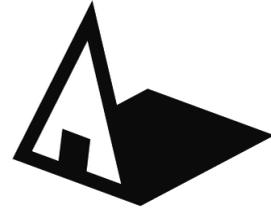


University of Belgrade – Faculty of Architecture

BOOK OF COURSES



Master
academic
studies
Architecture

COMPULSORY COURSES

COMMON COMPULSORY COURSES

Module – Architecture

Module – Urbanism

Module – Architectural technologies

Module – Architectural engineering

| | | | | |
|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN SOCIOLOGY | | | |
| Teacher: | Associate Professor Ph.D. Mina Petrović | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is to acquire knowledge of the basic concepts of contemporary society and an understanding of the social processes influencing design and management of space, particularly the urban space. | | | |
| Learning outcomes: | The students will gain knowledge that will help them understand the social context of the profession they are engaged in (architecture and urbanism) and to recognize the needs and interests of different stakeholders in the space. | | | |
| Course brief: | <p><u>Theoretical education:</u> The course covers the key concepts of general sociology, such as: culture and society, social values and social stratification, social power, which are essential for the understanding of the production of space as a relational category and practice. Within the domain of urban sociology, the course deals with the process of contemporary globalization and its reflection on the design and management of space, and planning of space. A special segment of the course is devoted to the following topics of the urban sociology: urban and housing policy, the phenomenon of residential segregation, neighborhoods, a right to the city. Topics like transition from managerial to entrepreneurial type of management, that is from collective towards individualized consumption, which problematizes the processes of privatization and commercialization of urban space and democratic deficit of modern cities despite the citizens' participation as one of the key principles of planning and management are elaborated in detail. Urban protests and struggle, concept of risk society and sustainable development of cities are also included in the course brief.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Predominantly lectures combined with interactive teaching, especially the case studies. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 30 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | | | | |
| Seminar-s | | | | |

| | | | |
|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | PHILOSOPHY | | |
| Teacher: | Ph.D. Petar D. Bojanić | | |
| Type of course: | Compulsory | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Understanding of the basic concepts of philosophy and architectural philosophy. The intention is to find and identify what belongs to the field of philosophy or institution of philosophy in the business of architects. It starts from the interpretation of the most important architectural figures and look in the "current" philosophy of new inspiration. | | |
| Learning outcomes: | Understanding of social context and awareness of philosophy, politics and ethics in relation to architecture. | | |
| Course brief: | <p><u>Theoretical education:</u> Terminology, method of application, interpretation and meaning. Levels of knowledge: from universal philosophical ideas to theoretical principles in architecture. Poetics of creativity in architecture and arts. Ways of interpretation of a certain philosophical attitude in architecture. Analysis of examples.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Bojanić, P. and Đokić, V. (ed.) (2010), Teorija arhitekture i urbanizma, Beograd: Univerzitet u Beogradu, Arhitektonski fakultet. – Bojanić, P. and Đokić, V. (ed.) (2011), Misliti grad, Beograd: Univerzitet u Beogradu, Arhitektonski fakultet. – Bojanić, P. and Đokić, V. (ed.) (2011), Dijalozi sa arhitektama, Beograd: Univerzitet u Beogradu, Arhitektonski fakultet. – Bojanić, P. and Đokić, V. (ed.) (2012), Arhitektura kao gest, Beograd: Univerzitet u Beogradu, Arhitektonski fakultet. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Lectures and discussions. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | Points | Final exam | points |
| Activity during lecturing | 30 | Written exam /essay/ | 70 |
| Practical classes | | Oral exam | |
| Colloquia | | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN ECONOMIY | | | |
| Teacher: | Associate Professor Ph.D. Goran O. Milićević | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is to introduce students to economic aspects of the city, from the level of a lot to economic background of the city, including both functioning of the entire city economy and its individual parts, in particular land, utility and housing industries, i.e. sectors of specific public importance. | | | |
| Learning outcomes: | Understanding of the main economic aspects of urban development. Training in analysis of economic problems of importance for preparation of urban plans. Learning property value evaluation methods. . | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <ul style="list-style-type: none"> – Urban demography – demographic transition and urbanization stages, 3 modern types of urbanization, population density, periodic table of cities – Location theory, location factors, general location theory, central places theory, growth pole theory – Urban economy, export basis theory, stages of city development and changes in the city economy structure – City finance, local self-government, Tiebout model, urban refurbishment – Utility industry, infrastructure development threshold theory, financing models, optimum utility consumption, utility services (the example of public city transportation and public parks and greenery maintenance company “Gradsko zelenilo”) – City models, street network, monocentric and polycentric models – Effects of planning, economic evaluation of urban plans – Urban building land 1 unregulated market, speculative bubbles, evaluation of benefits – Urban building land 2 regulated market, creation of benefits of a location – Location design, city as an investor, “small urbanism” – Housing demand, life cycle of housing needs, apartments, neighbourhoods, mortgages – Exploitation of apartments, property forms, sustainable price levels, housing market – Economy of housing construction, selection of the location, financing of construction, price indexes – Collapse of the housing market, housing cycles, impact of the decrease of interest rates on prices of apartments, the example of collapse of housing, mortgage and financial markets in the USA. <p><u>Practical education:</u></p> <p>/</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Goran Milićević - “Urbana ekonomika“, Ekonomski fakultet, Beograd, 1990. – John M.Clapp – “Dynamics of Office Markets“, The Urban Institute Press, Wash. 1993 – Denise DiPasquale, Whilliam Wheaton – “Urban Economics and Real Estate Markets“, Prentice Hall, 1996. – Alan Evans – “Urban Economics“, Blackwell, 1985. – Jack Harvey – “Urban Land Economics“, Macmillan, 1987 – David Isaac, Terry Steley – „Property Valuation Technics“, Macmillan, 1991. – Rakesh Mohan – “Urban Economic and Planning Models“, Johns Hopkins, Baltimore, 1979. – Arthur O’Sullivan – “Urban Economics“, McGrawHill, 2003. – Harry Richardson – “Regional and Urban Economics“, Penguin, 1978. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Traditional teaching with PPP presentations and students' active participation in discussion | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 20 | Study report | 15 | |
| Practical classes | | Oral presentation | 25 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

COMPULSORY COURSES

Module – Architecture

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|---|--------------------------------|---|------------------------------|---------------|
| Study programme: | | Master academic studies Architecture / Module A | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | PROFESSIONAL INTERNSHIP – A | | |
| Teacher: | | Assistant Professor Miloš M. Nenadović | | |
| Type of course: | | Compulsory | | |
| ECTS: | | 2 | | |
| Preconditions: / | | | | |
| Objectives: The objective of professional internship is application of acquired knowledge and assessment of acquired knowledge in practice. Acquiring of direct practical knowledge and experiences in design bureaus, in building of architectural buildings and in public and other institutions where processes of architectural and urban design, urban planning or scientific/artistic research work take place. Gaining experience in team work in the process of architectural and urban design and construction of architectural buildings. | | | | |
| Learning outcomes: Upon completion of professional internship, students are expected to be able to directly apply scientific, artistic, expert and theoretical knowledge and practical procedures in execution of architecture and urban designs. Understanding of the applicable practice in architectural and urban design; understanding of social and economic frameworks of architectural and urban interventions; ability to integrate acquired knowledge; application of acquired skills; team work ability; awareness of the role of architects in the modern society; understanding of professional ethics and the code of conduct. | | | | |
| Course brief: The course is individually tailored for each student, depending on the selected bureau, organization, institution or construction site where professional internship takes place. | | | | |
| Literature: / | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | 60 |
| Teaching methodology: Students themselves select a design bureau, a public or other institution, a construction site or adequate research and development institution where they will have professional internship / in Serbia or abroad /. Preparation of a day-book report and a seminar paper. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Day-book on internship activities | 50 | Seminar paper | 50 | |
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|--|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER FINAL PROJECT – A | | | |
| Teacher: | --- | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 10 | | | |
| Preconditions: All examination in Master academic studies must be passed. Selection of a mentor for the final project depends on selection of the Master Thesis A and Master Design A course. | | | | |
| Objectives: The final part of the study programme of Master academic studies Architecture / Module A consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units. A Master final project is work on the highest and the most complex level of the master study level – research and synthesizing design result at the highest level of the curricula, expressed through graphic and spatial overview of an architectural and urban conceptual solution with elements of a preliminary design. | | | | |
| Learning outcomes: The master final project is completed by a synthesizing master studio design in which students show the level of acquired knowledge and skills in the Master study programme in their individual final projects, as a response to a previously set thesis. It consists of publicly presented graphic annexes, a model final (conceptual) design and a master book which includes three separate units: a thesis, research through design with analytical and generic studies and explanations of a synthesizing concept and the final design. | | | | |
| Course brief: Development of a design in line with the Master thesis and the concept of Master design, work on graphic annexes with internal verification of completeness of the work. Research through design, modelling, shaping and structuring of a design. | | | | |
| Literature: – Recommended readings by mentor, – Readings suggested by a student and approved by a mentor | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Mentor work with a student (candidate). Public oral presentation of the final project before the Mentoring Committee. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | | Final work – project | 85 | |
| Practical classes | | Oral presentation | 15 | |
| Colloquia | | | | |
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COMPULSORY COURSES

