys the visual and tactile aspects of the materials, revealing the process of their creation and the origin of the raw materials. The speculative approach re-examines existing models of construction and proposes alternatives both in the present and in the near future. Speculation on the materials studied is manifested in the form of texts, architectural drawings and graphics.

Other forms of teaching and knowledge assessment:

INCEPT. Regular engagement in exercises, attending lectures, active participation in discussions.

During the semester, students prepare written and graphic submissions and briefly present analyses and solutions to colleagues and experts. Students show the final result of their work at the final presentation.

Speculations on the material. An important part of the process is visiting and talking to people for whom materials are the essence of their work.

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

INCEPT Regular class attendance and participation in intermediate presentations that precede the final presentation of the project.

Modular and prefabricated construction. Submission of the project.

Speculations on the material. Regular class attendance and dissemination of own research.

Type of exam

INCEPT Successful submission and presentation of the project.

Modular and prefabricated construction. Defence of work with presentation

Speculations on the material. Presentation of research through a joint exhibition and discussions with guests for whom materials are the essence of their work.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

INCEPT

- creatively connect knowledge and methods in the field of technical sciences and arts, as well as social and natural sciences, in the process of researching, designing and implementing an architectural and urban planning solution that meets the aesthetic and technical requirements of the discipline
- make creative decisions regarding the principles of sustainability in architectural and urban planning
- undertake research on the selected topic through the development of an architectural and urban project
- in the development of the architectural and urban design project, propose creative solutions for the structure and the appropriate use of materials, technologies, technical, installation, transport and safety systems, with the aim of achieving sustainability and functional efficiency of the whole and meeting the basic requirements for the building, the protection of the building users, the buildings themselves and the environment
- integrate knowledge of physical, technological and functional solutions into the project with the objective of protecting the building from external climatic influences and achieving a comfortable internal microclimate
- independently design components of the architectural, physical planning and technical documentation and integrate these components into a unified whole
- organise the work of an architectural and interdisciplinary research or project team of experts with the objective of integrating the results of the team's work into the development and implementation of the project or plan
- plan the continuation of their education by enrolling in postgraduate scientific and artistic studies in the field of architecture and urban planning

Modular and prefabricated construction

- creatively choose the principles of research and design of new construction methods;
- use technical documentation to interpret knowledge of modular and prefabricated construction;
- apply the acquired knowledge of the importance of making prototypes of individual structural parts as well as the whole;
- further develop visualisation and structuring skills, as well as simplifying construction methods;
- creatively design simple forms from a small number of complex structural elements.

Speculations on the material

- combine material phenomena into a spatial concept;
- recognise the potential of a built space;
- recognise the importance of the environment and the impact of materials on the anthropocentric world;
- question existing construction methods within spatial practices;
- think about, explore and experiment with the physical world that surrounds them;
- understand and find an alternative approach within the existing system;
- use different aspects of the material to create their own project tools;
- take a holistic view of the building process;
- interact with other disciplines and fields outside of architecture;
- generate new knowledge and own insights.

Learning outcomes of the study programme

D01, D02, D04, D08, D09, D10, D13, D14

Research on Specific Topic: Sustainable Building

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Mateo Biluš
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content Research of construction based on the principles of sustainability and bioclimatic design, as well as research into alternative infrastructure and building systems. The assignment should be developed from the initial concept to the detailed plan and execution technology. Particular emphasis will be placed on interdisciplinary collaboration with practitioners. The project should be developed through aspects of architecture, structure, material selection, technology research and alternative installation systems to the elaboration of the detailed plan. The assignment will culminate in a public presentation and discussion.

Development of general and specific competences – knowledge and skills: Integral research and design to meet the requirements of sustainable building. Assessing the impact of the building on the environment, the environment on the building, the building on the users and the users on the building. Designing the building using materials, technologies, systems and equipment that have the least impact on the environment while providing the highest level of technical performance.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

RST/SB 1 – Creatively integrate knowledge and methods from the technical sciences in the process of research, design and implementation of architectural and urban planning solutions that meet the aesthetic and technical requirements of the discipline.

RST/SB 2 – Creatively apply the principles of sustainability in making architectural design decisions according to the principles of sustainable building.

