Faculty of Architecture, University of Zagreb

Master Degree Program in Architecture and Urban Planning

Catalog of Courses for Erasmus+ and Other International Students

(courses taught in English and/or taught in Croatian with consultative teaching in English / Italian / German / French and/or Spanish)

2019
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<thead>
<tr>
<th>Component (Course) code</th>
<th>Master course</th>
<th>Professor</th>
<th>Term – semester – Compulsory / Optional course</th>
<th>Language of instruction / Other languages for consultative teaching</th>
<th>Type of course unit + additional activities</th>
<th>ECTS credit</th>
<th>Contact of Professor</th>
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<tr>
<td>189725</td>
<td>Sustainable Building I / Održivo gradenje I</td>
<td>Assist. Prof. Mateo Biluš</td>
<td>Summer - I semester</td>
<td>Compulsory course</td>
<td>Croatian / English</td>
<td>15 lectures/sem</td>
<td>1.0 ECTS</td>
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**Course Description**

The course deals with the concept of building technology and design from the perspective of sustainability.

Students are introduced to the topic of bioclimatic design, application of contemporary, ecological and traditional materials and technology, energy efficient improvements of current buildings and historical buildings refurbishment, international systems of building evaluation of buildings according to basic concepts of sustainability, advanced building installation systems and renewable energy sources.

Course objectives are development of technical skills of conceptual design process which meet contemporary requirements of sustainable building, from basic design approach to selection of materials, construction and technical systems selection as well as optimal usage of energy sources.

**Course Syllabus**

1. Elements of sustainable building and energy features of buildings
2. Bioclimatic conditions of building
3. Logic behind the choice of materials
4. Sustainable building with traditional and recycled materials
5. Logic behind technical system design / Contemporary heating and ventilation systems
6. Contemporary cooling and A/C systems
7. Renewable energy sources and their use in technical systems
8. Lighting in architecture – General overview
9. International systems of evaluation of buildings according to basic principles of sustainability
10. Conversion of industrial architecture
11. Rehabilitation of load-bearing structures
12. Rehabilitation of load-bearing structures
13. Energy rehabilitation of buildings
14. Building rehabilitation due to moisture…

Other Teaching Methods and Assessment Strategies
- Seminar paper

**Compulsory and Additional Reading**

- Rowland Mainstone, Developments in Structural Form, Architectural Press; 2 edition (October 16, 2001)
- Feireiss K., Feireiss L.(2008), Architecture of Change – Sustainability and Humanity in the Built Environment, Die Gestalten Verlag
- Bauen im Bestand, Schäden, Massnahmen und Bauteile - Katalog für die Altbauerneuerung, Bundesarbeitskreis, Altbauerneuerung e.V. (BAK4), Institut für Bauforschung e.V. (IFB), Rudolf Müller GmbH & Co.KG, Köln, 2006
- Additional Reading
  - Additional reading is determined by each mentor depending on the chosen subject

**Course Learning Outcomes**

The student who successfully completes the course will be able to:
1. Promote the concept of bioclimatic approach to an architectural and urban planning project.
2. Evaluate buildings based on the sustainability concept and applied technological solution.
3. Identify advanced installation systems and renewable energy sources.
4. Interpret the principles of sustainable building in a contemporary architectural/urban design proposal.
5. Defend the significance of the sustainability concept in all elements of an architectural/urban design proposal.
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<th>Course Learning Outcomes</th>
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<tr>
<td><strong>Course Objective</strong></td>
<td><strong>Methods and criteria of evaluation</strong></td>
<td><strong>Compulsory Reading</strong></td>
<td><strong>The student will be able to:</strong></td>
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<td>The course Urban Planning Workshop 2 aims to explore the possibilities of sustainable spatial development of a small town of 10,000 inhabitants within 10 to 15 years.</td>
<td>As an open form of work and teaching, the workshop enables and encourages the student to develop critical thinking about the project, the medium they are using and the cultural situation. The mentor's task is to define the problem and its context and present it as a question which is explored by the student through the proposal of the planning design. Elements of the assignment: 1. Analysis (of the existing situation, spatial planning documentation) 2. Evaluation of construction and landscape features (natural values, built heritage, tourism and development possibilities) 3. Problem chart 4. Planning programme</td>
<td>1. Marinović-Uselac, A. (2001): Prostorno planiranje, Dom i svijet, Zagreb, ISBN 410511020 2. Pegan, S (2010): Prostorno planiranje - zaštita prirode i okoliša - compendium predavanja, SZAF 3. Physical planning journals and magazines</td>
<td>- Single out the features of a wider spatial context relevant for establishing the relationship with the scope of the relevant plan. - Assess the factors of spatial identity. - Explain the starting points of planning based on set limitations and possibilities. - Create a complete and rationalised design on the level of urban development plan.</td>
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<tr>
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<tr>
<td>- The function and use of a particular area (town)  - Proposal for building up an area  - Preservation of cultural and historic assets, and natural resources  - Public urban areas (squares, parks, promenades etc.) Solutions for parking facilities (parking lots, garages...)</td>
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<td><strong>Elements of the assignment:</strong> 1. Analysis (of the existing situation, spatial planning documentation) 2. Evaluation of construction and landscape features (natural values, built heritage, tourism and development possibilities) 3. Problem chart 4. Planning programme 5. Concept proposal (spatial development of the settlement or part of the settlement with basic spatial and functional solutions, conditions and designs of individual spatial units) 6. Concept development (spatial organisation scheme) 7. Urban planning design – A detailed use of surfaces, 1:2,000 (urban development plan level) 8. Urban planning structure and composition – Building method, public space design, visual dominants in the space (floor plan; working model), scale 1:2,000 (urban development plan level) 9. Textual description of the plan 10. Space rendering (3D simulations or a photograph of the model) 11. Other Teaching Methods and Assessment Strategies During the term, students submit graphic contributions on two occasions when set assignments will be checked. They prepare a seminar paper on a set topic related to the main assignment of the workshop. Regular attendance. A passing grade for the project and a presentation and explanation of the project.</td>
<td><strong>Elective Course</strong></td>
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<td>189728 Architectural Design Workshop I - Housing + / Radionica arhitektonskog projektitranja I – Stanovanje + Compulsory course</td>
<td>Architectural Design Workshop I is based on investigational approach to housing. The workshop includes specific seminar papers, presentations and discussions during the term, as well as a final presentation of the project. 1 Introductory research – Defining the assignment, 3 Conceptual / Schematic design 4 Exhibition and presentation of students’ submissions 5. Exhibition of selected submissions and presentation of the “Zdenko Strižić” award. Course Requirements: Regular attendance, prepared and presented project Assessment Strategy: Students' knowledge is assessed through successfully completed project assignments</td>
<td>Compulsory Reading Additional Reading</td>
<td>The student will be able to:  - Independently design a complex architectural and urban planning schematic design of a hybrid complex predominantly for housing use.  - Create a technical and technological design of an architectural building according to the spatial and functional concept.  - Integrate acquired theoretical knowledge with creative decisions.  - Relate the thematic framework research process to the design process.  - Categorise the relationship between the architectural building, the surroundings and the social relationships.  - Develop the ability to make argumented decisions related to the design process.  - Explain the architectural project, in writing and orally, using conceptual, professional and technical representations.</td>
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<td>189728 Architectural Design Workshop I - Housing + / Radionica arhitektonskog projektitranja I – Stanovanje + Compulsory course</td>
<td>The course focuses on a design project development examining new typology, complex large-scale programs and architectural principles of free topics. Design interior studio is an integral part of the workshop. Architectural workshop is a form of research carried out through a design project which integrates knowledge and skills acquired in the previous years. The assignments set by a supervisor deal with complex architectural programs in a contemporary context encompassing issues relevant to the profession and space development as well as technical and technological innovations. The workshop stimulates the development of critical thinking towards the program, medium used and culture. The supervisor’s role is to define the issue and place it into the context of architectural project research. Professional and cultural context of the assignment as well as the suggested readings are included in the reader which introduces students to project work. Visiting lecturers from the Faculty of Architecture and elsewhere broaden students' knowledge about the context of architecture and analogies with other disciplines as well as about multi-faceted aspects of the contemporary moment. Participation of experts in the fields of the built heritage, theory and history of art and architecture, structural systems, technical installations and architectural structures provides a sound basis for coping with these issues. Project presentation and an exhibition are integral parts of the workshop. Students give presentations during the semester and at the end of it. They are expected to develop an ability to deal with complex architectural issues and critically evaluate new ones using the latest techniques, materials and structures.</td>
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The student will be able to:

- Independently design a complex architectural and urban planning schematic design of a hybrid complex predominantly for housing use.
- Create a technical and technological design of an architectural building according to the spatial and functional concept.
- Integrate acquired theoretical knowledge with creative decisions.
- Relate the thematic framework research process to the design process.
- Categorise the relationship between the architectural building, the surroundings and the social relationships.
- Develop the ability to make argumented decisions related to the design process.
- Explain the architectural project, in writing and orally, using conceptual, professional and technical representations.
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<th>Course Description</th>
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<tr>
<td>189728</td>
<td>Modern Housing / Suvremeno stanovanje</td>
<td>Living accommodation is one of the most significant aspects in the development of town life. Through the theoretical part of the course and the workshop on modern dwellings, the course explores new (experimental) spatial systems in line with the changing needs, wishes and aspirations of residents, usage multifunctionality, the individualization of apartment block accommodation, participation, implementation of ICT, modern design with use of most modern technologies available, ‘intelligent’ environments and residential spaces alongside the strategy of sustainable development and an ecological approach.</td>
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Course Syllabus

- Course introduction
- Modern Movement in Croatia and Europe
- World urbanisation / New visions
- Family transformation
- How to write a seminar paper – Guest lecturer
- Croatia – Zagreb // urbanisation
- Croatia – Zagreb // population – social structure
- Intelligent and sustainable housing
  - Number of floors and density
  - New directions in multi-family housing typology
  - Globalisation, individualisation and ICT
  - Housing for various social groups
  - Variability/flexibility in multi-family housing units
  - Flexibility/variability/adaptability in the organisation of flats
  - Housing surroundings

Other Teaching Methods and Assessment Strategies

Regular attendance of lectures and keeping up to date with course reading, active participation in discussions.

Compulsory Reading


The student who successfully completes this course will be able to do the following independently:

- DEFINE the problems of the construction of multi-family housing units and social structure of the society.
- INTERPRET the quality of a design proposal for a multi-family housing unit construction and housing policies.
- APPLY the knowledge of multi-family housing unit construction by applying contemporary technical and technological solutions to the research of new housing typologies.
- EVALUATE the strategies for building new housing resources and reconstructing the existing ones.
- DRAFT good quality and innovative design proposals for various housing needs in accordance with socio-economic changes and adopt a strategy of sustainable development and an ecological approach.
189731

**Physical Planning**

- **Component (Course) code**: 189731
- **Professor**: Prof. Srečko Pegan, Ph.D.
- **Language of instruction**: Croatian / English
- **Other Teaching Methods and Assessment Strategies**: Oral exam, Written exam
- **Contact**: srecko.pegan@arhitekt.hr

**Course Description**

The course topics cover the general and specific knowledge of physical planning. The lectures will lead to understanding the processes that take place in a region. Urbanization. Basic elements involving in generating contemporary space structure. Traffic and the region. Industry and the region. Tourism. Typology of contemporary tourism zones. Agricultural and forest land. Landscape – basic terms and definition. Identity of space and the danger of its loss in the process of transformation and globalization. Basic principals of protection. Regions of specific characteristics – national parks, natural reserves, national parks. Detailed methodology in preparing, ruling and application of physical plans.

**Course Syllabus**

1. Space management
2. “Europe in the World” – Territorial Evidence and Visions
3. “Scenarios on the Territorial Future of Europe” – ESPON research
4. Physical planning and spatial economics
5. Demographic indicators in physical planning
6. Regionalisation
7. Urbanisation and regionalisation
8. Urban concentrations
9. Traffic and infrastructure systems
10. Theory and methods of physical planning
11. Design in physical planning
12. Physical planning in the Republic of Croatia
13. Physical Planning Strategy and Programme of the Republic of Croatia
14. County physical plans
15. Physical planning terms, criteria and standards

**Course Objective**

Completes the course will be able to:
- Provide examples necessary for planning implementation.
- Demonstrate the criteria and procedures for development and protection of space.
- Identify social, economic, ethical and other starting points in physical planning.
- Promote the significance of physical planning.
- Compare the physical planning design proposal with well-known examples.