Module – Urbanism

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|---|---|-------------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module U | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M01 U – DESIGN PROJECT: ENVIRONMENTAL URBAN DESIGN | | |
| Teacher: | Assistant Professor M.Sc. Jelena A. Živković | | |
| Type of course: | Compulsory | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>The objective of the course is to develop knowledge of the environmental approach to development of human settlements and training of students to apply it in urban design. The objective is achieved through study of relations between the nature and culture in a specific spatial context. Possibilities are researched for integration of knowledge on natural and environmental and social process in the urban design process in various problem and spatial levels.</p> | | |
| Learning outcomes: | <p>Upon completion of the course, students are expected to:</p> <ul style="list-style-type: none"> • Acquire basic knowledge of natural bases of urban development, environmental processes and problems in the urban environment and to recognize their connections with urban design processes and products. • Acquire skills to apply various research and design methods and techniques in urban design • Be able to establish relations between (eco)theoretical concepts and urban design through their designs, with creative application of environmental principles and measures adjusted to the context in various problem and spatial levels | | |
| Course brief: | <p><u>Theoretical education:</u> <u>Practical education:</u> A specific topic and a spatial framework are determined every year and key issues and levels of elaboration of an assignment in the studio are specified in accordance with them. Possible topics/spaces are: eco-district/settlement/neighbourhood; eco approach to design of specific urban networks and knots; environmental approach to regeneration of the coastal area; urban design in adaptation to climate change etc. The curriculum of the course is organized in two parts: 1) research and 2) design. 1) Research: • Theoretical bases of a design (eco-theories, concepts, models) and thematic units of research (nature/ecosystems, community/town, communications/movement, energy, water, waste , construction); • Research of the context (natural, social, cultural, economic, political); • Research of the location (thematic mapping of the situation and processes, research of documents, studies and other sources of information on space); • Establishment of connections between various problem frameworks and spatial levels of the research 2) Design : • The concept of the design is defined at the programme level and is elaborated through establishment of connections between thematic units (nature/ecosystems, community/town, communications/movement, energy, water, waste , construction) at various spatial levels; • Elaboration of the design includes minimum 2 spatial levels and is defined in accordance with the theme (e.g. for eco-district a) Urban solution of a district: a programme and spatial concept and a formative software solution, 1:1000, b) Architectural and urban solution for small spatial group (neighbourhood, city centre) 1:500 characteristic building /urban setting, 1:200 , detail)</p> | | |
| Literature: | <p>– Shirley P., Moughtin J. C. (2005) Urban Design: Green Dimensions, London:Routledge – Thomas R., Fordham M. (ed.)(2005) Sustainable Urban Design : An Environmental Approach, London, New York: Spon Press – Birkeland J. (2002) Design For Sustainability: A Sourcebook Of Integrated Eco-Logical Solutions, London, Sterling: Earthscan – Wines James (2000) Green Architecture, Koln, London, Paris, Tokyo: Tachen – Pucar M. Pajević M., Jovanović Popović M. (1994) Bioklimatsko planiranje i projektovanje: urbanistički parametri, Beograd: Zavet</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam / Design project | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 40 | | |
| Seminar-s | | | |

| | | | | |
|---|--|-------------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 U – SEMINAR: ENVIRONMENTAL URBAN DESIGN | | | |
| Teacher: | Assistant Professor M.Sc. Jelena A. Živković | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 4 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to environmental requirements and principles of urban development, as well as measures for their implementation in shaping of urban spaces. Issues and topics are studied that keep the design process directed to sustainable development adjusted to climate change. The aim is to link nature and culture and to encourage creativity in search for design responses that reflect specific characteristics of a certain place. | | | |
| Learning outcomes: | <p>Upon completion of the course, students are expected to:</p> <ul style="list-style-type: none"> – Acquire knowledge of environmental theories and concepts and principles of urban development – Understand the role, potentials and limitations of urban design in achievement of environment-sensitive and sustainable development adjusted to the climate. – Be able to apply environmental principles and measures in shaping of urban space creatively and in line with the context | | | |
| Course brief: | <p><u>Theoretical education:</u> Curriculum in the course includes study of the following thematic units: development of the environmental approach in the theory and practice of urban building and planning; environmental requirements of urban development and their spatial relevance; principles of environmental design and concepts of eco-cities; characteristics of the modern environmental approach to direction of urban development: from ecology in cities to ecology of cities; environmental qualities of urban space in the context of pluralism of interest, use and meaning of urban space. Relation between urban design and sustainable development. Climate change and environmental urban design.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Van Der Ryn S., Cowan S., (1996) Ecological Design, Island Press, Washington DC – Shirley P., Moughtin J. C. (2005) Urban Design: Green Dimensions, London:Routledge – Hough M. (1995) Cities and Natural Processes, London, Routledge – Thomas R., Fordham M. (ed.)(2005) Sustainable Urban Design : An Environmental Approach, London, New York: Spon Press – Birkeland J. (2002) Design For Sustainability: A Sourcebook Of Integrated Eco-Logical Solutions, London, Sterling: Earthscan | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as ex cathedra lectures, discussions, interactive teaching, case studies, presentations, workshops, debates. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam / Design project | 40 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

| | | | | |
|--|-------------------------|--|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module U | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M01 U – WORKSHOP: ENVIRONMENTAL URBAN DESIGN | | |
| Teacher: | | Assistant Professor M.Sc. Jelena A. Živković | | |
| Type of course: | | Compulsory | | |
| ECTS: | | 1 | | |
| Preconditions: / | | | | |
| Objectives: The main objective is to develop gaining of individual practical experience and to develop creativity in the field of environmental urban design. Experience in concentrated design workshops as a form of professional internship provides a possibility for students to develop the ability of fast and efficient making of design decisions. The workshop programme also contributes to acquiring of additional knowledge of practical procedures, to the extent that they influence the quality of a design. | | | | |
| Learning outcomes: Upon completion of the course, students are expected to be able apply creatively and adjusted to context environmental principles and measures in research and shaping of urban space. Ability to work as a part of a team. Ability to use imagination, to think creatively and innovatively and to provide design leadership; ability to collect information, define problems, apply analyses and critical evaluation and to formulate action strategies. | | | | |
| Course brief: <u>Theoretical education:</u> / <u>Practical education:</u> Individual application of theoretical and professional knowledge acquired within Studio M01 U – Design and Seminar | | | | |
| Literature: – Shirley P., Moughtin J. C. (2005) Urban Design: Green Dimensions, London: Routledge – Thomas R., Fordham M. (ed.) (2005) Sustainable Urban Design : An Environmental Approach, London, New York: Spon Press – Birkeland J. (2002) Design For Sustainability: A Sourcebook Of Integrated Eco-Logical Solutions, London, Sterling: Earthscan – Wines James (2000) Green Architecture, Koln, London, Paris, Tokyo: Tachen – Pucar M., Pajević M., Jovanović Popović M. (1994) Bioklimatsko planiranje i projektovanje: urbanistički parametri, Beograd: Zavet | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | 1 |
| Teaching methodology: Students' individual work through combination of previously acquired various forms of work. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam / Design project | | |
| Practical classes | 70 | Oral exam | | |
| Colloquia | | Seminar paper / report | 30 | |
| Seminar-s | | | | |

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|---|-------------------------|---|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module U | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M03 U – DESIGN PROJECT: DESIGN OF ASSEMBLIES AND AMBIENCES IN NATURAL ENVIRONMENT | | |
| Teacher: | | Assistant Professor M.Sc. Biserka Č Mitrović | | |
| Type of course: | | Compulsory | | |
| ECTS: | | 15 | | |
| Preconditions: / | | | | |
| Objectives: Course objectives include: mastering the research procedure and research methods and their application in the context of developing assemblies and ambiances in the natural environment; acquiring specific knowledge, approaches and principles in order to understand and interpret the relation between the environment with its specific natural values and urban and architectural assemblies and ambiances. | | | | |
| Learning outcomes: Students are prepared to apply practical knowledge in the field of integrated urban planning and urban design and to solve integral and partial problems of urban development in areas and on sites with specific environmental requirements; they develop an understanding of the place and role of urban planning and other disciplines in the design of spaces in specific natural contexts. | | | | |
| Course brief: <u>Theoretical education:</u> Theoretical education included in the course provides a basis for understanding and acquiring knowledge in urban planning and other professions in order to be able to understand and develop urban designs in the applied part of the course, taking into account the complexities of the specific natural environment. In this context, the theoretical part covers the importance of morphological, climatic, environmental, construction-related, economic and other features of an area, while at the same time also looking into possibilities to develop modern designs in the context of sustainable urban planning and design. <u>Practical education:</u> The studio assignment includes a research part a field research and development of an urban design that reflects the natural environment and local needs, interests, potentials and limitations. Natural environments used for this purpose are areas with distinct natural features, such as national parks, nature parks etc., because such environments require a specific approach, defining of the concept and an understanding of the limitations and knowledge accumulated in related disciplines. | | | | |
| Literature: – Ellin, N.: Integral urbanism, Routledge, NY, 2006. – Harvey S., Fieldhouse K., Hopkins J. : The Cultured Landscape: Designing the environment in the 21st century, Routledge, London, New York, 2005. – Indicators of Sustainable Development: Guidelines and Methodologies, The Department of Economic and Social Affairs, United Nations, NY, 2007. – AGENDA 21, United Nations, Rio de Janeiro, 1992. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 10 | Studio research: / | |
| Teaching methodology: Interactive teaching, studio research and other teaching forms. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam / Design project | 30 | |
| Practical classes | 30 | Oral exam | 10 | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|--|-------------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module U | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 U – SEMINAR: DESIGN AND FORMING | | |
| Teacher: | Assistant Professor M.Sc. Biserka Č Mitrović | | |
| Type of course: | Compulsory | | |
| ECTS: | 4 | | |
| Preconditions: | / | | |
| Objectives: | Students learn about the importance of the natural environment and different theoretical and practical approaches to planning and design in the natural environment, as well as the interrelatedness of the methodological framework and the creation process with various possible approaches to architectural and urban forming in the natural environment. | | |
| Learning outcomes: | The outcome of the course is an ability to choose and formulate a set of principles and criteria which will help students to analyse and assess the selected examples included as subjects for term papers, with a critical insight into the opportunities for their application in Serbia, as well as the possibilities for using them in the studio design assignment. | | |
| Course brief: | <p><u>Theoretical education:</u> The theoretical framework includes a range of specific determinants relating to the principles and assumptions of integral urbanism, traditional forming of assemblies and ambiances in the natural environment, sustainable planning and sustainable urban design, assigning equal importance to environmental, social, cultural and economic aspects of sustainability, as well as the aspect of quality of life taking into account the local level and the specific use through studio-based work.</p> <p><u>Practical education:</u> Studio-based research work includes the preparation of a term paper based on selected and verified examples which illustrate the application of selected fields, principles and criteria and also provide the research-based and theoretical foundation for applied urban design in the studio.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Agenda 21 Programme of Action for Sustainable Development, UNCED, Rio de Janeiro, 1992. – Shaw, R.: Eco Towns and the next 60 years of planning, TCPA, London, UK, 2007. – Harvey S., Fieldhouse K., Hopkins J. : The Cultured Landscape: Designing the environment in the 21st century, Routledge, London, New York, 2005. – Guidelines on Integrated Planning for Tourism Development, UN, NY, 1999. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam / Design project | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|--|-------------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 U – WORKSHOP: DESIGN AND FORMING | | | |
| Teacher: | Assistant Professor M.Sc. Biserka Č Mitrović | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 1 | | | |
| Preconditions: | / | | | |
| Objectives: | Course objectives include: mastering the research procedure and research methods and their application in the context of designing assemblies and ambiances in the natural environment; acquiring specific knowledge, approaches and principles in order to understand and interpret the relationship between the environment with its specific natural values and urban and architectural assemblies and ambiances; | | | |
| Learning outcomes: | Students are prepared to apply practical knowledge in the field of integrated urban planning and urban design and to solve integral and partial problems of urban development in areas and on sites with specific environmental requirements; they develop an understanding of the place and role of urban planning and other disciplines in the design of spaces in specific natural contexts. | | | |
| Course brief: | <p><u>Theoretical education:</u> /</p> <p><u>Practical education:</u> Independent application of theoretical and professional knowledge acquired in module Studio M03 U – Design and Term Paper</p> | | | |
| Literature: | <p>– Shaw, R.: Eco Towns and the next 60 years of planning, TCPA, London, UK, 2007.</p> <p>– Harvey S., Fieldhouse K., Hopkins J. : The Cultured Landscape: Designing the environment in the 21st century, Routledge, London, New York, 2005.</p> <p>– Guidelines on Integrated Planning for Tourism Development, UN, NY, 1999.</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | 1 |
| / | / | / | / | |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam / Design project | | |
| Practical classes | | Oral exam | | |
| Colloquia | 70 | Seminar paper / report | 30 | |
| Seminar-s | | | | |