RST/SB 3 – Propose the appropriate use of materials, technologies, technical, installation systems and structural solutions with the aim of meeting the basic requirements for buildings and achieving the sustainability of the solution.

RST/SB 4 – Integrate knowledge of physical, technological and functional solutions into the project with the objective of protecting the building from external climatic influences and achieving a comfortable internal microclimate according to the principles of sustainable building.

RST/SB 5 – integrate knowledge of organisational structures, technologies, performance procedures and legal regulations in order to organise, plan and supervise building and landscaping activities to achieve the requirements of sustainable building.

Learning outcomes of the study programme:
D01, D02, D08, D09, D12, D16

Research on Specific Topic: Urban Planning

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Krunoslav Šmit
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

In consultation with the course lecturer, the student chooses a space and a topic from the field of urban space transformation. The student will carry out structured research on the chosen topic. The expected outcome of the work is a study of the urban space and its transformation.

The study should include:

- Context;
- Analysis of the problem;
- Factors influencing the transformation of urban space;
- Relevant examples from literature;
- Different scenarios and models of urban space transformation;
- Criteria for selecting the final solution.

Development of general and specific competences – knowledge and skills:

The aim of the course is to develop knowledge and skills for independent analysis, evaluation and preparation of a study of urban transformation.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- apply urban planning-architectural and other methods of spatial analysis in the context of development and changes in urban space;
- apply knowledge of the urban space being studied;
- present an analysis of the genesis of the spatial development of a given part of the city;
- establish the criteria for contemporary interventions in the urban area, taking into account the historical and physical/existing context and the context planned by the physical planning documentation;
- evaluate the studied landscape, inside and/or outside the settlement, with the aim of preserving recognisable values and establishing criteria for possible contemporary interventions;

– On the basis of the selected criteria, programme the process of urban transformation of a part of the city and present alternative solutions in the form of a project.

Learning outcomes of the study programme:
D01, D02, D03, D04, D05, D06, D15, D16

Research on specific Topic: Physical Planning

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Ana Mrđa; Krunoslav Šmit
Year of study	Second
Semester of study	3 rd
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The student chooses the space and the topic for the physical planning solution. For the chosen topic, the student conducts research and the expected outcome of the work is a study of the space with specific spatial characteristics.

The study should include:

- Systematisation of the factors that determine the organisation and use of land and comparison of changes in the context of development;
- Interpretation and evaluation of spatial characteristics in relation to development;
- Selection of variant concepts of spatial development;
- Graded characteristics of the chosen spatial development scenario.

Development of general and specific competences – knowledge and skills:

The aim of the course is to develop knowledge and skills for independent analysis, evaluation and preparation of a study of the space with regional characteristics.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- apply urban and physical planning methods of spatial analysis in the context of different forms of development;
- apply knowledge of physical planning of agglomerations with regional characteristics;
- present an analysis of the genesis of spatial development and change;

- identify the factors of identity and groups of functional activities in an area, which are important for determining the criteria of development planning, taking into account the existing and planned context;
- evaluate the spatial units of the settlement in order to establish criteria for new development activities;
- plan the physical planning solution of the complex area of the settlement and its surroundings

Learning outcomes of the study programme
: D01, D02, D03, D04, D05, D06, D13, D14, D15

Research on specific Topic: Landscape Architecture

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Bojana Bojanić Obad Šćitaroci
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The student chooses the space and the topic for the landscape architecture project. The student carries out landscape-urban planning research on the chosen topic. The expected outcome of the assignment is a study of an area of specific landscape value.

The study should include:

- Breakdown of landscape elements and comparison of their changes over time;
- Interpretation of the landscape being studied;
- Presentation of the layers of the context, selection of the concept for future development of the space;
- Creating a series of scenarios to test the reactions of the space.

Development of general and specific competences – knowledge and skills:

The aim of the course is to develop knowledge and skills for independent analysis, evaluation and preparation of a study of the area of specific landscape values.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- apply urban-landscape-architectural and other methods of spatial analysis in the context of development and changes in landscape space;

- apply knowledge of the observed landscape;
- present an analysis of the genesis of spatial development and changes of the observed landscape;
- identify factors of spatial identity and types of landscape that are important for defining criteria for contemporary interventions, respecting the historical, physical/existing and planned context of the physical planning documentation;
- evaluate the studied landscape, inside and/or outside the settlement, with the aim of preserving recognisable values and establishing criteria for possible contemporary interventions;
- design a landscape solution inside and/or outside a settlement.