**Compulsory and Additional Reading**

- Additional Reading
<table>
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<tr>
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<tbody>
<tr>
<td>Professor</td>
<td></td>
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<td>Uberörtliche Raumplanung (Teil 1) - <a href="http://www.ifoer.tuwien.at">www.ifoer.tuwien.at</a></td>
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<tr>
<td>Term – semester</td>
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<td>MZOPUG: Smjernice i kriteriji za planiranje golfskih igrališta, Zagreb, 2010</td>
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<tr>
<td>– Compulsory / Optional course</td>
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<td>MZOPUG: Smjernice i kriteriji za arhitektonsku vrsnuću građenja, Zagreb, 2011</td>
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<td>Contact of Professor</td>
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<tr>
<th>Component (Course) code</th>
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<th>Contact of Professor</th>
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<tr>
<td>189726</td>
<td>Sustainable Building II / Održivo gradenje II</td>
<td>Assoc. Prof. Zoran Veršić, Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Winter - II semester – Compulsory course</td>
<td>Contact: Assoc. Prof. Zoran Veršić, Ph.D. <a href="mailto:zoran.versic@arhitekt.hr">zoran.versic@arhitekt.hr</a></td>
</tr>
<tr>
<td></td>
<td>Croatian / English</td>
<td>Office no.: 236 / 2nd floor</td>
</tr>
<tr>
<td></td>
<td>1.0 ECTS</td>
<td><a href="mailto:zoran.versic@arhitekt.hr">zoran.versic@arhitekt.hr</a></td>
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<tr>
<td>Protection of building users, buildings and environment based on studying building physical features in terms of noise and fire. During its life expectancy every building should fulfill building requirements and other conditions to ensure that they meet all building standards and prescribed laws an regulations. Buildings should be usable during certain lifetime. Building requirements are present in the process of planning, designing and building. Noise and fire protection are two requirements which every building should ensure. These requirements should be respected at building site selection, building design and building dimensioning and its parts, as well as at construction. This can be achieved by using specific structures and materials with specific characteristics. Accordingly, from the first design phase and design process, architectural solutions of elements and applied systems have to be integrated to meet all the building requirements (noise and fire protection).</td>
<td>1. Physical properties of noise, psychological and physical meaning of noise 2. Noise (types of noise, noise impact on people) 3. Noise as the source of environmental pollution (noise protection design concept, traffic noise protection) 4. Legal regulations on noise protection and noise and sound insulation measurement 5. Requirements for building noise protection (as part of an urban planning and architectural design) 6. Requirements for building noise protection (outdoor noise protection, air and impact sound protection within a building, protection from the noise of equipment installed in the building, environmental protection from noise coming from building-related sources of noise, high reverberation noise protection) 7. Spatial acoustics and high reverberation noise 8. Materials for noise protection, examples 9. Burning and fire-extinguishing processes 10. Fire protection laws and requirements 11. Fire protection measures 12. Fire compartmentalisation of buildings 13. Evacuation routes 14. Fire protection materials 15. Fire protection design, examples</td>
<td>Compulsory Reading 1. Tehnička enciklopedija, I.svezak - Akustika, IV. svezak - Elektroakustika, Hrvatski leksikografski zavod, Zagreb 2. W. Fasold, E. Véres, Schallschutz-Raumakustik in der Praxis, Verlag für Bauwesen, 1989 3. M. Carević et al.: Tehnički priručnik za zaštitu od požara, Zagrebinspekt, Zagreb, 2002 Additional Reading 1. Fischer, Lehrbuch der Bauphysik, Schall, Wärme, Feuchte, Licht Brand., Klima, B.G. Taubner, Stuttgart, 1998 2. Zakon o zaštiti od buke (Official Gazette 20/03), 3. Pravilnik o najvišim dopuštenim razinama buke u sredini u kojoj ljudi rade i borave (Official Gazette 145/04) 4. Pravilnik o rušenju i saniranju karata buke i akcija na planovima (Official Gazette 05/07) 5. Zakon o zaštitu od požara (Official Gazette 58-93, 33-05) 6. TRVB - Austrijske smjernice za zaštitu od požara 7. NFPA 101 - Life Safety Code</td>
<td>The student who successfully completes the course will be able to: 1. Differentiate legal regulations on noise and fire protection. 2. Evaluate buildings according to technological solutions for noise and fire protection. 3. Recommend the use of materials for noise and fire protection. 4. Identify the principles of spatial acoustics control. 5. Suggest architectural and urban planning designs which provide noise and fire protection. 6. Promote the importance of protecting a space from noise pollution.</td>
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</table>
### Course Description
The site-specific course Croatian space and architecture - Dalmatia, offers general view into the Dalmatian architectural and urban heritage. The basic division of architectural discipline into urbanism, historical and contemporary architecture and architectural design, is used as a framework of the course’s curriculum, which addresses natural resources, city’s structures, architecture in urban or natural contexts, architecture for tourism and the architectural works by themselves. Itinerary of the tour is drafted in a way to emphasize the specific values of each of the site’s characteristics -- in a range from cultural and historical specificities, terrain configurations, morphologies of the city’s structures, to the distinctionness of architects’ ouvres and current architecture and social issues -- in a sense of clarifying the origin of each or the architectural work and it’s valorization. During the four full days tour of the Dalmatian area from Nin to Dubrovnik, the course’s itinerary is held according to the program. Site visitations and presentations along with the thematic lectures will take place in situ.

### Course Syllabus
#### Itinerary:
Nin, Zadar, Šibenik, Trogir, Split, Brač, Makarska, Vis; Narona, Ston, Trogir, Dubrovnik. The course includes both the tutors of the Faculty of Architecture and appropriate experts in other disciplines as well as architects whose quality of work has made a special mark on the region of Dalmatia. During the visit, students will graphically record, photograph and analyse the cities and buildings visited. After the trip, they should choose a series of relevant examples from their diaries and reproduce them in an originally designed booklet along with accompanying expert commentary. The booklet should then be submitted as a seminar paper – Fieldwork Diary. (Depending on the possibilities of the Faculty, the syllabus may be extended to the area from Pag to Cavtat, the islands, and Dalmatian hinterland; also, a study trip to Vienna may be organised for students in the winter term of the graduate programme).

#### Methods and criteria of evaluation
The course’s main objective is acquaitance with the visited sites and architectural achievements visited. On successful completion of the course, the student will be able to:
1. Identify the most important historical and modern architectural achievements in the Dalmatian region.
2. Understand the origins of the creation of historical and contemporary architectural achievements visited.
3. Present basic spatial characteristics of historical and contemporary architectural achievements visited.
4. Draw basic spatial features of the architectural achievements visited.
5. Promote the architect’s responsibility towards the preservation of the value of natural and built environment.

### Compulsory and Additional Reading

<table>
<thead>
<tr>
<th>Compulsory Reading</th>
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<tr>
<td>4. Separati terenske nastave-Dalmacija</td>
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<tr>
<th>Additional Reading</th>
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<tbody>
<tr>
<td>1. HPA-Dalmacija, repozitorij-biblioteka</td>
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### Course Learning Outcomes

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<th>Contact</th>
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<tr>
<td><strong>Assoc. Prof. Tin Sven Frančić</strong></td>
</tr>
<tr>
<td><strong>office no.: 409 / 4th floor</strong></td>
</tr>
<tr>
<td><strong><a href="mailto:tin.sven.franic@arhitekt.hr">tin.sven.franic@arhitekt.hr</a></strong></td>
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<td>The course is focused on a systematic and comprehensive planning of complex residential and business city areas and their integration into the existing planned urban fabric. Emphasis is placed on planning public social, commercial and office buildings along with residential housing as the main component of a city. Special emphasis is put on planning new public areas (street, square, parks...). Residential and office buildings are planned on the level of a detailed development plan in the selected unregulated city areas which require intervention in the form of redevelopment, addition or new construction. Planning residential and business urban areas should be coordinated with the use and preservation of the existing values and sustainable construction. The course aims to teach students how to analyze, conceive and work out a high-quality solution for a residential and business city area which should structurally, functionally and programmatically fit into the existing urban fabric. The course offers an overview of urban planning as a complex interdisciplinary process. It gives knowledge about function and design of particular city areas, urban space management as well as planning procedures and strategies of controlled development. Emphasis is placed on residential and business urban areas and their relationship with other urban areas and their functions. The course develops skills needed for the comprehension of a large scale as a framework for assessment, comparison and planning of residential and business urban areas and their relationship with the city as a whole.</td>
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<td>As an interactive teaching form, the workshop enables and encourages students to individually explore and develop the methods for analysis, preparation and presentation of an urban area development plan. The mentor's task is to define and explain the assignment and direct and guide students through the process of preparation of an urban area development plan. Elements of the assignment: 1. Analysis and presentation of the existing state (scale 1:5,000) and planning documentation 2. Analysis and presentation of reference examples 3. Problem chart: Limitations and possibilities of space utilisation development (scale 1:5,000) 4. Planning programme with the calculation and identification of urban planning indicators 5. Concept proposal: Spatial organisation scheme (scale 1:5,000) 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 1:5,000) 8. Urban design: The level of detailed development plan of an urban area (scale 1:1,000) 9. Detailed urban design: Site plan with the rendering of the fifth façade, as well as sections and elevations (scale 1:1,000) 10. Detailed urban design: Site plan with ground-level floor plans 11. Floor plans of all characteristic below-ground and above-ground storages as well as sections of buildings within a narrow zone (scale 1:1,000) 12. Written explanation of the plan and identification of urban planning indicators 13. Details of urban space development 14. Space rendering 15. Exhibition staging and successful presentation and argumentation of the project assignment</td>
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<td>Other Teaching Methods and Assessment Strategies: During the term, students prepare written and graphic submissions and briefly present analyses and phase-by-phase designs to other students and experts. They exhibit the final result of their work at the final exhibition and publicly present and explain the project. Their project is also published in a publication.</td>
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<td>On successful completion of the 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 according to a group of adopted criteria. 5. Prepare a preliminary study of the urban transformation of a part of the city.</td>
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**Course Objective**

- Develop the programme of an architectural and urban planning project of a mixed residential/commercial part of the city.
- Interpret the city as a complex whole with carefully planned amenities and programme.
- Interpret the knowledge of urban space management and planning procedures and controlled development measures.
- Compare mixed residential/commercial parts of the city according to a group of adopted criteria.
- Prepare a preliminary study of the urban transformation of a part of the city.

**Methods and criteria of evaluation**

- Analysis and presentation of the existing state (scale 1:5,000) and planning documentation
- Analysis and presentation of reference examples
- Problem chart: Limitations and possibilities of space utilisation development (scale 1:5,000)
- Planning programme with the calculation and identification of urban planning indicators
- Concept proposal: Spatial organisation scheme (scale 1:5,000)
- Concept development and presentation: Planned spatial structure
- Development of the concept and design of a broader zone: A detailed intended use of the space and structure proposal (scale 1:5,000)
- Urban design: The level of detailed development plan of an urban area (scale 1:1,000)
- Detailed urban design: Site plan with the rendering of the fifth façade, as well as sections and elevations (scale 1:1,000)
- Detailed urban design: Site plan with ground-level floor plans
- Floor plans of all characteristic below-ground and above-ground storages as well as sections of buildings within a narrow zone (scale 1:1,000)
- Written explanation of the plan and identification of urban planning indicators
- Details of urban space development
- Space rendering
- Exhibition staging and successful presentation and argumentation of the project assignment

**Compulsory and Additional Reading**


**Course Learning Outcomes**

- Develop the programme of an architectural and urban planning project of a mixed residential/commercial part of the city.
- Interpret the city as a complex whole with carefully planned amenities and programme.
- Interpret the knowledge of urban space management and planning procedures and controlled development measures.
- Compare mixed residential/commercial parts of the city according to a group of adopted criteria.
- Prepare a preliminary study of the urban transformation of a part of the city.
<table>
<thead>
<tr>
<th>Component (Course) code</th>
<th>Master course</th>
<th>Professor</th>
<th>Term – semester – Compulsory / Optional course</th>
<th>Language of instruction / Other languages for consultative teaching</th>
<th>Type of course unit + additional activities</th>
<th>ECTS credit</th>
<th>Contact of Professor</th>
</tr>
</thead>
<tbody>
<tr>
<td>189730</td>
<td>Architectural Design Workshop II – Sport+</td>
<td>Prof. Tonči Žarnić</td>
<td>Summer - II semester – Compulsory course</td>
<td>Croatian / English</td>
<td>120 studio/sem</td>
<td>11.0 ECTS</td>
<td><a href="mailto:tonci.zarnic@arhitekt.hr">tonci.zarnic@arhitekt.hr</a></td>
</tr>
</tbody>
</table>

**Course Description**
Architectural Workshop II 'sport+' is a form of research through design which explores more complex architectural programs in the contemporary context, emerging occurrences in society, discipline and space, technical and technological discoveries. It consolidates knowledge attained in previous years of study, and visiting lecturers contribute to the broadening of knowledge of the context within which architecture emerges, the analogies with other disciplines, and the multifaceted aspects of contemporaneity.