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|---|--|----------------------------|-----------------------|---------------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | PROFESSIONAL INTERNSHIP – U | | | |
| Teacher: | Assistant Professor M.Sc. Biserka Č Mitrović | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of professional internship is to apply and assess acquired knowledge in practice. Hands-on practical knowledge and experience are acquired in design studios and planning, consulting, public and other institutions involved in the urban planning system in Serbia and Europe. Professional internship gives students an opportunity to acquire additional knowledge on practical decision-making procedures, to the extent that they bear on the quality of urban planning solutions.</p> | | | |
| Learning outcomes: | <p>Upon completion of professional internship, students are expected to be able to directly apply scientific, artistic, expert and theoretical knowledge and practical procedures in execution of urban designs and plans. Understanding of the applicable practice in urban design and planning; understanding of social and economic frameworks of urban interventions; ability to integrate acquired knowledge; application of acquired skills; team work ability; awareness of the role of architects in the modern society; understanding of professional ethics and the code of conduct.</p> | | | |
| Course brief: | The course brief is individually tailored for each student, depending on the selected bureau/office studio, organization or institution where professional internship takes place. | | | |
| Literature: | / | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | 60 |
| Teaching methodology: | | | | |
| Students themselves select a design bureau, a public or other institution, or adequate research and development institution where they will have professional internship / in Serbia or abroad / . Preparation of a day-book report and a seminar paper. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Day-book on internship activities | 50 | Seminar paper | 50 | |
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|---|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER FINAL PROJECT – U | | | |
| Teacher: | --- | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 10 | | | |
| Preconditions: All examination in Master academic studies must be passed. Selection of a mentor for the final project depends on selection of the Master Thesis U and Master Design U course. | | | | |
| Objectives: The final part of the study programme of Master academic studies Architecture / Module U consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units. A Master final project is work on the highest and the most complex level of the master study level – research and synthesizing design result at the highest level of the curricula, expressed through graphic and spatial overview of an architectural and urban conceptual solution with elements of a preliminary design of a selected segment and design of open public spaces. | | | | |
| Learning outcomes: The master final project is completed by a synthesizing master studio design in which students show the level of acquired knowledge and skills in the Master study programme in their individual final projects, as a response to a previously set thesis. It consists of publicly presented graphic annexes, a model (conceptual) design and a master book which includes three separate units: a thesis, research by design and analytical and generic studies and explanations of a synthesizing concept and the final design. | | | | |
| Course brief: Development of a design in line with the Master thesis and the concept of Master design, work on graphic annexes with internal verification of completeness of the work. Research by design, modelling, shaping and structuring of a design. | | | | |
| Literature: – Recommended readings by mentor, – Readings suggested by a student and approved by a mentor | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Mentor work with a student (candidate). Public oral presentation of the final project before the Mentoring Committee. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Final work – project | 85 | |
| Practical classes | | Oral presentation | 15 | |
| Colloquia | | | | |
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COMPULSORY COURSES

Module – Architectural technologies

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|--|--|------------------------------|-------------------------|---------------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | PROFESSIONAL INTERNSHIP – AT | | | |
| Teacher: | Assistant Professor Ph.D. Miloš P. Gašić | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of professional internship is to apply and assess acquired knowledge in practice. Hands-on practical knowledge and experience are acquired in design studios through execution of architectural designs, as well as in public and other institutions in charge of architectural design or scientific/artistic research. Students gain experience in teamwork in architectural design and construction based on architectural designs.</p> | | | |
| Learning outcomes: | <p>Upon completion of professional internship, students are expected to be able to directly apply scientific, artistic, expert and theoretical knowledge and practical procedures in execution of architecture and urban designs. Understanding of the applicable practice in architectural design; understanding of social and economic frameworks of architectural and urban interventions; ability to integrate acquired knowledge; application of acquired skills; team work ability; awareness of the role of architects in the modern society; understanding of professional ethics and the code of conduct.</p> | | | |
| Course brief: | The course is individually tailored for each student, depending on the selected bureau, organization, institution or construction site where professional internship takes place. | | | |
| Literature: | / | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | / | 60 |
| Teaching methodology: | <p>Students themselves select a design bureau, a public or other institution, a construction site or adequate research and development institution where they will have professional internship / in Serbia or abroad / . Preparation of a day-book report and a seminar paper.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Day-book on internship activities | 50 | Seminar paper | 50 | |
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|--|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies: Architecture _ Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER FINAL PROJECT – AT | | | |
| Teacher: | --- | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 10 | | | |
| Preconditions: All examination in Master academic studies must be passed. Selection of a mentor for the final project depends on selection of the Master Thesis AT and Master Design AT course. | | | | |
| Objectives: The final part of the study programme of Master academic studies Architecture / Module AT consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units. A Master final project is work on the highest and the most complex level of the master study level – research and synthesizing design result at the highest level of the curricula, expressed through graphic and spatial overview of an architectural and urban conceptual solution with elements of a preliminary design, with a special emphasis on the potentials of new technologies in the process of materialization of architectural buildings, construction techniques and building sustainability. | | | | |
| Learning outcomes: The Master final project is completed by a synthesizing master studio design in which students show the level of acquired knowledge and skills in the Master study programme in their individual final projects, as a response to a previously set thesis. It consists of publicly presented graphic annexes, a model (conceptual) design and a master book which includes three separate units: a thesis, research by design with analytical and generic studies and explanations of a synthesizing concept and the final design, with emphasis on special problems in materialization, specific comfort conditions of a building, an architectural detail and energy efficient architecture. | | | | |
| Course brief: Development of a design in line with the Master thesis and the concept of Master design, work on graphic annexes with internal verification of completeness of the work. Research by design, modelling, shaping and structuring of a design. | | | | |
| Literature: – Recommended readings by mentor, – Readings suggested by a student and approved by a mentor | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | / |
| Teaching methodology: Mentor work with a student (candidate). Public oral presentation of the final project before the Mentoring Committee. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Final work – project | 85 | |
| Practical classes | | Oral presentation | 15 | |
| Colloquia | | | | |
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COMPULSORY COURSES