Learning outcomes of the study programme

: D01, D02, D03, D04, D05, D06, D13, D14, D15

Research on specific Topic: Heritage Urbanism

Course status (compulsory/elective)	Compulsory
Coordinator	Vice-dean for Teaching
Course associate(s)	Marko Rukavina
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	0
Seminars (hours per week)	4
Field Course (days)	0
ECTS credits:	5.0

Framework of course content

The student chooses a topic related to the urban heritage and conducts research on urban planning, architectural research and other research on the chosen topic, which will enable the identification of identity features and the evaluation of the space, as well as the elaboration of the concept of development, renovation, revitalisation and/or improvement. The expected outcome of the assignment is a seminar research paper (focus on research) or a seminar project (focus on a design concept).

Possible research topics include: historic city centres (as a whole or parts thereof), historic small towns, traditional villages, fortified buildings and complexes, historic industrial units, castles and summerhouses, historic parks and other heritage areas in need of restoration, revitalisation, improvement and affirmation through contemporary spatial interventions.

The paper should include the following thematic units:

- Identification of identity factors (identity features of an area – historical and current context, intended context and context required by the physical planning documentation; evaluation of the area, identification of the spatial problem);
- Evaluation of the studied area and buildings (criteria for evaluation, criteria for interventions based on the evaluation);
- Comparative examples (selection criteria, identity characteristics, models of improvement/renovation/revitalisation, other characteristics);
- Research and selection of possible models for the improvement/revitalisation/renovation of the selected heritage (city/settlement, district, complex of buildings, urban public spaces, urban features, etc.);
- Theoretical starting points and application of possible methods;
- Concept/idea of a spatial solution or acceptable solution scenarios (sketches, plans, drawings, cartograms, visualisations, etc.);
- Possible future outcome – spatial consequences.

Development of general and specific competences – knowledge and skills:

The aim of the course is for students to acquire the knowledge and skills to be able to independently analyse and evaluate built and unbuilt, protected and unprotected areas of the cultural landscape according to the criteria of cultural property protection and nature conservation, and to be able to plan interventions in areas of cultural heritage in a responsible and professionally competent manner.

Course curriculum

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- apply urban planning-architectural and other methods of spatial analysis in the context of development and changes in cultural landscape;
 - apply knowledge of historical parts of towns and villages, protected cultural-historical units and other protected areas to planning and design in areas of the cultural landscape;
 - present an analysis of the spatial development and changes in the studied area;
 - identify factors of spatial identity that are important for defining criteria for contemporary interventions, respecting the historical, physical/existing and planned context of the physical planning documentation;
 - evaluate the studied area with the aim of preserving recognisable values and establishing criteria for possible contemporary interventions in areas of cultural heritage;
 - plan an integrated spatial and programmatic solution for contemporary interventions of revitalisation, improvement and restoration of cultural heritage.
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Learning outcomes of the study programme

: D01, D02, D03, D05, D06, D07, D13, D14, D15

Workshop 3: Architectural Design

Course status (compulsory/elective)	Compulsory
Course lecturer (coordinator)	Mikić
Course associate(s)	Geng; Filep; Franić T. S.; Mikić; Tadej; Turato; Vulin Ileković, Ivanišin; Prpić; Begović; Kostrenčić; Čeko
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	10
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	14.0

Framework of course content

"Architectural workshops affirm assignments which have not yet been defined during the educational process of the study programme. The suggested assignments of the workshops assume and combine complex architectural systems and assemblies; multiple uses, events and meanings, dependence on the urban context and other spatial contexts."

Development of general and specific competences – knowledge and skills:

The aim of the course is to examine innovative urban and architectural practices, the creation of new identities, through a content- and contextually complex and spatially extensive architectural project, and to explore relationships with the surrounding urbanity, its content, physiognomy and density. The workshop leaders define the tasks independently, and the student chooses the appropriate task according to their profiled affinities in the last semester.

Course curriculum

The curriculum is developed around the overarching theme set for the academic year.

Other forms of teaching and knowledge assessment:

Compulsory literature: to be determined in consultation with the course lecturer, depending on the topic.