Research is focused toward the growth of a new model of sport facilities with added programs which enable a broader social impact. The given sport-oriented content is transformed through both the project and the added program into a new type of social centre. This program +, which the student defines individually, has to be a result of completed research of various contexts within the assignment. This program +, which the student defines individually, has to be a result of completed research of various contexts within the assignment. The project includes targeted seminar papers, joint presentations and discussions during the term. It also includes a final presentation and project presentation.

It is conducted following the steps below:
1. Thematic context study / seminar paper
2. Preliminary study
3. Schematic design
4. Exhibition and presentation of works

**Course Syllabus**
Architectural Workshop II is based on intensive studying of a design problem and investigative approach to architectural design. The workshop includes targeted seminar papers, joint presentations and discussions during the term. It also includes a final presentation and project presentation.

It is conducted following the steps below:
1. Thematic context study / seminar paper
2. Preliminary study
3. Schematic design
4. Exhibition and presentation of works

**Compulsory and Additional Reading**
Compulsory Reading
Reader (compilation) contains excerpts from compulsory reading and references additional reading. It changes according to the thematic framework of the project assignment.

Additional Reading
Current trade journals and monographs

**Course Learning Outcomes**
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 connect the process of researching a thematic framework of an architectural problem with 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 the 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, in writing and orally.
Sports Facilities / Zgrade za sport

189729

15 lectures of 45 minutes each, consisting of historical, methodological, and technical data as well as debate on the architecture of sports facilities: sports halls, swimming pool facilities and stadiums.

Student should be trained and informed through the acquisition of broad normative, technical, cultural and methodological knowledge in the field of sports as a subject of producing architecture. Preparation and introduction to the method of normative dimensioning and designing sports facilities.

Course Syllabus

1. SPORTS PHENOMENOLOGY AND FORMS OF ARCHITECTURE
   - Methodic reduction, sport-notion, sports participants - "bodytheatre", sport - a global phenomenon, sports and the city, origins of forms of sports facilities, structure rhetorics
   - POOLS HISTORY - Man and water, artefacts, Greece, Rome, Christianity, re-affirmation of water, contemporary pools,
   - FUNCTIONAL SCHEMES OF POOLS
   - SWIMMING POOL BASIN - Finnish overflow system, pool technique
   - SPORTS HALLS - Functional schemes, types
   - SPORTS HALLS - Norms, playgrounds
   - SPORTS HALLS - Terraces, technique
   - SPORTS HALLS, SWIMMING POOLS - Specific examples - Lecture: GUEST
   - STADIUMS - History
   - STADIUMS - Norms, functional schemes, types
   - STADIUM HALLS, ARENAS
   - MODERN OLYMPIC GAMES (1896-1952)
   - MODERN OLYMPIC GAMES (1956-2012) - Lecture: GUEST
   - SPORTS COMPLEXES: "Hybrid architecture"
   - PREVIOUS 10 YEARS

   Other Teaching Methods and Assessment Strategies
   - Seminar paper

Compulsory and Additional Reading

- ZGRADE ZA SPORT - Lecture notes
- Prof. Emil Špirt, PhD
- ENCIKLOPEDIJA FIZIČKE KULTURE
- SPORTSKA ENCIKLOPEDIJA
- MODELI FIZIČKE KULTURE - svezak VII - posebni uvjeti gradenja i opremanja objekata fizičke kulture: RSiŽ fizičke kulture RH, 1987
- 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 - Aniana Štuhfofer, Zgb. 2005; izdanje Af

Additional Reading:
- Preporuke za projektiranje, izgradnju i održavanje športskih dvorana i igrašta u Zagrebu - 2. svezak: Zagrebački športski savez, Zagreb, June 2007
- Preporuke o održivom programiranju, prostornom planiranju i projektiranju javnih plivališta u gradu Zagrebu - 3. svezak: Zagrebački športski savez, Zagreb, April 2008
- STADION 2006 - DER FUSSBALLWELTMEISTERSCHAFT; Gernot Slick, birkhauser, 2005

Architectural periodicals:
- s & b - sport&baeder – Magazine for Sports Architecture
- Casabella, 694/2001, new stadia
- Architectural Review 1182/1994 – OI Atlanta
- Architectural Review 1186/1995
- Architectural Review 1244/2000 – OI Australia
- Baumeister 8/1992 – OI Barcelona
- I'ARCA 122/1998 – SPORTS FACILITIES
- AW – architektur-wettbewerbe 188/2001 – Buildings for Sport and Leisure

Course Learning Outcomes

On successful completion of the 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 project programme for a sports facility.
<table>
<thead>
<tr>
<th>Course Description</th>
<th>Course Syllabus</th>
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<th>Course Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The course focuses on a design project development examining new typology, complex large-scale programs and architectural principles of free topics. Design interior studio is an integral part of the workshop. Architectural workshop is a form of research carried out through a design project which integrates knowledge and skills acquired in the previous years. The assignments set by a supervisor deal with complex architectural programs in a contemporary context encompassing issues relevant to the profession and space development as well as technical and technological innovations. The workshop stimulates the development of critical thinking towards the program, medium used and culture. The supervisor's role is to define the issue and place it into the context of architectural project research. Professional and cultural context of the assignment as well as the suggested readings are included in the reader which introduces students to project work. Visiting lecturers from the Faculty of Architecture and elsewhere broaden students' knowledge about the context of architecture and analogies with other disciplines as well as about multi-faceted aspects of the contemporary moment. Participation of experts in the fields of the built heritage, theory and history of art and architecture, structural systems, technical installations and architectural structures provides a sound basis for coping with these issues. Project presentation and an exhibition are integral parts of the workshop. Students give presentations during the semester and at the end of it. They are expected to develop an ability to deal with complex architectural issues and critically evaluate new ones using the latest techniques, materials and structures.</td>
<td>Architectural workshop is based on an intensive study of architectural issues and a research-based approach to architectural design. It includes seminar work, presentations and discussions during the semester as well as a final project presentation. Work is organized in groups of 10 students under the supervision of tutors and their associates. Regular attendance. Completed Interior project. Positively graded project presentation.</td>
<td>Professional journals and monographs: selection according to the chosen assignment. 1. Choose information and criteria important for the development of an interior project. 2. Develop an interior project assignment which can be identified in a real-life, everyday context. 3. Independently design interior as integral part of architectural documentation. 4. During the creation of the interior project, creatively suggest a construction solution and appropriate use of materials, colours, lights, technical and technological components in order to achieve an aesthetically pleasing and functional spatial organization and articulation. 5. Present the details of the interior project using graphics and written or oral descriptions. 6. Critically evaluate an architectural interior project.</td>
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<th>Contact of Professor</th>
</tr>
</thead>
<tbody>
<tr>
<td>192514</td>
<td>Interior Workshop / Radionica interijera</td>
<td>Prof. Dina Vulin Ileković, Ph.D</td>
<td>Winter - III semester – Compulsory course</td>
<td>Croatian / English</td>
<td>45 studio/sem</td>
<td>3.0 ECTS</td>
<td><a href="mailto:dvulin@arhitekt.hr">dvulin@arhitekt.hr</a></td>
</tr>
</tbody>
</table>

Catalog of Courses for Erasmus+ and other International Students, Master Degree Program in Architecture and Urban Planning, Faculty of Architecture, University of Zagreb, Croatia
Workshop 3: Architectural Design

Within Workshop 3 various professors mentor various projects, some of them presented here:
Typological studies of architectural plans

Typological boundaries of 4* city hotels (2014, 2015)

Trends in development of architectural programs depend in part on specific phenomenon of globalization, work environment that is profiled between real and virtually branded environment, introduction of (virtual) entertainment in areas of free and working time, understanding the scientific paradigm of the world, analog - digital position in architecture and implementation of optimal versus appropriate sustainable (energy) solutions in the fields of architectural construction (Cost Effective Design through a Life Cycle Costing – LCC). Looking together, in synergetic value of mutual influence, the architectonic realities of the information age are formulated. In this context, typology studies of architectural plans and their multifunctional components become the basis for a broader understanding of the architectural composition. Workshop research method integrates interdisciplinary relations in the field of science, art and technology into the body of architectural design. (prof.dr. Homadovski)

City hotel 4* and complementary programmes on sites proposed by Workshop leaders.

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

With the Museum for Monuments of Totalitarian Regimes, missing places are formed in transitive memory symbols of previous ideologies, a places that connects political and cultural past, present and possible future. The Glass palace - Orangerie - Palmen Garten, location of a new Botanical Garden in Zagreb revalue dialogue with representative palaces of the city framed by Lenuzzi horseshoe composition. Culture Forums on the urban-generative locations. Zagreb Forum Buzin contains theme parks as a corporate communication platforms; eco park, techno park, car park, science park ▪ V. Holjevca Ave. location in Zagreb with the Museum of Contemporary Art contains a range of spatial and programming environments; Visionarium – Educatorium as a museum, a park and a media lab. center – promoting natural, scientific and technical activities. ▪ Tipology borders of 4* City Hotels in Zagreb locations.

4-star city hotel and complementary programmes on locations suggested by the mentor: "Typological studies of architectural plans: typological limits for 4-star city hotels" (2015). "Hotel Plus/Heritage Hotel", "Refugees_Temporary hotel for refugees"; "Straddle structures", "Architectural topography of identity, urb et runs".

... Additional Reading
1. Reading items listed for the courses which cover workshop-related topics

Compulsory Reading
Current, professional reviews in the field of architecture and urban planning (periodicals and monographs)

... Support the development of an architectural project with research conclusions.

The student who successfully completes the course will be able to:
- Research the chosen topic.
- Critically assess the values of researched parameters.
- Independently create an integral urban and architectural design supported by the conducted research.

Contact:
Assoc. Prof. Krunoslav Šmit, Ph.D.
smit@arhitekt.hr

Additional Reading
... monographs

Current professional reviews in the field of architecture and urban planning (periodicals and monographs)

... Workshop leaders

Support the development of an architectural project with research conclusions.