Module – Architectural engineering

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M01 AE – DESIGN PROJECT: SPATIAL STRUCTURES | | |
| Teacher: | Professor Ph.D. Miodrag S. Nestorović | | |
| Type of course: | Compulsory | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>Students are introduced to the complex issue of spatial structures in architecture, their static and constructive analysis and methods of their selection and design/structuring. Certain headings in the syllabus are presentations of principles and analyses covering: (1) the evolution of ideas within specific systems (Fuller, Frei, etc.); (2) studying of static, constructive, formational and economic features of certain constructive systems; (3) selection methods; (4) the coordinated process of simultaneous architectural and constructive forming of an architectural object. The course is designed to test the principles and methods which enable the forming, construction and analysis of spatial structures through their implementation in the development of non-standard, rational and economically and physically feasible architectural objects with complex forms within the confines of the design context.</p> | | |
| Learning outcomes: | <p>Students acquire the following general and course-specific skills: technical and technological knowledge of the methods of designing spatial structures at the project design state of an architectural object; a creative problem-solving approach and awareness of multi-faceted nature of structuring; development of an understanding for design procedures and reconciliation of divergent factors in the process of developing architectural spaces and objects which meet functional, aesthetic and technical requirements; an ability to manipulate computer models and performance in the design of spatial structures; learning how to address specific problems using scientific methods and procedures and integrate acquired knowledge from various fields in order to apply them in the context of the architectural profession.</p> | | |
| Course brief: | <p>Theoretical education: Thematic Unit 1. Definitions of basic concepts and elements and classification of spatial structures. Principles of shaping and structuring. Thematic Unit 2. Structure elements: grid configurations - tesellations. Spatial point systems of specific structures, spatial models of orthogonal, oblique-angled, polyhedral and spherical systems. Thematic Unit 3. Structure elements: Polyhedrons – Plato's, Archimedean, Catalan and Johnson solids. Learning to use the Great Stella programme. Geodetic structures – triangulation systems, tetrahedral systems. Thematic Unit 4. Triangulated structures – spatial distribution of structural elements, inverse configurations, symmetries, automorphisms, topological features of triangulated systems, autautomorphic solutions, bionic structures (Voronoi diagrams). Thematic Unit 5. Architectural geometry. Geometry of spatial structure forms.</p> <p>Practical education: Development of a project design. Context analyses. Collection, classification and processing of location information and information on influencing factors. Programme analyses. Detailed analyses of elements of programmes and primary functions, programme digressions, illustrated and analogue generalisations through selection and presentation of reference projects. Programme structure model. Conceptual development and verification of elements of project assignment elements and primary functions through the development of models and diagrams of programme organisation. Spatial structure model. A study of forming aspects – implementation of geometric principles and methods underlying architectural forming, testing of various tesellations in modular grids, form transformations etc. Creation of digital models and mock-ups. The nature of behaviour of a structure. Basic typology of static systems and importance of tension states in the creative design process. Conceptual development of a project design. Conceptual development of a solution as a combination of sub-models/models of programme and spatial structures/ simulation of spatial assemblies, variant solutions, evaluation of proposals. Working drafts, working models and working mock-ups. Elaboration of the project design through dimensioning of elements in the construction assembly which provide stability to the structure. Materialisation – choice of materials and finishing, arrangements for details. Development of standard nodal connections, coverings and construction technologies - assembly.</p> | | |
| Literature: | <ul style="list-style-type: none"> – M. Nestorović. KONSTRUKTIVNI SISTEMI – PRINCIPI KONSTRUISANJA I OBLIKOVANJA. Arhitektonski fakultet Univerziteta u Beogradu, 2000. – Đ. Zloković. PROSTORNE STRUKTURE. SPACE STRUCTURES. Institut za Arhitekturu i urbanizam Srbija, Građevinska knjiga, 1969. – S. N. Krivošapko, V. N. Ivanov. ЭНЦИКЛОПЕДИЈА АНАЛИТИЧЕСКИХ ПОВЕРНОСТЕЙ. Книжный дом "Либриком", Москва, 2009. – J. Chilton. SPACE GRID STRUCTURES, Architectural Press, Oxford, 2000. – H. Pottman, A. Asperl, M. Hofer, A. Kilian. ARCHITECTURAL GEOMETRY. Bently Institute Press, 2007. | | |
| Active training classes no.: | Other: | | |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | <p>The teaching (lectures and practical classes) are a combination of different forms of work, including <i>ex-cathedra</i> teaching (selected seminars and lectures held by experts in relevant fields), interactive learning, case studies, individual and group projects, research projects, presentations etc. Assignments are completed individually or in groups, as agreed with the teacher.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AE – SEMINAR 01: THEORY OF STRUCTURAL SYSTEMS | | | |
| Teacher: | Assistant Professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | Students need to be familiar with the theory of linear systems. | | | |
| Objectives: | Preparing students to recognise static, kinematic and deformational influences and their distribution in the system. | | | |
| Learning outcomes: | Students acquire the following general and course-specific skills: technical and technological knowledge of the methods of designing spatial structures at the project design state of an architectural object; a creative problem-solving approach and awareness of multi-faceted nature of structuring; development of an understanding for design procedures and reconciliation of divergent factors in the process of developing architectural spaces and objects which meet functional, aesthetic and technical requirements; an ability to manipulate computer models and performance in the design of spatial structures; learning how to address specific problems using scientific methods and procedures and integrate acquired knowledge from various fields in order to apply them in the context of the architectural profession. | | | |
| Course brief: | <p><i>Theoretical education:</i></p> <p>Thematic Unit 1. Engineer's beam theory. Thematic Unit 2. System equations: equilibrium conditions, compatibility conditions. Static and kinematic classification. Kinematic stability (general internal and external). Thematic Unit 3. Statically determinate systems. Single rigid panel, two rigid panels, chain of panels. Thematic Unit 4. Principle of virtual forces. Principle of virtual displacement. Coplanar displacement of in-plane rigid panels. Thematic Unit 5. Statically indeterminate systems. Thematic Unit 6. Kinematically indeterminate systems. Accurate deformation method, i.e. direct application of the Finite element method. Thematic Unit 7. Symmetrical systems. Thematic Unit 8. Introduction to spatial linear beams. Note: The method units will be presented in an abridged form.</p> | | | |
| Literature: | – G. Radenković. STATIKA LINIJSKIH NOSAČA U RAVNI. Beograd, 2007. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures, independent students' work, interactive teaching in electronic environment. It is expected that students will take active participation in the course. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AE – SEMINAR 02: APPLIED MATHEMATICS FOR STRUCTURAL SYSTEMS | | | |
| Teacher: | Professor Ph.D. Ljiljana S. Petruševski | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The seminar is focused on introducing students to the selected fields: matrix calculus, differential and integral calculus and differential geometry, which have found their use in structural systems. | | | |
| Learning outcomes: | Acquiring relevant knowledge in matrix algebra and differential and integral calculus mastering of basic concepts of differential geometry. Students are prepared to use mathematical tools in the process of designing and analysing structural systems and spatial structures. | | | |
| Course brief: | <p><u>Theoretical education:</u> Thematic Unit 1. Matrix calculus Thematic Unit 2. Differential and integral calculus Thematic Unit 3. Differential geometry</p> <p><u>Practical education:</u> Assignment work.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – D. Belajčić. DETERMINANTE I MATRICA: ELEMENTI TEORIJE I ZADACI SA REŠENJIMA. 3. Izdanje. Naučna knjiga, Beograd 1987. – D. Belajčić. VEKTORSKI RAČUN I ANALITIČKA GEOMETRIJA U PROSTORU. Naučna knjiga, Beograd 1979. – D. Belajčić. DIFERENCIJALNI I INTEGRALNI RAČUN: ELEMENTI TEORIJE I ZADACI SA REŠENJIMA. 7. Izdanje. Naučna knjiga, Beograd, 1989. – Lj. Petruševski. PREDAVANJA U ELEKTRONSKOJ FORMI. Dostupna na sajtu fakulteta Virtual Math Museum, http://virtualmathmuseum.org/gallery4.html – 3D-XplorMath, http://3d-xplormath.org/jj/applets/en/index.html | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures, independent students' work, interactive teaching in electronic environment. It is expected that students will take active participation in the course. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AE – WORKSHOP: DIGITAL TECHNOLOGIES IN STRUCTURAL DESIGN PROCESS | | | |
| Teacher: | Professor Ph.D. Ljiljana S. Petruševski | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 1 | | | |
| Preconditions: | / | | | |
| Objectives: | Students are introduced to advanced digital technologies, their possibilities and their role in the design process. | | | |
| Learning outcomes: | Students learn to use advanced digital tools in the process of designing structural systems and spatial structures. | | | |
| Course brief: | <p><i>Theoretical education:</i> Thematic Unit 1. Parameter modelling Thematic Unit 2. Graphic visual editor Thematic Unit 3. Scripting</p> <p><i>Practical education:</i> Work on individual or group assignments.</p> | | | |
| Literature: | – B. Kolarevic. ARCHITECTURE IN DIGITAL AGE. Spon Press, New York, 2003. – K. Terzidis. ALGORITHMIC ARCHITECTURE. Elsevier, Architectural Press, Oxford, 2006. – H. Pottman, A. Asperl, M. Hofer, A. Kilian. ARCHITECTURAL GEOMETRY. Bently Institute Press, 2007. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | 1 | |
| Teaching methodology: | Ex cathedra lectures, independent students' work, interactive teaching in electronic environment. It is expected that students will take active participation in the course. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 AE – DESIGN PROJECT: MULTI-STORY REINFORCED CONCRETE BUILDING | | |
| Teacher: | Professor Ph.D. Milan T. Glišić | | |
| Type of course: | Compulsory | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | The objective of learning is to design a skeletal reinforced concrete structure at a specified location (e.g. public garage, administrative building, school...) in full compliance with the zoning requirements applicable to the site and the specifications of the design assignment. The project involves designing and calculations for the structure, with all relevant architectural and structural details. | | |
| Learning outcomes: | First-hand experience of all stages in an architectural and construction design, with emphasis on the structure, and introduction to real-life requirements and the design process in practice. | | |
| Course brief: | <p><u>Theoretical education:</u> Concrete constructions, cross-section reinforced concrete slabs, frame structures, staircases, wall support beams, mushroom slabs, arches, strutted frames, grilles, strutting beams, catenaries Reinforced slab and support beam design. Foundation of architectural objects. Main types of foundations – beam foundation, grade beam, grade slab, spread footing, piles, diaphragms, supporting walls, protection of foundation its, calculations for elastic soil foundation Structural details of foundations – connected foundations, foundations at identical or different elevations, protection of foundation reinforcement, minimum foundation depth, different supporting wall structures, Geomechanical Study</p> <p><u>Practical education:</u> Selection of land plot and programme, delineation of layout lines, volume and access to buildings in accordance with the set urban planning parameters; selection and analysis of the required programme; urban planning concept design: inclusion of drawings and models of selected buildings of other students and joint work on the urban design (1:2000, 1:1000) Architectural concept design: dimensioning of all elements of the architectural assembly and creation of technical drawings (1:500, 1:200, 1:100) , creation of a working mock-up, a mock-up and a model; structure design: Load analysis, analysis of potential structural systems and selection of one found to be suitable for the building. Calculations for the agreed structure. Creation of structural and reinforcement details. Materialisation: development of details for object materialisation (1:25, 1:20, 1:10, 1:5)</p> | | |
| Literature: | <ul style="list-style-type: none"> – Technical standards in architectural design (standards and regulations). – Lectures in the course Structural principles of architectural buildings – Lectures in the course Design and calculation of architectural structures 1 – Regulations on concrete and reinforced concrete – Regulations on foundations of buildings – Regulations for construction in seismic zones. – Arhitektonsko projektovanje, Nofjert, revised and updated 2002 edition. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | Workshop, projects, lectures, discussions, reviews, presentations, consultations Learning through work on projects, practical work on the main design with one-on-one consultations, review of own work in front of other students and teachers | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 35 |
| Practical classes | | Oral exam | 15 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 AE – SEMINAR 01: BASICS OF MODERN USE OF CONCRETE | | | |
| Teacher: | Assistant Professor Ph.D. Ruža D. Okrajnov-Bajić | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | New technologies in concrete design and production have opened up an unexpected array of opportunities for architectural objects. The objective of this course is to introduce students to state-of-the-art technological processes involved in the use of concrete in architectural objects. Students learn about modern concrete mix designs adapted to specific requirements regarding the construction or use of a building. | | | |
| Learning outcomes: | Students are trained to respond to technological demands of specific architectural objects by using modern concrete types. Full cooperation with design architects, constructors and contractors is ensured. | | | |
| Course brief: | <p><u>Theoretical education:</u> Properties of fresh concrete, structure and physical and mechanical properties of hardened concrete, rheological properties of hardened concrete, durability of concrete, determining the composition of the concrete mix, high-strength concrete, high-performance concrete, self-consolidating concrete, light aggregate concrete, heavy concrete, micro-reinforced concrete, visible (architectural) concrete, water-impermeable concrete, recycled aggregate concrete, concreting in extreme weather conditions (hot and cold climates)</p> <p><u>Practical education:</u> Students independently research specific examples of architectural objects constructed using a modern technological procedure for concrete production and/or installation. At the end of the semester they write a term paper with two compulsory elements: description of the architectural object and presentation of the technological procedure used.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – prof.dr. Mihailo Muravljev: Osnovi teorije i tehnologije betona – Specijalni betoni i malteri, svojstva, primena, monografija, Građevinski fakultet u Bgd. – prof.dr. S. Živković: Betoniranje u žarkim klimatima | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Teaching will involve lectures in which specific technological procedures will be described in detail. This will be followed by an analysis of examples of architectural structures in which those materials were used.</p> <p>Theoretical knowledge is evaluated twice during the semester in colloquia. Each colloquium is a test with 10 questions. At the end of the semester students are required to write a term paper.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | DESIGN STUDIO M02 AE – SEMINAR 02: STRENGTH OF MATERIALS 2 | | | |
| Teacher: | Assistant Professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of teaching is to expand knowledge of durability of materials in order to improve and expand the theoretical foundations and practical knowledge in the field of architectural construction acquired in undergraduate studies in architecture. The aim is to prepare students to design structural assemblies in accordance with the criteria of strength, usability and stability. | | | |
| Learning outcomes: | Acquiring deeper theoretical and practical knowledge in architectural construction, thus ensuring the acquisition of competences and academic skills required for successful performance in architectural engineering. | | | |
| Course brief: | <p><u>Theoretical education:</u> The main thematic areas covered by the course are complex tension states in the elements of architectural structures and issues of stability of structural elements.</p> | | | |
| Literature: | <p>– Dimitrije Rajić, Živorad Bojović: "Otpornost materijala", Zavod za udžbenike i nastavna sredstva, Beograd, 1994. – Dimitrije Rajić: "Otpornost materijala - Zbirka rešenih zadataka sa izvodima iz teorije", Zavod za udžbenike i nastavna sredstva, Beograd, 1995.</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching and individually developed seminar papers. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | Seminar paper | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 AE – WORKSHOP: DESIGN OF ARCHITECTURAL STRUCTURES USING COMPUTER PROGRAMS | | |
| Teacher: | Professor Ph.D. Milan T. Glišić | | |
| Type of course: | Compulsory | | |
| ECTS: | 1 | | |
| Preconditions: | / | | |
| Objectives: | <p>The objective of teaching is to help students improve their designing and dimensioning skills in relation to the structures of architectural facilities using computer software for structural calculations. This course includes an assessment of knowledge in the field of architectural engineering. This course is intended for students who have already acquired basic skills in designing and calculating the structures of architectural facilities.</p> | | |
| Learning outcomes: | <p>The primary aim of the course is to introduce students to the principles of structural design and calculation for architectural facilities using computer software. During the course, students are expected to master the basics of the logic underlying the development of structural concepts and structural calculations for architectural facilities using computer design and calculation software. The course includes a seminar paper – design of a structural assembly in an architectural facility, conceptual development of a computer model and calculations for a structure using computer software.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> During the course, students will be trained in designing, modelling and calculation of structures for architectural facilities using computer software with a view to optimising structural solutions for a building.</p> | | |
| Literature: | <p>Compulsory literature for this course will be provided by the teacher and will be available to all students in hard copy at the Faculty's bookstore.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | / | 1 |
| Teaching methodology: | <p>Combination of various teaching forms, including ex-cathedra lectures, case studies, interactive teaching, active participation in discussions, seminar papers and graphic works (individually or in groups of two).</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Written exam | |
| Practical classes | 40 | Oral exam | 20 |
| Colloquia | | | |
| Seminar-s | 40 | | |