Additional literature: to be determined in consultation with the course lecturer, depending on the topic.

Requirements for obtaining a signature: Regular class attendance.

Type of exam: Submission of the programme.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- carry out research on the chosen topic;
- critically evaluate the values of the studied parameters;
- develop a highly complex programme on the given topic;
- justify the development of the architectural project with the research conclusions;
- independently design an integral urban architectural solution based on the conducted research.

Learning outcomes of the study programme

D01, D02, D03, D04, D08, D13, D16

Workshop 3: Urban Planning/Physical Planning/Landscape Architecture

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	Šmit / Petrović Krajnik / Rukavina
Course associate(s)	Šmit / Petrović Krajnik / Rukavina
Year of study	Second
Semester of study	Third
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	10
Seminars (hours per week)	0
Field Course (days)	0
ECTS credits:	14.0

Framework of course content

1 Urban Planning:

Establishment of a methodological procedure with a proposal for a physical plan/project solution for a selected complex area or an area with special characteristics. The area includes: significant urban developments, "urban projects" and "strategic projects" of complex mixed or specific uses. The assignment can be a theoretical study or practical in real areas. The first part of the assignment is based on an interdisciplinary overview and detailed analysis of the area, and the second part allows for an innovative approach to planning and design of the area.

The physical planning solution includes: 1. preparation of seminar paper on the proposed topic and its presentation, 2. development of SWOT analysis of existing and planned conditions of use and organisation of an area, 3. familiarisation with the terrain and the basic urban or physical planning problem, 4. recording of the situation on the ground, 5. analysis of the existing urban or physical planning documentation, 6. preparation of a problem map, 7. preparation of a pre-conceptual solution, 8. discussion, 9. preparation of a solution at the level of a detailed layout plan, urban or physical planning layout, 10. elaboration of the project.

2 Physical Planning:

The student chooses an area according to their affinity in accordance with the proposed topic. During the semester, a methodological process will be carried out that includes understanding spatial systems and dynamics, research, analysis, synthesis, forecasting and planning the development of the chosen area with critical thinking, proposing a physical planning solution at regional and/or local level.

Based on theoretical planning settings and European development policies and perspectives, analysis and evaluation of spatial elements and their trends, SWOT analysis, and the use scenario planning method, variant development scenarios are proposed as a basis for further evaluation and creation of a vision of spatial development of the selected area. Taking into account the necessity of permanent reflection and the possibility of spatial flexibility, a concept of organisation and use of the subject area is proposed, which contains planning starting points for the arrangement of a wider and narrower scope. For the selected location, a more detailed programme is developed in order to preserve the environmental values and improve the situation.

The physical planning solution includes:

1. seminar paper on the proposed topic; 2. analysis of spatial elements and physical planning documentation; 3. SWOT analysis of regional and local factors (existing and planned conditions of use and organisation of space; construction and design of buildings; transport, energy and utilities infrastructure, etc.); 3. interpretative map – evaluation of spatial peculiarities; 4. scenarios of the development of the area in question; 5. valorisation of the scenarios on the basis of set objectives; 6. development vision of the selected area; 7. spatial/urban planning concept with a more detailed programme of the arrangement and use of space; 8. model, visualisations of the proposed solution of the area in question.

3 Landscape Architecture:

The student chooses an area and a topic that he/she associates with planning and design using landscape architecture. The student will carry out landscape-urban-architectural research on the chosen topic. The expected outcome of the assignment is a landscape-urban-architectural design.

Development of general and specific competences – knowledge and skills:

1 Urban Planning:

The course aims at acquiring basic theoretical and practical knowledge in solving theoretical and practical professional tasks in real space, in a part of the city, in the form of a thematic move or "city project". Each student should, under the guidance of the lecturer, go through the methodological, creative and technical process of developing a complex urban task in the form of an urban planning study.

2 Physical Planning:

The course aims to provide students with the theoretical knowledge and skills needed to analyse, evaluate and propose a vision for the development of the area in question, as well as a programme and conditions for the use and layout of the area, based on sustainability, environmental protection and the preservation of the natural and cultural heritage, from the point of view of transnational and transregional spatial development policies and perspectives. Each student should propose a physical planning solution that highlights the most important factors for preserving the identity and environmental values of the area.