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- Critically assess the values of researched parameters.
- Independently create an integral urban and architectural design supported by the conducted research.
integration processes between technological-technical and artistic achievements of architectural creation. Publication of professional papers, scientific research and theoretical work in order to contribute to the scientific field under the mentorship of lecturer. Encouraging the interest for technical and engineering dimensions of architectural creativity in balance with the cultural and artistic dimensions of architecture. Development of generic skills: cooperative strategies and activities, formation and operation within the team-building environment, modeling ad-hoc skills in information processing and formulation of knowledge. Development of skills and understanding of media presentation standards.
<table>
<thead>
<tr>
<th>Course Objective</th>
<th>Course Syllabus</th>
<th>Compulsory and Additional Reading</th>
<th>Course Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACHIEVING the completeness of a space and respecting the existing space. Create an image of a space. Discover analysing how a space can be changed in relation to time: WHAT WAS IT? WHAT COULD IT BE? CONTENT FRAMEWORKS AND SPACE ELEMENTS natural and cultural determinants. Elements which encourage INTERACTION: causes_effects_time. FUNCTION as space dynamics. Types of movement. STRUCTURE is made of structural elements: points (distinguishing features), lines (corridors), areas, nodes, edges, matrices. Introduction to ISOVIST, connecting spatial behaviour and experience and the constructed project.</td>
<td>Other Teaching Methods and Assessment Strategies Presentation, poster and booklet.</td>
<td>Compulsory Reading A SELECTION based on the chosen assignment ... 1. Contemporary examples from academic publications and periodicals (a wider selection of reading items will be offered by the coordinator upon choosing the assignment (approximately 5 items per assignment)). 2. A compilation of articles which will be made by the student, with the help of the professor, upon choosing the assignment.</td>
<td>On successful completion of the course, the student will be able to: 1. Apply the methods of urban planning and landscape architecture and other methods of spatial analysis in the context of landscape development and changes. 2. Apply the knowledge of the researched landscape. 3. Present the analysis of spatial development and changes of researched landscape. 4. Identify space identity factors and landscape types important for setting the criteria for contemporary interventions taking into consideration the historical and physical/existing context planned in the physical planning documentation. 5. Evaluate the researched landscape within and/or outside a settlement in order to preserve recognisable values and set the criteria for potential contemporary interventions. 6. Design an integrated spatial/urban landscape design proposal for contemporary interventions on land within or outside a settlement.</td>
</tr>
</tbody>
</table>

**Workshop 3: Urban Planning**

**Physical Planning/ Landscape Architecture**

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Prof. Bojana Bojanić Obad</th>
<th>Winter - III semester – Compulsory course</th>
<th>Contact: Prof. Bojana Bojanić Obad Šćitaroci, Ph.D. <a href="mailto:bbojanic@arhitekt.hr">bbojanic@arhitekt.hr</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>192517</td>
<td>14.0 ECTS</td>
<td>150 studio/sem</td>
</tr>
<tr>
<td>Notes</td>
<td>URBANSCAPE EMANATION _ SPACE VS. –SCAPE. Space is the boundless. -scape a specified scene. Un-volumetric architecture. Rediscovery of Space _ Impressions, Modifications of Consciousness /A Search for the Meaning of Time and Structures in the Space. Practice is ‘knowing how to do something; theory is knowing why.’ Garrett Eckbo. Emanation - the effect that any entity, system, and/or being has on its environment. Walking choreographies, visual illusions and emotional landscapes of waiting. Emanation - emission: the act of emitting; causing to flow forth. ‘OUR EPOCH [AS] ONE IN WHICH SPACE TAKES FOR US THE FORM OF RELATIONS AMONG SITES’ MICHEL FOUCAULT. What then is time? If no one asks me, I know; if I want to explain it to a questioner, I do not know... We measures times. But how we measure what does not exist? The past is no longer, the future is not yet. And what of the present? The present has not duration... In order that we may compare a short and a long syllable, both must have died away. Thus I do not measure the syllables themselves, but the images of the two tones in my memory... Thus when I measure time, I measure impressions, modifications of consciousness. (Saint Augustin). The objective is to create a paradigm that is independent of the location, nature, scale, time and technology. This paper presents a network of key terms and concepts taking into account the location, context and program. Integrating the classification, structure and analysis, and promoting discussion. Way of designing is transforming the choreography of movement, of visual illusions and of sensory landscapes.</td>
<td></td>
<td>Faculty of Architecture, University of Zagreb, Croatia</td>
</tr>
</tbody>
</table>
Course Objective

Overview of selected coastal development and utilisation proposals and designs (research paper); SWAT analysis of spatial development of the Adriatic or continental coastal area. Programme proposal and conceptual physical design of the development of a part of a coastal area. The paper and the selection of the research area is individual, with weekly presentations of previously submitted research results.

Methods and criteria of evaluation

- Seminar paper
- Comparative analysis of tourist areas in county physical plans (position, type, typology, development programme, brand, identity)
- Excerpt from the municipality physical development plan/urban development plan
- Problem chart
- Spatial design
- Concept of spatial/urban design
- Presentation and public exhibition of submission

Compulsory Reading


Additional Reading

2. Graaf, J. at al. (ed.): Europe: Coast Wise, 010 publishers, Rotterdam, 1997
5. SPURH (2009): Kriteriji za planiranje turističkih predjela obalnog područja mora, MZOPUG, Zagreb
6. SPURH (2010): Smjene i kriteriji za planiranje gorskih igrališta, Zagreb
10. *** MZOPUG (2011): Smjene i kriteriji za arhitektonsku vsršću građenja, Zagreb

Course Syllabus

192517

Workshop 3: Urban Planning/Physical Planning/Landscape Architecture

Radionica 3: Urbanizam/Prostorno planiranje

Pejsažna arhitektura

Prof. Srečko Pegan, Ph.D

Winter - III semester - Compulsory course

Croatian / English / Italian

150 studio/sem

14.0 ECTS

Contact: Prof. Srečko Pegan, Ph.D srecko.pegan@arhitekt.hr
office no.: 431 / 4th floor

Component (Course) code

Master course
Professor
Term – semester – Compulsory / Optional course
Language of instruction / Other languages for consultative teaching / Type of course unit + additional activities
ECTS credit
Contact of Professor

Course Description

Policies and perspectives of development – the Mediterranean context of the use and protection of the coastal area – subject review (prepared in the form of an overview paper; the best papers will be recommended for publishing in a scientific journal and will be the candidates for the Dean’s Award)

Syllabus

1. SEMINAR PAPER
   - Spatial design
   - Comparative analysis of tourist areas in county physical plans (position, type, typology, development programme, brand, identity)
   - Excerpt from the municipality physical development plan/urban development plan
2. Problem chart
   - Purpose, circulation, landscape, obligatory programme indicators
3. Concept of spatial/urban design (if necessary; supplement to the municipality physical development plan) and urban development plan
4. Presentation and public exhibition of submission
5. Spatial concept (variants), structure, 3D model (1:2,000)
6. Other Teaching Methods and Assessment Strategies
   - Attendance of lectures, seminar papers, drafting and presentation of a physical planning proposal

Course Syllabus

- Exploration and assessment of space potential – SWAT analysis of space changes – identity, "brand", spatial conditions, planning principles ... the concept of transformation of a part of the coastal area.
- Presentation of the project through stages, public exhibition

Course Objective

The assignment aims to explore and suggest possible courses of development of a selected coastal area. The proposed solution encompasses check-up and setting up the requirements for the development of a wider area as well as a detailed program of the selected sites with emphasis on space design and preservation of ambient values.
A good layout is the basis of all satisfactory urban development, and can only be achieved when the plan derives its inspiration from the site and when the three-dimensional aspect of design is properly studied. The successful urban design proposal depends upon the relationship of the building masses to each other, to the street and space about them, to the land use and their proper setting in the urban landscape. Physical signs of new activities in towns will appear in a realization that riverfronts, coast-fronts and other areas within the city, representing an opportunity for stunning rehabilitation. Downtown should be planned for people and not for cars. Development planning should concentrate on the quality of life and not on the growth as a goal. Urban clusters should be tight, integrated with transit, and designed for pedestrians and should contain a variety of spaces and activities. The available capacity of downtown should be renewed. Downtown will increasingly attract residents and investment. Understanding of urban problems. Master the big urban scale. Principles of urban composition. Management of urban spaces. Examine procedure in urban planning.  

Methods and criteria of evaluation  

1 to 6 Introducing the assignment, choosing the methodology, getting familiar with the project site and urban or physical planning problem, inspecting the site, analysing the existing urban planning or physical planning documentation; 7 to 12 Drafting a problem chart, drafting a preliminary concept, discussion, designing a detailed urban plan, urban or physical development plan; 13 to 15 Introduction to design techniques. Developing a project and drafting the assignment.  

Other Teaching Methods and Assessment Strategies  

Required level of knowledge is achieved through seminar papers, critical discussions with visiting experts and through topical lectures. Attendance of lectures, seminar papers, drafting and presentation of an urban planning proposal.
Course Description

This theoretical graduate course is conceived as an upgrade to the regular undergraduate course under the title "Twentieth century Croatian architectural theory". It examines, analyzes and interprets remarkable architect's oeuvres, anthological works and creative processes of prominent Croatian architects starting from the 19th century up to the present. Series of lectures are structured according to the architect's education, area of activity and generation's affiliation.


Contact:

Contact of Professor

Prof. Andrej Uchytil, Ph.D

Winter – Optional course

Croatian / English

Architects and graduates of Faculty of Architecture in Zagreb after the year 1945. Architects graduated in the Republic of Croatia after the year 1991. Depending on the attending student population affluency, the selection for the curriculum is derived from the course's material, which consists of 75 architect's oeuvres. Lectures (1-4) are obligatory for each academic semester, and lectures (5-11) are held in cyclic quadrennial terms, during which the total extent of the material will have been presented. By the end of the semester, lectures are updated with the current architectural themes (12-15). The course is open to all studies and classes of students from the University of Zagreb.

Creating critical stance towards the modernistic architectural heritage. Lectures interpret each architect's professional modus operandi, on the basis of conceptual, social, artistic, contextual and cultural aspect of his approach, and elaborates upon that specific author's contribution. Anthological works are analyzed form the perspective of a) how was the architect's modus operandi inspired by the socio-historical context in which it was created? b) Evaluate the achievements of Croatian architects by taking into consideration the socio-historical context in which it was created. c) Interpret the visual memory of modernist curriculum which serves as an architect's reference tool.


Requirements

Regular class attendance.

Exam

Seminar work and oral examination. Oral ppt presentation of the selected architect's oeuvre.


Compulsory Reading


<table>
<thead>
<tr>
<th>Course Description</th>
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<th>Course Learning Outcomes</th>
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</table>

Weissmann, Acta Architectonica, Arhitektonski fakultet Sveučilišta u Zagrebu, Zagreb
20. *** (2003), Arhitekt Viktor Kovačić: život i djelo, Begović M. (ed.), Hrvatska akademija znanosti i umjetnosti, Hrvatski muzej arhitekture, Zagreb
24. *** (2008), Rukopisi Vladimir Turina, Mattioni V. (ed.), UPI-2M PLUS, Zagreb
### Course Description

The course focuses on the acquisition of specialist terminology, developing reading skills, improving general English vocabulary, improving oral communication skill, presentation skills, business communication skills (employment). Course materials are based on a selection of authentic texts from various sources with architecture and urban planning-based topics.

**Topics:**
- Redevelopment and renovation projects, famous architects, sustainable human settlements, architecture for the 21st century,
- Business communication (employment)

Students are expected to develop their written and oral competence in English for architecture purposes in order to be able to meet the requirements of their academic education and future professional work. Knowledge and skills acquired should help them in their future professional careers as well as to integrate more successfully into the international business, professional and scientific community within the architectural profession.

Knowledge and skills: Developing oral and written communication competence, developing reading skills, presentation skills, improving the knowledge of specialist and general English vocabulary, business communication skills for employment purposes.

### Course Syllabus

**Course syllabus**

1. **INTRODUCTION** – Course content, instructions
2. **REDEVELOPMENT AND RENOVATION, Part I** (lexical groups, gerund / infinitive)
3. **REDEVELOPMENT AND RENOVATION, Part II** (phrasal verbs, translation exercises, group discussion, additional reading assignments)
4. **TADAO ANDO (part I)** (text functions, text cohesion – purpose connectors, translation exercises, additional reading assignments)
5. **TADAO ANDO (part II)**
6. **SUSTAINABLE HUMAN SETTLEMENTS – Planning Neighbourhoods**
7. **SUSTAINABLE HUMAN SETTLEMENTS, Case Study** (independent group work on projects that students choose according to their interest and on related planned exercises)
8. **ARCHITECTURE FOR THE 21st CENTURY – Case Study** (part I)(independent group work on projects that students choose according to their interest and on related planned exercises)
9. **ARCHITECTURE FOR THE 21st CENTURY (part II)**
10. **GETTING A JOB (part I)** (job advertisements, job application, CV, job interview, job offer, employment contract)
11. **GETTING A JOB (part II)**

The remaining classes will cover the topics listed above flexibly, depending on their scope and complexity. They will also cover the oral presentations of specialist topics which students chose according to their own interests. The course requires considerable independent work.

Other Teaching Methods and Assessment Strategies:
- Seminar paper on a chosen topic and oral presentation of the topic
- Regular attendance

### Compulsory and Additional Reading

**Compulsory Reading**


**Additional Reading – Texts from various sources**

1. The student will be able to read all specialist texts in English and understand and reinterpret them on their own, both during their academic education and in their work.
2. The student will be able to use specialist terminology appropriately, in speech and writing.
3. The student will be able to analyze any complex specialist topic and write about it in English. They will also be able to express their opinions supported by valid arguments.
4. The student will be able to independently hold a presentation of complex aspects of specialist topics.
5. The student will be able to participate in complex critical discussions.
6. The student will know what to do in a professional environment (employment: understand job advertisements, write an application and a CV, understand an employment contract, successfully present themselves and their competencies in a job interview etc.).
### Course Description

The course deals with industrial heritage (factories and industrial areas) and technical monuments in wider sense (railway stations, markets, etc.) with the purpose of establishing this category of architectural heritage in the context of social and technical history as well as in the architectural and urban planning context. The regeneration and re-use of the wider category of technical monuments heritage is dealt with in the greatest part of lectures. Acquaintance with worldwide and Croatian industrial heritage, and the examples of re-use of industrial heritage as a basis for working on re-use projects for these buildings.