| | | | |
|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 AE – DESIGN PROJECT: LARGE-SPAN STRUCTURES | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac (course leader), Assistant Professor Ph.D. Žikica M. Tekić | | |
| Type of course: | Compulsory | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>The objective of the course is to expand students' knowledge of design, construction and dimensioning of wooden and metal structures, including in particular their knowledge of large-span structures (industrial and other halls). Students will learn how to construct and calculate specific solutions (composite structures and pre-tensioned structures).</p> <p>Students will learn about the possibilities of using glass, composite materials and other modern materials as construction material and their dimensioning as bearing elements in architectural structures.</p> | | |
| Learning outcomes: | The course allows students to examine the opportunities provided by wooden and metal bearing structures of various architectural shapes in the process of designing and calculating large-span buildings / halls. | | |
| Course brief: | <p><u>Theoretical education:</u> Expansion of knowledge in the fields of design and calculation of wooden and metal constructions. Demonstration of principles of dimensioning wooden and metal structure elements in a specific design assignment – a large-span hall; different construction and calculation methods for joints between wooden and metal structure elements; spatial reinforcement and optimisation of the layout of beams and columns. Introduction to the basic principles of forming modern structures of steel, full and laminated wood, glass, composite materials and other modern materials from the functional and static aspects. Mastering the design and forming of structures in accordance with the structure of the architectural building. Definitions of the structural system, the static system, static analysis and structure materialisation.</p> <p><u>Practical education:</u> Students are expected to design the structural assembly of a large-span hall in wood and steel, devise an optimum solution taking into account the function and architecture of the predefined building, position structural elements, analyse loads, perform static analysis and dimension the main structural elements and calculate relations between specific elements of the structure. The assignment involves workshop drawings of system elements and details of connections between the structure elements and the covering elements. This allows students to identify differences in design and use of structures made of different materials.</p> | | |
| Literature: | Literatura neophodna za rad na predmetu biće pripremljena od strane nastavnika i biće dostupna svim studentima u štampanoj formi u knjižari, skriptarnici fakulteta. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | Teaching takes the form of <i>ex-cathedra</i> lectures, practical classes and workshops. One-on-one tutoring is provided for the design and calculation of the structural system of a large-span hall. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 35 |
| Practical classes | | Oral exam | 15 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|--|-------------------------|---|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M03 AE – SEMINAR 01: MODELLING OF STRUCTURAL SYSTEMS BY FEM (Finite Element Method) | | |
| Teacher: | | Professor Ph.D. Miodrag S. Nestorović | | |
| Type of course: | | Compulsory | | |
| ECTS: | | 2 | | |
| Preconditions: Completed seminar Applied Mathematics for Structural Systems and seminar Theory of Structural Systems | | | | |
| Objectives: To learn the basic of finite element analysis, modelling and calculation of structures in structural systems. Computer work in SAP, Axis VM, or KOMIPS software for the assignment. | | | | |
| Learning outcomes: Students are trained in computer modelling and calculation of structures using SAP, Axis VM or KOMIPS software packages. Students are able to solve the problem of structural strength. | | | | |
| Course brief: <u>Theoretical education:</u> Students learn the principles of generation and modelling in the finite element method using concrete examples. The methodology of translating a physical model into a computer one. Geometric generation and modelling on the basis of primitives for the purposes of the assignment. Formalisation of the designer's experience, creativity and intuition in the choice of optimum elements. Development of a model: rough, fine and reduced models, with substructures relevant for the assignment. Principles of modelling and discretisation of the physical model using finite elements. Development of a model: rough, fine and reduced models, with substructures relevant for the assignment. Geometry generation – algorithms for automated and interactive geometry generation. Development of a model: rough, fine and reduced models, with substructures relevant for the assignment. Modular approach and development of generation functions (basic shapes - primitives). The principle of adding primitives. Development of a model: rough, fine and reduced models, with substructures relevant for the assignment. Application of mathematical operations in the generation of primitives. Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). Mastering the use of supporting software: SAP, Axis VM or KOMIPS. Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). Computer graphics. Basic elements of the elasticity theory in the finite element method. Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). Finite element method: linear, surface and volumetric finite elements. Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). Calculations for bearing structures: static and dynamic (linear and non-linear). Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). Optimisation elements. Tension distribution in the structure. Distribution of structure deformation energy and presentation of energy distribution in the structure. Analysis of the structure using the finite element method according to the assignment (with arithmetic and graphic presentation of the results of analysis). <u>Practical education:</u> Work on individual models. | | | | |
| Literature: – T. Maneski. KOMPJUTERSKO MODELIRANJE I PRORAČUN STRUKTURA. Mašinski fakultet Univerziteta u Beogradu, Beograd, 1998. – T. Maneski. REŠENI PROBLEMI ČVRSTOĆE KONSTRUKCIJA. Mašinski fakultet Univerziteta u Beogradu, Beograd, 2002. – D. Kovačević. MKE MODELOVANJE U ANALIZI KONSTRUKCIJA. Građevinska knjiga, Beograd, 2006. – M. Sekulović. METODA KONAČNIH ELEMENATA. Građevinska knjiga, Beograd, 1988. – O. C. Zienkiewicz, R. L. Taylor, J. Z. Zhu. THE FINITE ELEMENT METHOD: ITS BASIS AND FUNDAMENTALS, SIXTH EDITION, Sixth Edition, Elsevier, Butterworth-Heinemann, Oxford, 2005. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Ex cathedra lectures, consultations in practical classes (working on tasks). It is expected that students will take active participation in the course. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 AE – SEMINAR 02: RECONSTRUCTION AND REHABILITATION OF BUILDINGS | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac | | |
| Type of course: | Compulsory | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The objective of the course is to introduce students to the basic principles of reconstruction and rehabilitation of high-rise buildings as an important element of engineering in the fields of architecture and construction. Students will acquire the required knowledge in this field and discover the logic of construction and reconstruction with the aim of changing the purpose of space, as well as rehabilitation and remedying of problems resulting from a number of causes: uneven ground surface settlement, inadequate construction or maintenance, fire or the age of the building/structure.</p> <p>Another objective is to introduce students to static structural protection of building heritage monuments as the most important part in the process of their overall protection. The course will improve students' knowledge in the field of structure statics, architectural structures and protection of building heritage as part of the overall knowledge required to successfully pass the curriculum of the Master Academic Studies in Architecture.</p> | | |
| Learning outcomes: | <p>New knowledge can be acquired in this field through experience with using state-of-the-art technical and technological solutions in the reconstruction of high-rise buildings, according to modern principles of rehabilitation and protection; students will learn about vast and significant experience gained through practical application both on modern buildings and on heritage ones. The knowledge acquired from theoretical teaching under this course concerning materialisation of architectural objects is a prerequisite for successful completion of the Master studies and integrated studies in architecture.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Reconstruction and rehabilitation of high-rise buildings through constructional rehabilitation of foundations, walls, ceilings, arches, vaults, domes, chimneys and other elements of high-rise buildings, provides an infinite source of material for research and work and is approached from the aspect of structural static protection, materialisation and details, as well as practical application of gained knowledge in the process of reconstruction and rehabilitation of high-rise buildings.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Milorad Dimitrijević, 1984, Statičko konstruktivni problemi u zaštiti graditeljskog nasleđa, Univerziteta u Beogradu Arhitektonski fakultet, Beograd, – Regulations on technical norms for for sanation, strengthening and reconstruction of buildings damaged by earthquake and for the reconstruction and rehabilitation of buildings, – Zbirka jugoslovenskih pravilnika i standarda za građevinske konstrukcije knjiga 1 – dejstvo na konstrukcije, 1995, Građevinski fakultet, Univerziteta u Beogradu, Beograd. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Teaching is a combination of different forms of engagement, including ex-cathedra lectures, case studies, interactive learning, active participation in discussions, term papers and graphic works (individually or in groups of two).</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 40 |
| Practical classes | | Oral exam | 20 |
| Colloquia | 20 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 AE – WORKSHOP: DESIGN OF ARCHITECTURAL STRUCTURES USING COMPUTER PROGRAMS 2 | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac | | |
| Type of course: | Compulsory | | |
| ECTS: | 1 | | |
| Preconditions: | / | | |
| Objectives: | <p>The objective of teaching is to help students improve their designing and dimensioning skills in relation to the structures of architectural facilities using computer software for structural calculations. This course includes an assessment of knowledge in the field of architectural engineering. This course is intended for students who have already acquired basic skills in designing and calculating the structures of architectural facilities.</p> | | |
| Learning outcomes: | <p>The primary aim of the course is to introduce students to the principles of structural design and calculation for architectural facilities using computer software. During the course, students are expected to master the basics of the logic underlying the development of structural concepts and structural calculations for architectural facilities using computer design and calculation software. The course includes a seminar paper – design of a structural assembly in an architectural facility, conceptual development of a computer model and calculations for a structure using computer software.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> During the course, students will be trained in designing, modelling and calculation of structures for architectural facilities using computer software with a view to optimising structural solutions for a building.</p> | | |
| Literature: | <p>Compulsory literature for this course will be provided by the teacher and will be available to all students in hard copy at the Faculty's bookstore.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | / | 1 |
| Teaching methodology: | <p>Combination of various teaching forms, including ex-cathedra lectures, case studies, interactive teaching, active participation in discussions, seminar papers and graphic works (individually or in groups of two).</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Written exam | |
| Practical classes | 40 | Oral exam | 20 |
| Colloquia | | | |
| Seminar-s | 40 | | |