3 Landscape Architecture:

The course aims to provide students with the knowledge and skills to independently analyse, evaluate and plan/design areas of specific landscape value within and outside the settlement, and to create a new visual identity of the area.

Course curriculum

Other forms of teaching and knowledge assessment:

The required level of knowledge is deepened by seminar papers, critical discussions with visiting experts and thematic lectures.

Compulsory literature

1 Contemporary examples from recent expert literature and journals (a wider selection will be available once the topic of the assignment has been defined and the coordinator has been chosen (approximately 5 examples per assignment)). 2 Contemporary examples from recent expert literature and journals (a wider selection will be available once the course lecturer has defined the topic of the assignment (approximately 10 examples per assignment)).

Additional literature

- 1 Foreign examples of similar solutions
 - 2 Domestic examples of similar solutions
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Requirements for obtaining a signature

Regular class attendance. Seminar paper.
Submitted project assignment. Project presented and defended in front of an audience.

Type of exam

Public presentation of the design solution and written work on the assignment topic.

Learning outcomes of this course

1 Urban Planning:

- Interpreting physical planning knowledge through an urban design solution.
- Generating an urban planning solution after evaluating research results.
- Explaining the proposed urban planning solution and drawing up a plan and programme for its implementation.
- Evaluating alternative proposals for urban planning solutions.

2 Physical Planning:

- Interpreting and applying the knowledge in physical planning gained through a physical planning solution.
- Carrying out research on a given topic and analysing spatial systems and trends at different scales.
- Synthesising the research and analysis being carried out and proposing a physical planning solution.
- Evaluating alternative proposals for physical planning solutions.
- Justifying a proposal for an optimal physical planning solution and drawing up a plan and programme for its implementation.

3 Landscape Architecture:

- apply urban-landscape-architectural and other methods of spatial analysis in the context of development and changes in landscape space;
 - apply knowledge of the observed landscape;
 - present an analysis of the genesis of spatial development and changes of the observed landscape;
 - identify factors of spatial identity and types of landscape that are important for defining criteria for contemporary interventions, respecting the historical, physical/existing and planned context of the physical planning documentation;
 - evaluate the studied landscape, inside and/or outside the settlement, with the aim of preserving recognisable values and establishing criteria for possible contemporary interventions;
 - Design an integrated spatial-urban planning-landscape solution for contemporary interventions in the landscape inside and/or outside a settlement.
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Learning outcomes of the study programme
D01, D02, D03, D04, D05, D06, D10, D13, D14, D15, D16

FOURTH SEMESTER

Master's Degree Workshop

Course status (compulsory/elective)	Compulsory
Course lecturer(s)	–
Course associate(s)	A supervisor can be a lecturer ranked Assistant Professor or above.
Year of study	Second
Semester of study	Fourth
Teaching mode	
Lectures (hours per week)	0
Exercises (hours per week)	12
Seminars (hours per week)	2
Field Course (days)	0
ECTS credits:	30

Framework of course content

Development of general and specific competences – knowledge and skills:

With the graduate thesis, the student demonstrates that they have acquired the necessary competences, knowledge and skills.

Course curriculum

Week 1–4: Research

Week 5: Semester draft presentation

Week 6–15: Project development/research

Other forms of teaching and knowledge assessment:

Compulsory literature: The selection of literature corresponds to the research carried out during the project.

Additional literature: The selection of literature corresponds to the research carried out during the project.

Requirements for obtaining a signature

Type of exam

Submission of the project, which must be accepted by the supervisor, followed by an oral defence before the Graduate Committee.

Learning outcomes of this course

Upon successful completion of this course, the student will be able to:

- identify a problem in a real context to be solved through an architectural or urban planning project;
- identify the topic to be explored through an architectural or urban planning solution;
- interpret the contribution of architecture to society;
- lead the research in the field of architecture and urban planning through the preparation of an architectural project or urban planning solution or project;
- independently prepare a conceptual architectural design or urban planning solution;
- defend the choice of the research topic and the architectural or urban planning solution by applying the conducted research.

Learning outcomes of the study programme

With the graduate thesis, the student demonstrates that they have achieved the learning outcomes of this Graduate study programme:
D01 – D16