### Course Syllabus


### Compulsory and Additional Reading

**Compulsory Reading**


**Additional Reading**


### Course Learning Outcomes

- Evaluate the significance of individual achievements of industrial heritage associated with technical achievements.
- Assess the spatial, construction and urban planning potential of industrial heritage.
- Critically assess the industrial heritage, especially the industrial and infrastructural achievements.
- Interpret the quality of reference architectural and urban planning restoration work.
- Suggest regeneration, or bottom-up interventions, artistic actions, temporary use etc., depending on the needs of the local community.
- Integrate acquired knowledge as the basis of a restoration project.
- Plan the restoration of abandoned industrial heritage, especially the most threatened sites.
- Categorize industrial heritage according to significance, level of threat and restoration priority.
- Write a conclusion for a research paper on industrial built heritage and built heritage associated with technical achievements.
The relationship between tradition and modernity in architecture, as a fundamental topic of the summer school program, is analyzed through evaluation of local architectural achievements. Trips to interesting and valuable historical and architectural sites are organized by the School: Blaca, Škrip and the island of Hvar (Vrboska, Starigrad, Hvar). Visiting lecturers take part in the summer school work giving lectures in architecture, art history, history, archaeology etc. The School’s objective is to work out detailed analyses of the existing ambiances and put forward proposals for possible revitalization of structures in historic ambiances as well as intervention in the existing historic nuclei in view of adapting to modern requirements yet respecting the built heritage.

Developing ability to create space and tourist facilities in a responsible way. The role of architects in planning, design and implementation.

Ambientura Summer School covers topics, methods and tasks related to urban planning and architecture through identification, analysis and valorization of space and programming, creation, presentation and explanation of the urban planning and architectural concept and design.

Compulsory Reading

Additional reading will be decided upon depending on the chosen Ambientura Summer School site.

- Analyze spatial features – identify examples of good practice – creatively apply theoretical and practical knowledge about space – identify, analyze, evaluate, program, create, present and explain an urban planning and architectural concept and design of a space – participate in research and project teams.
Course Description

Study of traditional heritage as a starting point of a creative interpretation in design assignments focused on renewal of the Istrian town. Renewal model based on conversion and conservation. Public urban space, urban entities and architectural details. Application of CAAD software. Critical dialogue, public interpretation, exhibitions and publications. International cooperation with the Faculties of Architecture in Ljubljana, TU Vienna (Ubergange workshop), Padua, Venice, Darmstadt, Aachen, CED Berkeley - the USA.

Course Objective

1. URBAN MATRIX OF A MEDIEVAL TOWN Research into typical matrices (matrix mapping), renewal models: conservation, conversion, preconditions for the integration of modern urban infrastructure (traffic, public utilities, safety requirements etc.), interpolations
2. PUBLIC URBAN SPACE Squares, streets and other pedestrian precincts, open and enclosed spaces, flexible purpose: occasional and permanent conversion (festivals, concerts, art installations…), modern standards of life: adapting communications (lighting, spatial barriers, safety requirements etc.)
3. COMPUTER-AIDED DESIGN CAAD, computer base for urban and architectural projects. 3D modeling, animation
4. APPROPRIATE CONVERSION OF AUSTRO-HUNGARIAN FORTIFICATIONS Survey, making inventory and architectural design intended for an appropriate conversion of Austro-Hungarian fortifications: Mali Brijun, Barbariga, Pula)
5. MODERN ARCHITECTURE IN ISTRIA Architecture and urban planning between the two World Wars (Raša, Pula)
6. CONTEMPORARY ARCHITECTURE Study, analysis and a critical dialogue about all functional types of architecture (housing, tourism, education, sports and recreation, culture, entertainment and leisure)
7. INTERPOLATION Architectural and urban planning assignments on sites in Motovun and other towns and areas in Istria
8. ARCHITECTURAL COMPETITIONS International architectural student competitions, projects and participations (Trieste EXPO etc.)
9. METHODS AND TECHNIQUES IN RESTORATION AND CONSERVATION Methods, technology, materials, machinery and equipment
10. RENOVATION OF THE ISTRIAN RAILWAY PARENZANA Physical plan of the Istrian county. Renovation concept, reconstruction, conversion, reuse
11. SUSTAINABLE ARCHITECTURE AND URBAN PLANNING Sustainable development, architecture based on climatic, ecological and energy-related issues, vernacular heritage, bioclimatic principles, indigenous materials, energy-efficiency
12. ECO-TOURISM Rural areas, renewal, permaculture, indigenous forms of living, new development models
14. EXHIBITION AND PUBLICATIONS Exhibition - final presentation of drawings, models and projections, digital catalogue - internet exhibition on the web site of the Faculty: www.arhitekt.hr
15. PHOTOGRAPHY AND VIDEO Architectural classical and digital photographs, laboratory work, seminar, course, exhibition, publishing, experimental video-art, projections - performance
The course offers an overview of computer aided modeling techniques for landscape architecture. The topics include a basic systematization of elements for computer modeling and visualization of objects (natural and manmade) and phenomena. More detailed information on documentation process, as well as topics on multimedia presentation of the results.

... The course will offer a broad view of the evolving computer tools for the architectural profession, with special focus on the tools that are essential for landscape design today. The student will acquire knowledge on present computer applications for modeling, visualization and presentation.

This knowledge of computer tools will provide the student with initial understanding necessary to choose and work with the right tools for the task of landscape design within the Workshop for landscape design in the IX semester.

Course Syllabus

1. Approach to the problem – Visualization in the modeling process | Practice, CAD tools
2. Basics of computer rendering of a space – Scene elements | Practice, Work with basic tools in 3D
3. Landscape visualization approaches – Overview, categorization and basics | Practice, Tools for landscape visualization
4. Landscape visualization elements – Data sources, CAD, GIS | Practice, Preparation of input data
5. Basic visualization elements – Terrain | Practice, Terrain modeling tools
6. Basic visualization elements – Vegetation I | Practice, Work with vegetation rendering tools
7. Basic visualization elements – Vegetation II | Practice, Work with vegetation modeling tools
8. Advanced visualization elements – Materials and lighting | Practice, Advanced visualization elements
10. Animations – Simulations in space | Practice, Work on scene animation, camera and element animation
11. Animations – Simulations in time | Practice, Work on simulations in time
12. Practical usage of tools and development of new technologies | Practice, Project work
13. Project presentation | Practice, Project work
14. Multimedia presentations | Practice, Work with tools for preparation of multimedia content
15. Interactive presentations | Practice, Improvement of presentations by presentation interactivity

Course Objective

- Enable students to independently use computers in all modeling stages, from the preparation of technical documentation to visualization and project presentation.
- Offer an overview of possibilities, techniques and landscape visualization elements during group exercises.
- Master the use of modern program tools by doing tasks which are part of the landscape architecture workshop.
- Enable students to independently use computers in all modeling stages, from the preparation of technical documentation to visualization and project presentation.

Additional reading


Compulsory and Additional Reading

1. Coursebook (in preparation)

Course Learning Outcomes

- Offer an overview of possibilities, techniques and landscape visualization elements during group exercises.
- Master the use of modern program tools by doing tasks which are part of the landscape architecture workshop.
- Enable students to independently use computers in all modeling stages, from the preparation of technical documentation to visualization and project presentation.
- Offer an overview of possibilities, techniques and landscape visualization elements during group exercises.
- Master the use of modern program tools by doing tasks which are part of the landscape architecture workshop.
- Enable students to independently use computers in all modeling stages, from the preparation of technical documentation to visualization and project presentation.
<table>
<thead>
<tr>
<th>Component (Course) code</th>
<th>Master course</th>
<th>Professor</th>
<th>Term – semester – Compulsory / Optional course</th>
<th>Language of instruction / Other languages for consultative teaching</th>
<th>Type of course unit + additional activities</th>
<th>ECTS credit</th>
<th>Contact of Professor</th>
</tr>
</thead>
<tbody>
<tr>
<td>189219</td>
<td>Contemporary Landscape Architecture / Suvremena arhitektura</td>
<td>Associate Prof. Bojana Bojanić, Obad Sličaroci, Ph.D.</td>
<td>Winter – Optional course</td>
<td>Croatian / English / Italian / German / French</td>
<td>15 lectures/sem</td>
<td>1.0 ECTS</td>
<td><a href="mailto:obad.slicaroci@arhitekt.hr">obad.slicaroci@arhitekt.hr</a></td>
</tr>
</tbody>
</table>

**Course Description**
A subject of growing interest globally, landscape urbanism is seen as a way to reimagine large cities and aging infrastructures. Landscape urbanism emphasizes the integration of natural, structural, cultural and infrastructural layers of urban space, and suggests a reexamination of current planning models.

**Course Syllabus**
First step of attractiveness

Seeing the void, introduction, contemplating

The second step of attractiveness: Multisensory experience – synesthesia: sense sound, hear light, touch smell, lick a void and swallow air. Context, concept, idea. Next to ideas and inspiration, the site conditions and constraints stand at the beginning of each project. They form the basis for landscape architects and designers to develop convincing concepts, which are Manifested in formal, spatial structures. Open space is always in-between. Between North and South, today and tomorrow, function and shape. Each design for the urban space and landscape has to deal with the site’s specific character, has to Envision Future Space. Deriving from this new paradigm and a local identity is being defined during the design process. The design is developed within a spatial material and chronological context. Water, canal and river. Water lakes and sea. Waterscapes are constructed water features in urban public plazas and parks designed to harness both the hydrologic cycle and the aesthetic qualities of water. They celebrate the role of water in our urban landscapes and allow people to experience the qualities of water through touch, sight and sound.

Landscape architecture of the city, re-interpretation of the park Pattern, and relationship, proportion, identity, exchange. The area generally unlimited - limited Space through the dimension sizes, distances, intervals, layers Space through the anthropomorphic form, symmetrical, open, closed Space through moving passage, crossing, speed, direction, way. Shaping the idea of space: idea, concept, theory, mental image, imagination - the flow of ideas, the discovery. Elements of thinking about space and no, facts, features and no, security seals and no, identification, associative elements. Ways of thinking about space: reasonable, intuitive, speculative, documentary, negotiating. Results of thinking about space: conclusion, conviction, the presumption _ attitude, finding _ creativity, knowledge, interpretation. Contemporary re-interpretation, pavilion, light, sound. Pavilions, small structure, showing the unity of places and events. These structures reveal the attraction, creating atmosphere and transform the light giving the space a character that did not previously have. Tradition transformed into modernity not only content and form, but also design and usability is summed up in a small structure _ pavilion. The rhetoric of contemporary urban landscape. The growth of cities, landscape architecture replenishment of cities, planning. Although finding a common interest in the landscape, artists, writers, designers, architects and geographers cannot accept the common definition, nor agree on its place in the research. Landscape is used differently, but it serves everyone. Landscape Urbanism wants to find out what is happening in the urban landscape. Landscape Urbanism is a concept design and planning in the urban landscape. Spaces, reshaping urban landscape architecture. Artform – transform the interest focuses on the deserted area, the obsolete and unproductive spaces and buildings, often undefined and without limits, the place to which the French expression: tenait vague, void, unclear, without content. Areas, urban landscape design. Bridging the Gap Void, emptiness, nonexistence, the lack of physical and mental content. Phenomenological gap can be defined as a place that is charact, by its context and history, which is now outside of urban functions, growth and transformation (such as natural disasters, wars, etc.). Phenomenological gap is an individual event in the city, it builds itself. Functional changes _ altered ways of using the city. Understanding the gap, not only in terms of materiality, but also the location and history are necessary when trying to (re) integration of this type of functionality gaps in the urban space. Physical geographic features such as

**Contact of Professor**
Associate Prof. Bojana Bojanić, Obad Sličaroci, Ph.D.
obojanic@arhitekt.hr
Office no.: 426 / 4th floor

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**Compulsory and Additional Reading**
1. D.1 – Creatively incorporate knowledge and methods of technical arts and sciences and social and natural sciences into the process of research, design and construction of an architectural and urban design which meets aesthetic and technical requirements of the discipline.
2. D.2 – Interpret theoretical concepts which offer universal principles as arguments for contemporary design decisions.
3. D.15 – Plan and develop personal competencies by keeping up to date with architectural achievements and by participating in available architectural training programs.
4. Critically assess contemporary landscape architecture projects.
5. Organize knowledge on contemporary landscape architecture.
6. Interpret the characteristics and factors of contemporary landscape architecture identity.
7. Choose the criteria for contemporary landscape architecture design.
8. Connect the acquired knowledge on contemporary landscape architecture with the design of a landscape, urban and architectural project and/or plan.