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|--|---|------------------------------|-------------------------|---------------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | PROFESSIONAL INTERNSHIP – AE | | | |
| Teacher: | Assistant Professor Ph.D. Ruža D. Okrajnov-Bajić | | | |
| Type of course: | Compulsory | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of professional internship is application of acquired knowledge and assessment of acquired knowledge in practice. Acquiring of direct practical knowledge and experiences in design bureaus, in implementation of architectural buildings and in public and other institutions where processes of architectural design or scientific/artistic research work take place. Gaining experience in team work in the process of architectural design and construction of architectural buildings.</p> | | | |
| Learning outcomes: | <p>Upon completion of professional internship, students are expected to be able to directly apply scientific, artistic, expert and theoretical knowledge and practical procedures in execution of architecture and urban designs. Understanding of the applicable practice in architectural and urban design; understanding of social and economic frameworks of architectural interventions; ability to integrate acquired knowledge; application of acquired skills; team work ability; awareness of the role of architects in the modern society; understanding of professional ethics and the code of conduct.</p> | | | |
| Course brief: | The course is individually tailored for each student, depending on the selected bureau, organization, institution or construction site where professional internship takes place. | | | |
| Literature: | / | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | / | 60 |
| Teaching methodology: | <p>Students themselves select a design bureau, a public or other institution, a construction site or adequate research and development institution where they will have professional internship / in Serbia or abroad /. Preparation of a day-book report and a seminar paper.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Day-book on internship activities | 50 | Seminar paper | 50 | |
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|--|--|----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | MASTER FINAL PROJECT – AE | | |
| Teacher: | --- | | |
| Type of course: | Compulsory | | |
| ECTS: | 10 | | |
| Preconditions: All examination in Master academic studies must be passed. Selection of a mentor for the final project depends on selection of the Master Thesis AE and Master Design AE course. | | | |
| Objectives: The final part of the study programme of Master academic studies Architecture / Module AE consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural units. A Master final project is work on the highest and the most complex level of the master study level – research and synthesizing design result at the highest level of the curricula, expressed through graphic and spatial overview of an architectural conceptual solution with elements of a preliminary design, with a special emphasis on the potentials of new technologies in the field of architectural engineering. | | | |
| Learning outcomes: The master final project is completed by a synthesizing master studio design in which students show the level of acquired knowledge and skills in the Master study programme in their individual final projects, as a response to a previously set thesis. In the final project, a student demonstrates the level of knowledge he/she gained during the studies, his/her ability to understand the design procedure and reconcile divergent factors in the process of developing architectural spaces and facilities that meet functional, aesthetic and technical requirements, as well as his/her ability to solve specific problems using scientific methods and procedures and to integrate knowledge in various fields in order to apply it in the context of the architectural profession. | | | |
| Course brief: Development of a design in line with the Master thesis and the concept of Master design, work on graphic annexes with internal verification of completeness of the work. Research by design, modelling, shaping and structuring of a design. | | | |
| Literature: – Recommended readings by mentor, – Readings suggested by a student and approved by a mentor | | | |
| Active training classes no.: | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / |
| Teaching methodology: Mentor work with a student (candidate). Public oral presentation of the final project before the Mentoring Committee. | | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Final work – project | 85 |
| Practical classes | | Oral presentation | 15 |
| Colloquia | | | |
| | | | |

ELECTIVE COURSES

COMMON ELECTIVE COURSES

Module – Architecture

Module – Urbanism

Module – Architectural technologies

Module – Architectural engineering

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | INTERPRETATION OF VISUAL CULTURE | | | |
| Teacher: | Associate Professor Ph.D. Aleksandar M. Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The aim of the course is to offer answers to the fundamental questions: What an architectural structure, a sculpture or a painting are stating and in what way. What is the relationship between arts and visual culture? What is the relationship between the visual representation and the world it shows? What is the connection between visual representation and the world in which it occurs or is observed? In this way, the students acquire intellectual competencies that will enable them to consider visual culture and architecture in light of the premise that human cognition does not originate directly from reality, but from the forms, modes and languages of presentation of it, while its integral parts are just visual representations and architectural works. The main objective of the course is to observe visual culture not as universal and autonomous form of human thought and action, but as a process and practices through which the social reality is shaped. In this way, the students are shown that visual culture and architecture work outside the discourse of arts, and in different contexts they form different value systems, cultural performances and shape knowledge systems.</p> | | | |
| Learning outcomes: | <p>The teaching of the course will provide to understand the ways in which visual culture and architecture are involved in the creation of socially relevant meanings in different synchronic contexts, on a series of examples. By applying a number of interpretive methods, the students will gain insights into the phenomenon of instability and transformability of meaning mediated by visual culture. The students will gain knowledge that will allow them to question and critically relate to the phenomena of perception, observation and meanings.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> The course programme includes following units: a) visual culture and architecture represent constituents and constituent parts in the construction of social reality, and not practices existing simultaneously and independently of it; b) relations in society do not precede the cultural practice, but they themselves are fields of cultural production and consumption; c) visual culture constructs the systems of meaning which form the framework through which social reality is understood and organized, ideas about the world are shaped and changed, ideological systems are generated and contents of collective identities are created. Teaching will include a great variety of examples of historical and contemporary visual culture and architecture analysing which will contribute to the above objectives. Basic methodological framework of teaching is to define the meaning of visual culture and architecture through various theoretical approaches, disregarding the performance of universal and applicable general rules of meaning interpretation. The teaching process includes methods of various disciplines (cultural anthropology, sociology of history, cultural history, etc.) and scientific approaches (semiotics, communication, cultural studies, deconstruction, psychoanalysis, etc.) in the interpretation of visual culture beyond the traditional approach based on absolute and universalizing models of aesthetic values. Equal treatment of "high art" and everyday objects, "authorial" and anonymous or vernacular architecture is the basic content and conceptual framework for teaching in this course.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Miško Šuvaković, Diskurzivna analiza (Beograd: Orion, Katedra za muzikologiju FMU, 2010). – Aleksandar Ignjatović, Jugoslovenstvo u arhitekturi 1904-1941 (Beograd: Građevinska knjiga, 2007). – Richard Howells, Joaquim Negreiros, Visual Culture (Cambridge: Polity Press, 2012). – Whitney Davis, A General Theory of Visual Culture (Princeton University Press, 2011). – P. J. E. Davies, W. B. Denny, F. F. Hofrichter, J. Jacobs, A. M. Roberts, D. L. Simon, Jansonova istorija umetnosti: zapadna tradicija (Varaždin: Stanek i Beograd: Mono i Manjana, 2008). | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Ex-cathedra lectures on different thematic units. Each lecture includes several teaching forms, such as case studies, interactive communication and guided thematic discussion. Integral part of teaching are consultations with students regarding the colloquia and final exam, as well as introduction to the use of literature.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | VISUAL CULTURE IN ARCHITECTURAL THEORY AND PRACTICE | | |
| Teacher: | Professor Ph.D. Vladimir F. Mako | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The main objective of the course is to provide students with knowledge of the theory of architecture, its forms and how it affects an architectural idiom to be replaced by another. The students are thoroughly introduced with the creative potential of the history and theory of architecture which is not shown as a chronology of events but as systems. In this way, the students gain knowledge and competences that will enable them to analyse, interpret, systematize and compare theoretical positions of renaissance and contemporary theorists and to determine their relationship with the historic architecture they rely on or not. The aim of the course is to illuminate relationships and links between architectural theory and design practice having the history and theory of architecture seen as a clarification how certain architectural principles were applied in architectural practice.</p> | | |
| Learning outcomes: | <p>Expected outcome is that students gain knowledge about the basic concepts of the theory of architecture. The students develop the ability to notice different ways of architectural thinking today and throughout the history (similarities and differences between theoretical texts – contemporary and from different historical periods; the relationship between the different positions in architectural theory; the relationship between architectural theory and other forms of theory in other disciplines). In this way, the learning outcome is development of critical thinking and skills of reading and writing – of a clear recognition of the meaning of various texts on architecture and clear articulation of own ideas in writing. Development of creative thinking and identification of different possibilities of interpretation of visual form and its meaning.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> The course is designed as a theoretical exploration of various problems throughout the history of architecture. The course content is made of two mutually infused thematic and problematic parts. The first consists of basic assumptions on general issues of the theory of architecture given from the first renaissance treatises on architecture that represents begins of a scientific, systematic analysis of the history of architecture and “learning from the past” as well as a clearly expressed interest in the visual in architecture. The understanding of the origin and movements of various architectural theory and basic theoretical and critical concepts are the integral part of this course. The second thematic unit is envisaged to see the history and theory of architecture in relation towards the architectural design through a series of problematic aspects as single topics. This part of the course provides a foundation for analytical and critical understanding of design issues which are essential for the development of design thinking. The course case includes thematic units that allow students to verbalize and re-conceptualize own architectural preferences in the next step.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Smith, Korydon, ed. Introducing Architectural Theory, Debating a Discipline. Routledge, 2012. – Davies, Colin. Thinking about architecture. London: Laurence King Publishing, 2011. – Lefavre, Liane, and Alexander Tzonis. The Emergence of Modern Architecture, A documentary history from 1000 to 1810. London and New York: Routledge, 2004. – Mitrović, Branko. Learning from Palladio. New York: Norton, 2004. – Wiebenson, Dora, ed. Architectural Theory and Practice from Alberti to Ledoux. Architectural Publications, Inc., University of Chicago Press, 1982. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>The main method is ex cathedra lectures. Integral part of teaching are discussions with students, interactive teaching and students' presentations. Regular consultations with students on colloquia and exam preparations as well as to be introduced with basic literature.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 40 |
| Practical classes | | Oral exam | |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|--|-------------------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | SOCIOLOGY OF URBAN PRACTICE | | |
| Teacher: | Assistant Professor M.Sc. Ivan J. Kucina | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The course objective is to understand the necessity of sociological research instrument as an instrument by which is possible to determine the purpose of architectural interventions in contemporary cities. Complexity and contradiction in social trends that are reflected in the structure of the city demand from architects to constantly review adopted methodological doctrine and to re-find that in every situation appropriate social role. Research of urban practices is the way for architecture to win relevant positions in society.</p> | | |
| Learning outcomes: | <p>In addition to academic knowledge, students acquire training to apply in their design practice: ability to recognize connections between complex urban systems and social structures, ability to apply strategic and designing skills in the process of urban transformation.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Discussional lectures through which students learn to recognize social relationships and their connection with processes of the production of a city. Assuming that urban practices encourage social imagination, students discuss how to direct urban development in order to create new patterns of behavior and new forms of community.</p> | | |
| Literature: | <p>Literature will be specified according the given semester topic out of the tables 10.3 and 10.4 and other sources.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / |
| Teaching methodology: | <p>The main method is ex cathedra lectures. Integral part of teaching are discussions with students, interactive teaching and students' presentations.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | |
| Practical classes | | Oral exam | |
| Colloquia | | Oral presentation of design project | 20 |
| Seminar-s | 50 | Written study | 10 |