**Course Learning Outcomes**
- Interpret the characteristics and factors of contemporary landscape architecture.
- Choose the criteria for contemporary landscape architecture design.
- Connect the acquired knowledge on contemporary landscape architecture with the design of a landscape, urban and architectural project and/or plan.

**Additional Reading**
- 1. Girot, Christophe (2016) The Course of Landscape Architecture, Themes & Hudson

**Compulsory Reading**
- http://www.landizine.com/
- http://www.toposmagazine.com/
mountains, rivers and valleys are generated void in the urban space. City areas, movement and connectivity – promenade, avenue, pedestrian streets, bridges. Walkspace, we move through the space: walkscape, we look at the space. City areas, adaptive reuse projects, new use. After the abandonment of the facilities, the unique park-like setting offers an historic opportunity for the city. Open spaces and cultural events are an important early catalyst in bringing the city back to life. But the long-term vision is to create an outstanding park for the 21st c. Attractions and bizarre / awards. Focus on the tension between the temporary and the permanent, between planned and experiential. Periodically review the relationship between the attempts to create order in the city through long-term plans and the everyday chaos that is the product of that process. The goal is to encourage spaces and situations that function within the state of temporality, space and draw energy from its flexibility.

Requirements
Regular attendance and submission of seminar synopsis
Exam
Seminar paper and oral exam
### Course Description

Dynamic development of tourism and recreation requires a constant process of knowledge acquisition about the changing forms of tourism in the context of environmental protection. The course content encompasses general and specialist knowledge about physical and urban planning as well as tourist area development, tourist facilities and tourist and recreational centres. The course focuses on drawing up urban plans of tourist areas (zones). It encompasses an overview and a comment on spatial standards and starting points in planning – programming, dimensioning and design for tourism and recreation purposes.

This course aims to provide advanced in-depth knowledge about urban planning requirements for tourist and recreational purposes. Students acquire knowledge about programming and planning tourist and recreational areas.

### Course Syllabus

1. Introduction
2. Tourism in space
3. Coastal region
4. Mountain region
5. Rural area
6. Urban area
7. Protected nature
8. Urban and physical planning
9. Standards for construction and development
10. Selected topics – coastal region
11. Selected topics – mountain region
12. Selected topics – rural area
13. Selected topics – urban area
14. Selected topics – protected nature

### Compulsory and Additional Reading

**Compulsory Reading**


**Additional Reading**


### Course Learning Outcomes

1. Independently integrate the knowledge of architecture and urban planning with the process of research, design and construction of an architectural and urban design solution.
2. Research the factors significant for the project and incorporate them into the project program which can be identified in real, everyday context.
3. Identify the basic principles and legal and financial framework for organizing a professional practice and project management.
4. Organize and plan construction and physical planning works, and supervision of the implementation of physical and urban area development plans and projects.
5. Lead an interdisciplinary project and research team of experts, incorporate its conclusions into the development and implementation of the project.
6. Be eligible for admission into the postgraduate artistic and scientific program in the field of architecture and urban planning.
7. Plan and develop personal competencies by keeping up to date with architectural achievements and participating in available architectural training programs.
8. Publicly present socially responsible architecture which promotes knowledge, altruism and skepticism about prejudice, and challenges the conventional.

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Contact: Associate Prof. Krunoslav Šmit, Ph.D. krunoslav.smit@arhitekt.hr
office no.: 425 / 4th floor

Catalog of Courses for Erasmus+ and other International Students, Master Degree Program in Architecture and Urban Planning, Faculty of Architecture, University of Zagreb, Croatia
<table>
<thead>
<tr>
<th>Component (Course) code</th>
<th>Course Description</th>
<th>Course Syllabus</th>
<th>Compulsory and Additional Reading</th>
<th>Course Learning Outcomes</th>
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<tr>
<td></td>
<td>The Course is dealing with different traffic and transportation planning issues and their correlation within a City. Quality of good planning and positioning of traffic corridors within a city is of a crucial importance and therefore it has to be implemented into the city-planning process. Through the scope and evaluation of different examples from Croatia and other countries students will get to know the “Ups-and-Downs, Good and Bad” in traffic and transportation planning. Through this Course, students will deepen their knowledge into the topic of how and why the planning of Traffic and Transportation within a City is of a crucial importance in Urban Planning. It is supposed to help in understanding that every architectural artifact needs appropriate and easy recognizable vehicle/vessel and pedestrian access to be able to use it in full. Through seminar topics, students will face the traffic problems of some sites and suggest their improvements within the scoped Place. The knowledge they gain is supposed to help the students in their student and later-to-come professional work.</td>
<td>Lecture 1: HISTORY OF TRAFFIC AND TRANSPORTATION -part I Lecture 2: HISTORY OF TRAFFIC AND TRANSPORTATION -part II Lecture 3: CITY AND THE STREET Lecture 4: STREET JUNCTIONS Lecture 5: PARKING WITHIN STREETS Lecture 6: PARKING OUT OF STREETS Lecture 7: PUBLIC PARKING AND GARAGES Lecture 8: DESIGN OF STREET TRAFFIC CALMING ISSUES Lecture 9: BIKE-LANES Lecture 10: PUBLIC TRANSPORTATION Lecture 11: RAIL TRAFFIC SYSTEM WITHIN A CITY Lecture 12: RIVER, SEA AND AIR TRAFFIC WITHIN A CITY Lecture 13: CONNECTION OF CITY AND REGIONAL TRAFFIC SYSTEMS Lecture 14: Discussion Lecture 15: Seminar and presentation issues</td>
<td>Literature will be announced at the introductory lecture.</td>
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</tbody>
</table>

Contact: Prof. Nenad Lipovac, Ph.D. nlipovac@arhitekt.hr office no.: 430 / 4th floor

The Course is dealing with different traffic and transportation planning issues and their correlation within a City. Quality of good planning and positioning of traffic corridors within a city is of a crucial importance and therefore it has to be implemented into the city-planning process. Through the scope and evaluation of different examples from Croatia and other countries students will get to know the “Ups-and-Downs, Good and Bad” in traffic and transportation planning. Through this Course, students will deepen their knowledge into the topic of how and why the planning of Traffic and Transportation within a City is of a crucial importance in Urban Planning. It is supposed to help in understanding that every architectural artifact needs appropriate and easy recognizable vehicle/vessel and pedestrian access to be able to use it in full. Through seminar topics, students will face the traffic problems of some sites and suggest their improvements within the scoped Place. The knowledge they gain is supposed to help the students in their student and later-to-come professional work.
The way of drawing, the way of making, and the way of building are causally related. PROJECT DOMAIN is drawn with a sequence of (often unnecessarily incomprehensible) notions, paradigms and epistemologies surrounding the architectural practice and the discourse on architecture. Instead of imposing ready-made design schemes, the intention of this course is to prove logically the existence of the substantial and multidirectional relation: TEXT – IMAGE – PROJECT, through the proposed sequence of diachronically contextualized readings: from the tractates and essays on architecture, architectural travels, and exemplary critics of architectural projects, to the excerpts from philosophical treatises, literary writings, or scientific papers directly or indirectly related to architecture.

The introductory definition of basic notions around the project, including the project itself, is followed by the elaborate discussion of the relationship between nature and architecture in the context of the fundamental ontologies about the purpose of humans in this world. Those relations are architecturally expressed in various notions of space, place and non-place, in the actual facts of horizon and vertical place, in the actual facts of horizon and vertical place, and in the phenomena of natural and artificial growth, and gravitation. The subsequent discussion about the picturesque and the sublime, their origins and their applicability in the architectural practice and the discourse on architecture, leads to the hierarchically derived in the conclusion, following the same scale sequence.

The course is contextualized in the history of architecture, through the proposed sequence of diachronically contextualized readings: from the tractates and essays on architecture, architectural travels, and exemplary critics of architectural projects, to the excerpts from philosophical treatises, literary writings, or scientific papers directly or indirectly related to architecture.

The introductory definition of basic notions around the project, including the project itself, is followed by the elaborate discussion of the relationship between nature and architecture in the context of the fundamental ontologies about the purpose of humans in this world. Those relations are architecturally expressed in various notions of space, place and non-place, in the actual facts of horizon and vertical place, and in the phenomena of natural and artificial growth, and gravitation. The subsequent discussion about the picturesque and the sublime, their origins and their applicability in the architectural practice and the discourse on architecture, leads to the hierarchically derived in the conclusion, following the same scale sequence.

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The introductory definition of basic notions around the project, including the project itself, is followed by the elaborate discussion of the relationship between nature and architecture in the context of the fundamental ontologies about the purpose of humans in this world. Those relations are architecturally expressed in various notions of space, place and non-place, in the actual facts of horizon and vertical place, and in the phenomena of natural and artificial growth, and gravitation. The subsequent discussion about the picturesque and the sublime, their origins and their applicability in the architectural practice and the discourse on architecture, leads to the hierarchically derived in the conclusion, following the same scale sequence.

The course is contextualized in the history of architecture, through the proposed sequence of diachronically contextualized readings: from the tractates and essays on architecture, architectural travels, and exemplary critics of architectural projects, to the excerpts from philosophical treatises, literary writings, or scientific papers directly or indirectly related to architecture.
<table>
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<th>Term</th>
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<th>Methods and criteria of evaluation</th>
<th>Compulsory and Additional Reading</th>
<th>Course Learning Outcomes</th>
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<tr>
<td>Semester</td>
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</tbody>
</table>

- **Course Description**

  terms, it will also help them to pictorially represent and verbalize their projects, expanding thus the limits of the architectural project within the real context of its ever decreasing circumference.

- **Course Syllabus**

  - **10. HORIZONTAL WORLD View.** Strategic observation. Cartesian coordinates. ISLAMIC MINIATURE. AXONOMETRIC PROJECTION.
  - **12. Seminar III: Text and project.** Preliminary presentation of the images.
  - **14. AUTONOMY OF ARCHITECTural Architects and projects.** Mies van der Rohe: Notes for a lecture, June 15th 1924; Aldo Rossi: Autonomia dei fatti urbani; Nikola Dobrovic: Dubrovnik as a Testimony to Urban Formation
  
  **SEMINAR:** In parallel to the lectures, students will analyse, verbalise and pictorially represent a referential built or non-built project, in relation to some of the paradigms listed in the syllabus. By the end of the course, each student will present the project with one image and one short, 500 to 1000 words text.

  **Requirements**

  - Regular attendance of the lectures and the seminars, participation in the discussions.
  - **Exam**

  Presentation of the seminar work (TEXT – IMAGE – PROJECT) handed in the digital and the printed medium.

  - Malaparte, Curzio: La pelle (excerpt)
  - Le Corbusier. Mise au point (excerpt)
  - Plato. Metaphor of the Cave. excerpt from Republic
  - Semper, Gottfried. Die vier Elemente der Baulkunst. Braunschweig: Friedrich Vieweg und Sohn, 1851: 50-57
<table>
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</thead>
</table>

### Compulsory and Additional Reading

### Course Description
The course focuses on a comprehensive definition of concepts, historical development of the topic, contemporary development of high technologies relevant to architectural theory and practice, its social context and implications. Integration of architectural and urban planning concepts and high-tech materials and systems. Recent Croatian and world projects and realizations are presented and analyzed. Emphasis is put on architectural concept and design in the context of investments, building technology and sustainability.

### Course Objective
Acquisition of advanced knowledge about new materials, systems and structures making the concept, design and construction of high-technology architecture possible. The continuous development of architectural concepts and building technology in the context of rapid developments in the world of inventions and their applications requires a constant effort in keeping up to date with the latest achievements in this field.

### Course Syllabus

<table>
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<th>Course Objective</th>
<th>Methods and criteria of evaluation</th>
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<th>Course Learning Outcomes</th>
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<tbody>
<tr>
<td>1. BASIC DEFINITION OF CONCEPTS</td>
<td>Technique, production, technology, industrial and information age, high-tech</td>
<td>1. Low-Tech Light-Tech High-Tech, K. Daniels, Birkauser, 2000</td>
<td>In this course the student will acquire necessary advanced knowledge of recent materials, systems and structures which enable the creation of the concept, design and the realization of high-tech architecture. Continuous development of architectural thinking and construction technologies in the growing number of discoveries, their use and monitoring presents a challenge to the creative reaction. Therefore it is necessary to keep up to date and be acquainted with high tech.</td>
</tr>
<tr>
<td>2. HISTORICAL DEVELOPMENT OF NEW AGE HIGH TECHNOLOGY</td>
<td>Global situation and development strategies.</td>
<td>2. Xtreme Houses, C. Smith, S. Topham, Prestel, 2002</td>
<td></td>
</tr>
<tr>
<td>4. HISTORICAL DEVELOPMENT AND MODERN TECHNOLOGY</td>
<td>Using solar energy (active and passive), technology, contemporary achievements</td>
<td>4. Building a New Millennium, P. Jodido, Taschen, 1999</td>
<td></td>
</tr>
<tr>
<td>5. FROM CRYSTAL PALACE TO CRYSTAL CATHEDRAL</td>
<td>Joseph Paxton - Philip Johnson</td>
<td>5. Technologiques, AA, Paris, 1985</td>
<td></td>
</tr>
<tr>
<td>6. FUTURISTIC ARCHITECTURE</td>
<td>From Boullée and Ledoux to Leónidov and Sant'Elia, futuristic architecture of the second half of 20th century, contemporary futuristic concepts (Norman Foster, Toyo Ito, Future Systems)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. CONSTRUCTIVISM, STRUCTURALISM, HIGH-TECH</td>
<td>Theoretical impacts, aesthetics, visual arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. BIOCLIMATIC HIGH-TECH</td>
<td>Microclimate, geographical features, insulation, topographic and other natural and man-made architectural, construction and installation systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. EN-TECH ENERGY AND HIGH-TECH</td>
<td>Power-supply system and high-tech requirements, definitions, development, indicators, Croatian and EU standards, energy standard of a passive house, high-technology and high energy-efficiency, global influences and effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. HIGH-TECH MATERIALS AND SYSTEMS</td>
<td>Special types; geosolar, self-sufficient, &quot;intelligent&quot; house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. HIGH-TECH HIGH-RISE BUILDINGS</td>
<td>skyscrapers, projects, realizations; Croatia, Europe, the world</td>
<td></td>
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</tr>
<tr>
<td>12. TRAFFIC AND POWER-SUPPLY FACILITIES</td>
<td>bridges, viaducts, roads, dams, power plants, impact on the environment, high-tech prevention of harmful influences</td>
<td></td>
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</tr>
<tr>
<td>13. TIMBER HIGH-TECH ARCHITECTURE</td>
<td>Natural materials and high technology, timber structures, systems and design, eco-friendly approach</td>
<td></td>
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<tr>
<td>14. EXTREME ARCHITECTURE</td>
<td>Recent concepts, extreme high-tech concepts, projects and realizations</td>
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</tr>
<tr>
<td>15. VIRTUAL HIGH-TECH</td>
<td>Computer simulations, virtual architecture and environment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Methods and Criteria of Evaluation

- **Seminar:**
- **Exam:**
- **Regular Attendance:**
- **Seminar Paper:**

### Compulsory Reading

1. Low-Tech Light-Tech High-Tech, K. Daniels, Birkauser, 2000
2. Xtreme Houses, C. Smith, S. Topham, Prestel, 2002
4. Building a New Millennium, P. Jodido, Taschen, 1999
5. Technologiques, AA, Paris, 1985

### Additional Reading

1. ECO-TEC, Architecture of the In-Between, A. Marras, Princeton Architectural Press, 1999
4. Tecnologia, L’Arca Plus, Milano, 1993
A specific body of knowledge and skills in architecture of multipurpose business buildings is presented. It explores different influences, ranging from technical to social, which are manifested in architectural artefacts. In the context of climate changes, economic crises and social transformations, the course focuses on the relationships between technology, design and society which increasingly condition the métier of the architectural idiom of business buildings. The course draws upon recent theories which describe from various perspectives the influences exerted on the architecture of multipurpose buildings. The influences of the new knowledge are described as “third industrial revolution”, “second modern age”, “information society” or “knowledge society” where surplus value is not generated by capital but rather by productivity and innovation. Both these notions, productivity and innovation, imply the application of knowledge on work activities. The work has changed: it has become more complex and it points to an ever growing need for a swift and comprehensive exchange of knowledge via information and communication technologies, especially via spatial reflections of these processes. The organisation of knowledge entails a preliminary structural analysis of the notion of work and consequently of the notion of the work-intended buildings. The third whole explains the structure and the method of designing such spatial environments. The course specifically focuses on the issues of identity and branding of the new manufacturing centres, on the new work environments, redeveloping of industrial areas and on the matters of productivity and innovation in work environment.

1. INTRODUCTORY LECTURE
2. THEORETICAL SETTINGS OF SUSTAINABILITY IN BUSINESS BUILDING DESIGNS
3. NEW TYPOLOGY OF WORK ENVIRONMENT
4. LIFE CYCLES AND SUSTAINABILITY OF PUBLIC BUILDINGS
5. URBAN LANDSCAPE IN PUBLIC-PURPOSE PROJECTS
6. ARCHITECTURE OF MODERN AIRPORTS
7. COMMUNICATION PLATFORMS OF CORPORATIONS
8. POSTINDUSTRIAL LANDSCAPE OF BUSINESS BUILDINGS ARCHITECTURE
9. ARCHITECTURAL TRENDS IN THE 3rd MILLENNIUM WORLD FAIRS
10. ARCHITECTURAL COMPOUNDS OF MODERN FAIRS
11. CAMPUSES
12. BUSINESS AND THEME PARKS IN INDUSTRIAL AND LEISURE BUILDING ZONES
13. DOCKLANDS AND WATERFRONT DEVELOPMENT
14. MODERN METHODOLOGICAL EXPERIENCES IN DESIGNING COMPLEX PUBLIC-PURPOSE BUILDINGS
15. ANTICIPATING TRENDS IN MULTIPURPOSE BUSINESS BUILDINGS

Assessment
Seminar paper
Exam
Written and oral

Compulsory Reading
2. C. Van Uffelen: Offices, Braun publishing AG, 2010
6. V. Neidhardt: Čovjek u prostoru, Školska knjiga, Zagreb, 1997
10. V. Neidhardt: Čovjek u prostoru, Školska knjiga, Zagreb, 1997

Additional Reading
1. Charles Waldheim: Notes Toward a History of Agrarian Urbanism, essay
4. Jared Diamond: Why do societies collapse?
5. Creatively apply the knowledge and methods from the field of technical arts and sciences as well as social and natural sciences to an architectural and urban design solution which meets the esthetic and technical requirements of the discipline.
6. Choose information and criteria important for the development of an architectural and urban planning project.
7. Critically assess a designed or realized architectural and urban planning schematic design.
8. Demonstrate knowledge of basic typologies, language, principles and theoretical concepts which articulate and express an architectural and urban planning idea.
9. Identify universal principles in examples from the history of architecture which serve as arguments for contemporary decisions of architects.
10. The student who successfully completes this course will be able to:
   - Interpret the knowledge on the architecture of complex business-purpose buildings.
   - Explain contemporary principles of architects based on the acquired knowledge related to the course.
   - Combine specific acquired knowledge necessary to design complex business-purpose buildings.
   - Interpret universal concepts of business architecture for complex purposes and make architectural decisions accordingly.
## Course Description

The aim of the course is to bring the image of planning and creation of American cities from prehistory until the end of the 19th century. The topic of this course is a research of history of making American cities (starting with prehistoric ones and ending by the cities at the end of 19th century) taking into account the area of North and Mesoamerica. North American continent and the settlement development issues today are rarely experienced as something of a great cultural and scientific value. The most common consideration of the American settlement is through the vision of the grid-system introduced by the end of 18th century. Even today, very few scholars would have the knowledge of the settlements built by the Native Americans (long before the Europeans arrived). These settlements represent real built masterpieces, planned according to the knowledge gained through observing the astronomical events. First contemporary cities were planned and built according to the several very important, and so different from European counterparts, legislation acts that served as the most influenced guides in creating American cities.

## Course Syllabus

**Methods and criteria of evaluation**

1. Peopling of North American Continent  
2. Prehistoric Settlements of the Southeast (part I)  
3. Prehistoric Settlements of the Southeast (part II)  
4. Prehistoric Settlements of the Southwest - Pueblos (part I)  
5. Prehistoric Settlements of the Southwest - Pueblos (part II)  
6. Maya and Aztec Settlements (part I)  
7. Maya and Aztec Settlements (part II)  
8. Inkas Settlements  
9. 16th Century European Settlements and their Influence upon American Settlements  
10. European Settlers and their first Settlements  
11. Settlements by the End of 18th Century  
12. First Legislation Act for Settlement Planning  
13. Settlement/City History and Development Examples (part I)  
14. Settlement/City History and Development Examples (part II)  
15. Discussion About Seminar  

Exam  
Seminar paper and its presentation

## Compulsory and Additional Reading

**Compulsory Reading**  
1. Course notes  
2. Reading selection located in the professor's office (approximately 40 books)  

**Additional Reading**  
1. Websites about the chosen topic  

## Course Learning Outcomes

- Development of general and specific competencies.  
- Introduction of students to the principles and conditions of “planning” prehistoric settlements in Central and North America and the fundamental principles underlying the creation of the city after the “discovery” of America.  
- Students will also acquire basic knowledge about legislative documents which became the basis for the creation of the modern city in this part of the world in mid-18th century.
## Component (Course) code
- 81957

## Master course
- Architectonics of Light
  - Arhitektonika svjetla

## Professor
- Assist. Prof. Neda Cilinger

## Term – semester
- Summer

## Optional course
- Optional course

## Language of instruction / Other languages for consultative teaching
- Croatian / English

## Type of course unit + additional activities
- 15 lectures/sem
- 1.0 ECTS

## ECTS credit
- 81957

## Contact of Professor
- Assist. Prof. Neda Cilinger
  - neda.cilinger@arhitekt.hr
  - office no.: 412 / 4th floor

### Course Description
The course aims to help students understand the role of light in architecture and teach them how to incorporate it in their projects in the context of functional disposition and design. The role of light needs to be viewed in its relationship with the form, colour, texture, atmosphere and psychological requirements.

### Course Objective
The aim is to provide students with advanced knowledge and skills in the design of light in architecture. Defining the concept of light, parameters and criteria for a high-quality design through a synergy of perception and creativity.

### Course Syllabus

<table>
<thead>
<tr>
<th>Methods and criteria of evaluation</th>
<th>Compulsory and Additional Reading</th>
<th>Course Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction – what is Light?</td>
<td>Compulsory Reading</td>
<td>Development of general and specific competencies – knowledge and skills.</td>
</tr>
<tr>
<td>2. Senses – perception of space – creation with light</td>
<td>Carlo Scarpa</td>
<td>Connection of the knowledge of design basics with the knowledge and skills of designing and shaping a space with light.</td>
</tr>
<tr>
<td>4. Colour and Light</td>
<td>J.W.Goethe: Učenje o bojama</td>
<td></td>
</tr>
<tr>
<td>5. Colours of Light</td>
<td>Juhani Pallasmaa: The eyes of the skin</td>
<td></td>
</tr>
<tr>
<td>7. Texture and Light</td>
<td><a href="http://www.licht.de">www.licht.de</a> Good lighting for museums, galleries and exhibitions</td>
<td></td>
</tr>
<tr>
<td>8. Atmosphere of space – concept structure</td>
<td>5. <a href="http://www.licht.de">www.licht.de</a> Good lighting for hotels and restaurants</td>
<td></td>
</tr>
<tr>
<td>11. Artificial light</td>
<td>8. <a href="http://www.licht.de">www.licht.de</a> Good lighting for industry and trade</td>
<td></td>
</tr>
<tr>
<td>13. Criteria for a high-quality design 1; analysis – creativity – responsibility</td>
<td>10. <a href="http://www.licht.de">www.licht.de</a>: Good lighting for sports and leisure</td>
<td></td>
</tr>
<tr>
<td>14. Criteria for a high-quality design 2; comfort-health-better world</td>
<td>11.www.licht.de; Good lighting for health care premises</td>
<td></td>
</tr>
<tr>
<td>Exam</td>
<td>13.www.licht.de; Lighting with artificial light</td>
<td></td>
</tr>
<tr>
<td>Theoretical seminar paper or actual project assignment</td>
<td>14.www.licht.de; LED</td>
<td></td>
</tr>
</tbody>
</table>