| | | | |
|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | PUBLIC URBAN SPACES | | |
| Teacher: | Professor Ph.D. Vladan A. Djokić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | The main objective is introduction to the phenomenon of the public urban spaces, training for the diversification and typological overview of these, and introduction into the process of formulation of guidelines for their further development. | | |
| Learning outcomes: | Theoretical basics for the research of public urban spaces in relation to the cultural context and historical continuity. | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>A: MAIN DETERMINANTS OF PUBLIC URBAN SPACES</p> <ol style="list-style-type: none"> 1. Morphological characteristics 2. Functional characteristics 3. Correlation between morphological and functional characteristics 4. Cultural identity in function of understanding of use of public spaces <p>B: DIVERSIFICATION OF PUBLIC SPACES IN RELATION TO THE URBAN LEVELS</p> <ol style="list-style-type: none"> 5. City 6. District 7. Quart 8. Neighbourhood <p>C: RESEARCH OF PUBLIC SPACES</p> <ol style="list-style-type: none"> 9. Research thesis and questions 10. Approaches and aspects of research 11. Research methodology 12. Research draft 13. Guidelines for transformation of public spaces in urban district 14. Guidelines for transformation of public rban spaces in neighbourhood <p><u>Practical education:</u></p> <p>/</p> | | |
| Literature: | <p>– Djokić, Vladan. Urbana morfologija – grad i gradski trg. Beograd: Arhitektonski fakultet Univerziteta u Beogradu, 2004.</p> <p>– Djokić, Vladan. Urbana tipologija: gradski trg u Srbiji. Beograd: Arhitektonski fakultet Univerziteta u Beogradu, 2009.</p> <p>– Kostof, Spiro. The City Shaped: Urban Patterns and Meanings Through History. Boston: A Bulfinch Press Book: Little, Brown and Company, 1991.</p> <p>– Kostof, Spiro. The City Assembled: The Elements of Urban Form Through History. Boston: A Bulfinch Press Book: Little, Brown and Company, 1992.</p> <p>– Krier, Rob[ert]. Urban Space. London: Academy Editions, 1979.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | CITY THROUGHOUT THE HISTORY | | | |
| Teacher: | Assistant Professor Zoran N. Djukanović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to the specificities and complexities of urban development through historical discourse. History of understanding, defining and meaning of the city. The relations of society, culture and urban built environment within the discourse of the wider historical context. | | | |
| Learning outcomes: | Ability to understand the complexity of causes and processes of origin and development of urban settlements. Knowledge of the developmental stages, reasons and conditions that caused change in the structure and meaning of the city in a broader cultural context of a society building them. Critical understanding of the specific historical inputs of urban development. | | | |
| Course brief: | <p><u>Theoretical education:</u> 1) Perception and meaning of the city throughout the history, 2) Emergence of the city in pre-civilization time, 3) Old Century, 4) Ancient city, 5) The Middle Ages, 6) Renaissance and Baroque, 7) New Century, 8) Contemporary city, 9) Perspectives of urban development in the foreseeable future.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Mumford L. (1968) Grad u historiji; Naprijed; Zagreb – Kostof, S. (1991) The City Shaped: Urban Patterns and Meanings Through History. Boston: A Bulfinch Press Book: Little, Brown and Company – Bogdanović B. (1976); Urbs & Logos; Gradina; Niš – Lazarević Bajec N. (1988) Grad između empirije i utopije; ICSSOS; Beograd; 1988. – Đukanović Z., Andrić M.; urednici (2009) Beogradska Tvrđava – Sanovnik kontinuiteta Belog Grada; J.P. Beogradska Tvrđava; Beograd | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

| | | | | |
|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | DESIGN AND CONSTRUCTION IN COMPLIANCE WITH THE CLIMATE | | | |
| Teacher: | Professor Ph.D. Milica DJ. Jovanović Popović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Based on the introduction to central elements and parameters influencing the formation of a climate for one location on one hand, and the organization and materialization of a space on the other, the student acquires knowledge related to design and construction of buildings in compliance with the specific climatic conditions of a micro location. Special attention is given to regionalism and historical development of buildings' adaptation to climates, from prehistory to the present. The aim of the course is to master the elements of different types buildings in order to provide comfortable conditions of use in accordance with the purpose, and minimal use of HVAC systems. | | | |
| Learning outcomes: | Mastery of the knowledge and techniques enabling for the design and construction of buildings in compliance with climatic conditions of the location. | | | |
| Course brief: | Types of climate and principles of adaptation of architectural structures; different examples of local adaptation to climatic conditions; special architectural and urban solutions; model of everyday lifestyle; physical structure of the building as a response to climate conditions of a location; contemporary materials and techniques providing adaptation solutions. | | | |
| Literature: | <ul style="list-style-type: none"> – Milica Jovanović Popović, Mila Pucar, Milan Pajević: Bioklimatsko planiranje i projektovanje-urbanistički parametri, monografija, Zavet, Beograd, 1994. – Martin Evans: Housing, Climate and Comfort, The Architectural press, London | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Theoretical education. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | Seminar paper | 70 | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | GENERATING SPATIAL STRUCTURES VIA FORM-FINDING | | |
| Teacher: | Professor Ph.D. Miodrag S. Nestorović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>Introduction with the potential use of form-finding method in production of non-conventional free-form structures / surface primarily – shell, membrane, grid-shell / in which the form-structure relationship is expressed. The students learn about the processes of generating structures characterized by the interaction of geometry and stress, which under the influence of self-load define its balance form, as well as about procedures of testing rational forms. This course framework points out potentials of the design process in which, unlike the conventional approach in which the structure is considered only after the form is articulated / post-design optimization /, the physical and mechanical properties of materials on the function of a form are simultaneously considered in order to achieve the rational solution. This kind of structural design includes three basic parameters: a form –geometry of a system; behavior of structural systems – stress-strain image and unique characteristics of used materials – physical and mechanical properties. The stated objective will be realized by using advanced digital technology / CAD-CAM-CAE, VR/AR, rapid prototyping / as a substitute for the traditional and by adoption of priority based on performances / PBDC – Performance Based Design Concepts, PDDA – Performance Driven Design Approach /, which will provide formal researches, simulation of different influences, analysis, exact communication of ideas, visualization, presentation and production of unconventional forms and rational solutions.</p> | | |
| Learning outcomes: | <p>By elective course the student is trained for correctly understanding of the elements forming the architectural space, for independent analysis of the properties of spatial structures and design of these, for use of this method in design process benefiting with that based on the minimum of inputs can be achieved efficient, cost-effective solution. The student acquires following general and subject-specific skills: technical knowledge of the form-finding methods; understanding of the procedures and to reconcile divergent factors in the process of creating structures satisfying aesthetic and technical requirements; ability to manipulate computer models and performances; ability to generate optimal structure by applying appropriate digital technologies; learning to solve specific problems using scientific methods and procedures and to integrate knowledge acquired from different fields in order to apply them in the context of architectural profession.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> THEMATIC UNIT 1. Introduction. Concept of performances. The concept of <i>form-finding</i>. Development and application of form-finding methods. Types of structures that may be created by application of form-finding methods. THEMATIC UNIT 2. Form-finding methods. Grapho-statics. Wireframe models. Computer and interactive form-finding. Numerical form-finding methods (Pucher's Equation Method and Force Density Method – FDM). THEMATIC UNIT 3. Morphogenetic strategies. The concept of morphogenesis. Digital and computational morphogenesis. Structural morphogenesis (topological optimization, Evolutionary Structural Optimization – ESO). THEMATIC UNIT 4. Use of digital tools. Application of softwares for generating shell, membrane, grid-shell (eg. RhinoVault and RhinoMembrane plug-in program for Rhinoceros, Easy, etc.). Application of VR/AR. Application of rapid prototyping (eg. RepRap), application of 3D optical measurement method (eg. GOM). Note: Digital tools to use will be (re)defined through course curricula in accordance with the development and current trends in the field. <u>Practical education:</u> Individual and group assignments.</p> | | |
| Literature: | <p>– M.P.Bendose, O.Sigmund - TOPOLOGY OPTIMIZATION, Theory, Methods and Applications, Springer-Verlag Berlin Heidelberg 2003. – A.Abraham, L.Jain, R.Goldberg - EVOLUTIONARY MULTIOBJECTIVE OPTIMIZATION, Theoretically Advances and Applications, Springer-VErlag London Limited, 2005.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Ex cathedra lectures and consultations regarding the given individual or group assignments. Students' direct participation in the teaching process is expected.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | SPORTS AND SPACE | | | |
| Teacher: | Assistant Professor Igor Ž. Rajković | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>This course is an introduction to the complex phenomenology of sports. The objective of the course is to interpret sports as specific processes and activities practiced professionally and recreationally. The emphasis is on presenting connections of sports as a process and its spatial phenomena.</p> | | | |
| Learning outcomes: | Acquisition of new theoretical and practical knowledge widening the range of design skills applicable in contemporary architectural practice. | | | |
| Course brief: | <p><i>Theoretical education:</i> A series of lectures opens the question to what extent architectural artistry is conditioned with sports as a specific process, and to what is free in its expressiveness. Analysis of sports which require a building and are based on European cultural tradition, as well as those who use natural phenomena and are performed in free spaces of nature. Definition of the term "free time" and it is associated with the modern tendencies and people recreational sports practicing, which results in particular spatial phenomenology.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Ilić, Slobodan. Sportski objekti i površine (Beograd, Srbija: Književno-izdavačka zadruga Kultura,1989) – Zlatanović, Milena. Objekti za fizičku kulturu-BAZENI (Beograd, Srbija: Jugoslovenski zavod za fizičku kulturu i medicinu sporta OOUR Zavod za fizičku kulturu,1981) – Diedrich, Richard J. Building type basics for recreational facilities (Hoboken, New Jersey, United States of America: John Wiley & Sons, Inc., 2005) – Konya, Allan. Sports Buildings A Briefing and Design Guide (London, Great Britain: Architectural Press Ltd, 1986) – Moore, Charls W. Lidz, Jane. Water and Architecture (London, Great Britain: Thames and Hudson Ltd, 1994) | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as lectures, interactive teaching, case studies, research projects, presentations, essays, seminars. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