### Compulsory and Additional Reading
- 1. Derek Phillips: Lighting in architectural design
- 2. Carlo Scarpa
- 3. Louis Barragan
- J.W.Goethe: Učenje o bojama
- Juhani Pallasmaa: The eyes of the skin
- Arnold Gallardo: 3d lighting:history, concepts and techniques
- www.licht.de Good lighting for museums, galleries and exhibitions
- 5. www.licht.de Good lighting for hotels and restaurants
- 6. www.licht.de Good lighting for schools
- 7. www.licht.de Good lighting for offices and office buildings
- 8. www.licht.de Good lighting for industry and trade
- 9. www.licht.de Good lighting for sales and presentation
- 10. www.licht.de: Good lighting for sports and leisure
- 11. www.licht.de; Good lighting for health care premises
- 12. www.licht.de Home lighting
- 13. www.licht.de; Lighting with artificial light
- 14. www.licht.de; LED

### Course Learning Outcomes
- Development of general and specific competencies – knowledge and skills.
- Connection of the knowledge of design basics with the knowledge and skills of designing and shaping a space with light.
- Defining the concept of light, parameters and criteria for a high-quality design through a synergy of perception and creativity.
<table>
<thead>
<tr>
<th>Course Description</th>
<th>Course Syllabus</th>
<th>Compulsory and Additional Reading</th>
<th>Course Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer – Optional course</td>
<td>Home tasks with corrections before submission every other week. A notebook is obligatory where students take notes of lectures, tasks, their personal observations, texts, drawings, reproductions. A sketchbook (no.3) for field trip drawings and sketches and drawing studies at home.</td>
<td>1. C.G.Jung: Čovjek i njegovi simboli, Madost, Zagreb, 1974 2. Gillo Dorfles: Kič, Golden marketing, Zagreb, 1997 3. H.W.Janson: Povijest umjetnosti (hrvatsko prošireno izdanje), Stanek, Varaždin, 2003</td>
<td>The student will be able to assess graphic representations and images objectively. The student will be able to organize the research of past/recent representations of space. The student will be able to independently create the concept of a visual and graphic solution for a booklet/presentation, and design and realize it following a highly complex course assignment.</td>
</tr>
<tr>
<td>20712</td>
<td>Contact: Prof. Renata Waldgoni <a href="mailto:renata.waldgoni@arhitekt.hr">renata.waldgoni@arhitekt.hr</a> office no.: 312 / 3rd floor</td>
<td></td>
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<tr>
<td>Prof. Renata Waldgoni</td>
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<tr>
<td>Course Description</td>
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<tr>
<td>Course Objective</td>
<td>Syllabus</td>
<td>Compulsory Reading</td>
<td>Knowledge and skills: developing reading skills, developing oral competence, improving knowledge of specialist vocabulary, presentation skills, business communication skills.</td>
</tr>
<tr>
<td>Methods and criteria of evaluation</td>
<td>1. INTRODUCTION</td>
<td>University textbook: - Borić, N. (2007). English for Architecture and Urban Planning. Golden marketing, Tehnička knjiga Zagreb. - Additional shorter texts from English architectural trade journals - General and specialized dictionaries</td>
<td>1. The student will be able to understand and analyze more complex specialist texts and properly interpret their content both in speech and writing.</td>
</tr>
<tr>
<td></td>
<td>2. CITY - A HUMAN HABITAT (part I)</td>
<td>- Selected by students, especially for the seminar paper</td>
<td>2. The student will develop the skill of presenting specialist topics.</td>
</tr>
<tr>
<td></td>
<td>3. CITY - A HUMAN HABITAT (part II)</td>
<td></td>
<td>3. The student will be able to participate in more complex professional debates by presenting their arguments and critical thinking.</td>
</tr>
<tr>
<td></td>
<td>4. SUSTAINABLE ARCHITECTURE (part I)</td>
<td></td>
<td>4. The student will master specialist terminology and language structures relevant for architecture in order to communicate fluently in speech and writing.</td>
</tr>
<tr>
<td></td>
<td>5. SUSTAINABLE ARCHITECTURE (part II)</td>
<td></td>
<td>5. The student will master the skill of business communication related to the profession (writing business letters, applications etc., expressing various actions in business communication (application, request etc.)</td>
</tr>
<tr>
<td></td>
<td>6. FRANK GEHY - GUGGENHEIM MUSEUM, Bilbao (part I)</td>
<td></td>
<td>6. The student will be able to describe their work, projects, buildings, actions, occurrences, processes etc. in speech and writing.</td>
</tr>
<tr>
<td></td>
<td>7. FRANK GEHY (part II)</td>
<td></td>
<td>7. The student will be able to assess various areas and problems in the profession and discuss them in speech or writing.</td>
</tr>
<tr>
<td></td>
<td>8. LE CORBUSIER (part I)</td>
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<td></td>
<td>9. LE CORBUSIER (part II)</td>
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<td></td>
<td>10. BUSINESS COMMUNICATION in architecture</td>
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<td>The remaining planned classes will cover the topics listed above flexibly, depending on their scope and complexity, though additional texts or presentations of specialist topics chosen by the students. The course requires considerable independent work.</td>
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Contact:
Senior lecturer Neda Borić, Ph.D.
E-mail: nboric@arhitekt.hr
Office no.: 306 / 3rd floor

English for Architecture III
English
15 lectures/sem
1.0 ECTS
Course Description

The course covers geometry – based construction graphic procedures by which objects in space and their relations are depicted in a plane, either by classical techniques or supported by CAD software. Special emphasis is placed upon studying architectural examples. This is an architectural journey through geometry. Main topics are: axonometric perspective, perspective with inclined axis of view, architectural photogrametry, reflections in perspective, selected types of surfaces frequently used in architecture.

... Examples based on architectural practice challenge students to ask "geometric questions" which are far away from material studied in required course Descriptive geometry and perspective. In that sense the course covers thesis suitable for application later in architectural practice.

After the course is completed the student is able to measure in perspective with horizontal axis of view and represent architectural objects by the method of perspective with inclined axis of view. He can resolve different types of problems concerning architectural photogrametry. Further on, they are introduced to the application of rotating surface in building construction.

Course Syllabus

1. Axonometric perspective with horizontal axis of view
2. Measuring in perspective with horizontal axis of view
3. Perspective with inclined axis of view (bird’s eye and worm’s eye view)
4. Measuring in perspective with inclined axis of view
5. Architectural photogrametry – in general
6. Reconstruction of facades based on the photo taken from bird’s eye and worm’s eye view
7. Reconstruction of the interior based on the photo
8. Examples of facade reconstructions based on the photo taken from the horizontal axis of view
9. Reflections in perspective
10. Reflecting surface vertical and parallel to picture plane
11. Reflecting surface vertical and inclined to picture plane
12. Rotating surfaces (ellipsoid, paraboloid, hyperboloid of one nappe, hyperboloid of two nappe, torus)
13. Rotating surfaces (application in building construction, water – tower R. Morandi, Livorno, Italy)
14. Ruled surfaces – formation, categorization (chatedral Sacre-Coeur / Aitb, P. Herbe, J. le Couteu, R. Sarger)
15. Construction analysis of hyperbolic paraboloid exemplified by built structures (HP surface at pavilion of Zagreb fair)

Assessment
Lecturing, home made drawing
Requirements
Regular attendance, project assignment handed in
Exam
Project assignment handed in, oral explanation of the project assignment

Compulsory and Additional Reading

3. web: https://arhitektzg.sharepoint.com/II/GUG/

Course Learning Outcomes

1. to recognize the perspective with horizontal axis of view and the perspective with inclined axis of view
2. to comprehend the measuring in the perspective with horizontal axis of view and in the perspective with inclined axis of view
3. to solve the reconstruction problems based on the photo
4. to explain the reflections in perspective where reflecting surface is vertical and parallel/inclined to picture plane

Reading
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<table>
<thead>
<tr>
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</tbody>
</table>
| **Mathematical Structures** / Matematičke strukture | 1. Sets, Functions  
2. Euclidean space. Metrics in Euclidean space  
3. Continuous functions. Homeomorphism  
4. Figures in Euclidean space. Figure homeomorphism  
5. Topological invariants  
6. Curves  
7. Topological invariants of curves  
8. The notion of a graph  
9. Euler's theorem for polyhedron. Surfaces  
10. Euler characteristic  
14. Projective plane  
15. Inductive dimension of a figure  
16. Covering dimension of a figure  
... | Compulsory Reading  
1. J. Hrnčević: Topologija (lecture notes)  
http://www.virtual.arhitekt.hr/nastava/ds  
2. http://www.virtual.arhitekt.hr/nastava/ds | Learning outcome  
1. Intuitively understand the mathematical notion of a set and mapping among sets (functions).  
2. Develop the concept of Euclidean space and metric and apply metric characteristics to some problems from geometry and physics.  
3. Interpret the notion of a graph of a function and plane curves using analytical methods.  
4. Compare open and closed surfaces and interpret their use.  
5. Understand the notion of topological space by using examples from everyday life.  
6. Recognize topological invariants (features which remain unchanged under homeomorphisms) of curves. |
| **Course Objective** | Methods and criteria of evaluation | | |
| ... | | | |
| **81956** | Describing basic mathematical structures with emphasis on the topological structure.  
... Analysis and cultivation of intuitive understanding of Euclidean space. Combination of the development of imagination and the exact approach to the problems. Transformations of homoeomorphism figures (groups of points) which allow more freedom than congruence transformations. | | |
| **Summer – Optional course** | | | |
| **Lecturer Marija Šimić Horvath, Ph.D.** | | | |
| **Croatian / English** | | | |
| **15 lectures/sem** | | | |
| **1.0 ECTS** | | | |

**Contact:**  
Assist. Prof. Marija Šimić Horvath, Ph.D.  
marija.simic@arhitekt.hr  
office no.: 65 / ground floor  

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Catalog of Courses for Erasmus+ and other International Students, Master Degree Program in Architecture and Urban Planning, Faculty of Architecture, University of Zagreb, Croatia
<table>
<thead>
<tr>
<th><strong>Course Description</strong></th>
<th><strong>Course Syllabus</strong></th>
<th><strong>Compulsory and Additional Reading</strong></th>
<th><strong>Course Learning Outcomes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building Structures - Methods and Practice</strong></td>
<td><strong>Course Objective</strong></td>
<td></td>
<td>1. Properly create and design a building structure according to selected materials.</td>
</tr>
<tr>
<td><strong>Metode i praksa nosivih konstrukcija u arhitekturi</strong></td>
<td><strong>Methods and criteria of evaluation</strong></td>
<td></td>
<td>2. Recognize (understand) different types of building structures and select the dimensions correctly.</td>
</tr>
<tr>
<td>Associate Prof. Miljenko Haiman, Ph.D.</td>
<td></td>
<td>Complimentary Reading</td>
<td>3. Creatively apply the knowledge and methods of technical arts and sciences and social and natural sciences to an architectural and urban planning design which meets technical requirements of the discipline.</td>
</tr>
<tr>
<td><strong>Summer – Optional course</strong></td>
<td></td>
<td>Additional Reading</td>
<td>4. Critically assess the designed or realized architectural and urban schematic design.</td>
</tr>
<tr>
<td>** Croatian / English**</td>
<td></td>
<td>1. Frei Otto, F.K. Schleyer: Zugbeanspruchte Konstruktionen, Band 1, Frankfurt - Berlin, 1966.</td>
<td>5. Cooperate in architectural and interdisciplinary project and research teams on professional, scientific and art projects.</td>
</tr>
<tr>
<td><strong>Contact:</strong></td>
<td></td>
<td>4. M. Kitek Kuzman, Gradnja z lesom, Ljubljana 2008</td>
<td></td>
</tr>
<tr>
<td>Associate Prof. Miljenko Haiman, Ph.D.</td>
<td></td>
<td>5. Haiman: Lecture materials which will be available on the Internet</td>
<td></td>
</tr>
<tr>
<td><a href="mailto:haiman@arhitekt.hr">haiman@arhitekt.hr</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>office no.: 222 / 2nd floor</td>
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</tr>
</tbody>
</table>

All courses are taught face to face.

Most courses are taught in Croatian. Each course offers consultative teaching in English. Some courses also offer consultative teaching in Italian, German, French or Spanish. Only up to 20% of all offered courses are taught in English – it is impossible to make 30 ECTS only in English!