| | | | |
|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | DESERTED SPACES IN CONTEMPORARY CITY: Open public spaces | | |
| Teacher: | Assistant Professor Ph.D. Ana Z. Nikezić, Associate Professor Ph.D. Dragana M. Vasiljević Tomić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The main objective is to understand the complexity of the phenomenon of deserted spaces, and to explore potentials of their transformation. Training to analyse deserted spaces from urban, architectural, cultural, historical and socio-economic aspects and to explore potentials for their transformation through the framework of contemporary everyday life.</p> | | |
| Learning outcomes: | <p>1. Choose particular spatial phenomenon within the given polygon, 2. present it from ecological, functional, artistic, cultural and social aspect, 3. propose intervention as an individual expression on the selected space.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Lectures' topics are: landscapes and human ecology, socio-cultural behavioral factors, landscapes of aesthetics and artistic principles in architectural design and design. Special attention was paid to ecology, culture and history.</p> <p><u>Practical education:</u> Teaching – lectures and practical classes are performed via various teaching forms, such as ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays.</p> | | |
| Literature: | <p>– Teorija Arhitekture i urbanizma. Petar Bojanić i Vladan Đokić. Beograd: Arhitektonski fakultet, 2009. – Misliti grad. Petar Bojanić i Vladan Đokić. Beograd: Arhitektonski fakultet, 2011. – Pallasmaa, Juhani . The Eyes of the Skin: Architecture and the senses. New York: John Wiley & Sons, 1996.Cvetić, University of Belgrade – Faculty of Architecture,British Council, (Beograd), 2010. – Vasiljević Tomić, D. Natkriveni gradski prostori. Beograd: Zadužbina Andrejević, 2003. – Hill, Jonathan. Immaterial architecture. London: Routledge, 2006.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 1 | 1 | / | / |
| Teaching methodology: | <p>Teaching – lectures and practical classes are performed via various teaching forms, such as ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 30 |
| Practical classes | 30 | Oral exam | 10 |
| Colloquia | 20 | | |
| Seminar-s | | | |

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|---|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | SPACE FOR ELDERLY AND PERSONS WITH DISSABILITIES | | | |
| Teacher: | Assistant Professor Miloš M. Komlenić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: Interest in informal teaching methods, and life and needs of the 3rd generation people, as well as of people with dissabilities / special needs. Affinity for critical thinking and research. | | | | |
| Objectives: The course is an introduction into the complex phenomenology of people groups with specific needs. The objective is for students to recognize the character of the relationship between the space and subject user group in different levels in order to understand the universality of principles defining these relationships. | | | | |
| Learning outcomes: Acquisition of new theoretical and practical knowledge widening the range of design skills applicable in architectural practice. The course is aimed at bringing closing modern conception of life and needs of 3rd generation and people with special needs. Introduction to their needs, and skills needed to design buildings for their stay and accommodation, such as neighborhood clubs or nursing homes. Defining characteristics, role and potential of space as an important resource in the function of psychophysical and social health. | | | | |
| Course brief: <u><i>Theoretical education:</i></u> A series of lectures opens the questions: * What are specific needs of the 3rd generations and people with special needs? * How much the architecture is determined by the needs of these users group and how much is it free in its manifestation? In the course, the given users group are being analysed based on either European or other cultural traditions, and further their needs and possible architectural and spatial responses to these questions are being defined. Attention is paid to the term of their "free time" and it is associated with the modern tendencies of its use, which results in particular spatial phenomenology. <u><i>Practical education:</i></u> The students are expected to initiate topics and based on lectures to develop an appropriate methodology as the approach to chosen phenomenon (and phenomena) and to demonstrate creativity in proposing new approaches and solutions. Methods to be applied are: – Perception of the phenomenon (photo- and phono- records), research and critical consideration of selected examples of real spaces and from the literature, – Discussions and debates, presentations and critics, – Creative extending of the initial phenomenon as a research and improvement within the possibilities and needs of this environment. | | | | |
| Literature: | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 1 | Practical classes: 1 | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Combination of various teaching forms, such as lectures, interactive teaching, case studies – based on which students develop a seminar paper, individual (or group) research projects with defined examples of solutions. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | 30 | Oral exam | | |
| Colloquia | 30 | Seminar paper | | 30 |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | DESIGNING IN RURAL AREAS 2 – Agricultural facilities | | | |
| Teacher: | Professor Ph.D. Milorad B. Ribar | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective of the course is to acquire theoretical and practical knowledge in the design of various types of agricultural facilities. Classes are organized in order to improve students' ability in solution urban and architectural problems taking into account the specificity of different environments, spatial situations and technological demands of this kind of facilities. Development of students' resourcefulness in solving specific design problems. The students are encouraged to treat the real spaces, design on particular models and in real-life situations.</p> | | | |
| Learning outcomes: | <p>Through short lectures, followed by presentations, discussions and analysis of examples and cases, the students are introduced to the typology of agricultural facilities, urban-locational requirements, program characteristics, functional, structural and formal principles of agricultural buildings. Through the development of design project and the short seminar paper during the semester, the students are trained in design of new or reconstruction / upgrading of existing agricultural buildings.</p> | | | |
| Course brief: | <p><u>Theoretical education and Practical education:</u> 01. Introductory lecture. Introduction to objectives, brief and teaching method and evaluation criteria in the course. 02. Analysis of examples. Typology of agricultural facilities. Variety of topics. Examples. (Discussion of possible topics of design projects). 03. Selection of location. Locating, urban requirements, program characteristics, organizational and technological schemes. (Discussion of proposed topics and locations.). 04. Determination of content. Functional, structural and design principles for different types of agricultural buildings. (Concluding on tasks and approval of topics). 05. 05 Work on design project. Topic: The specific design problem from the previously studied materials. 06. Work on design project, start with particular issues. Concept and design program. Analysis of examples from the literature. (Explanations and discussions about the seminar paper). 07. I Colloquia. 08 Elaboration of the concept, working model, adoption of general solution. (Consultations on seminar paper). 09. Spatial organization, open spaces, functional solutions, assembly. Elaboration of the solution, corrections. Structures and materialization. 10. Spatial organization, open spaces, functional solutions, assembly. Elaboration of the solution, corrections. Structures and materialization, coverings. 11. Topic: The specific design problem related to individual projects. 12. Further work on design project. Shaping. Characteristic details. Presentation and discussion of individual projects. 13. II Colloquia. 14 Synthesis of acquired knowledge, interpolation of quality solutions from the colloquia in the final work, corrections of project elements.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Ribar M. Savremeni rurizam. CMS, Beograd – Simonović R. Đorđe. Poljoprivredne zgrade i kompleksi. Beograd: Naučna knjiga – Simonović R. Đorđe, Ribar B. Milorad. Uređenje seoskih teritorija i naselja. Beograd: IBI-Inženjering i projektovanje – Vukosavljević S. Istorija seljačkog društva. Naučno delo. Beograd – Kostić C. Sociologija sela. Zavod za izdavanje udžbenika, Beograd | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Combination of various teaching forms: lectures, presentations, discussion, case studies, seminar papers, individual or group design tasks. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 5 | Written exam | 50 | |
| Practical classes | 10+10=20 | Oral exam | 15 | |
| Colloquia | 10 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ARTIST'S BOOK | | | |
| Teacher: | Associate Professor Ph.D. Mariela M. Cvetić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main course objective is to introduce students with this specific art form – Artist's book, its history and origin, and then to create it themselves as the particular authorial concept. | | | |
| Learning outcomes: | Knowledge and skills in implementation/production of Artist's book form, and in identification and evaluation of this form in contemporary art practice. | | | |
| Course brief: | <p><u>Theoretical education:</u> Classes consist of theoretical studies of this art form, especially as the idea and as the visual form, its history within 20th art movements: avant-garde, postmodern and art in the age of culture. Then, the exploration of the conceptualization of "the book", its poetics and philosophy, as well as the issues of multiplication and auraticity.</p> <p><u>Practical education:</u> In the second part of the course students will conceptualize and produce their own form of Artist's Book in classes and afterwards at home, continuing analysing, exploring and concluding the work after consultations. The students may produce one or more of this form, and exceptionally may work in groups.</p> | | | |
| Literature: | – Drucker, Johanna, The century of Artist's Books, Granary Books, NY, 1995 | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Keynote ex cathedra lectures turning into discussions, analysis and dialogues. Film projections opening a debate on the researching problem. After individual work the students and teacher jointly analyse the works. Exhibition of final works.. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | 60 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

| | | | | |
|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ENGLISH FOR ARCHITECTS 2 | | | |
| Teacher: | Assistant Teacher Ph.D. Gordana M. Vuković Nikolić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The focus is on controversial topics in architecture on which is discussed in classes and on which the students write seminar paper as final exam. By an integrated approach teaching, it is being developed a communicative competence in listening, reading, speaking and writing but the primary goal is to synthetically use previous knowledge of English and to develop complex lexical and grammatical apparatus needed to discuss, argumentate and debate about architecture in English. | | | |
| Learning outcomes: | Development of verbal skills in foreign language (English) in specific discourse of debate and argumentation in the field of architecture. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The focus is on the functional apparatus of debate and argumentation. The base are authentic texts systematically arranged to follow thematically and functionally the course programme, that is the practicum is being complemented each year, as well as multimedia presentations and students' seminar papers of previous generations.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Dr Gordana Vuković-Nikolić: Engleski za arhitekthe 3, praktikum, Arhitektonski fakultet, Beograd, 2012. (distributed on the first class) – Gordana Vuković-Nikolić: Gramatika engleskog jezika sa vezbanjima, Viša PTT škola, Beograd, 1995. (online edition is on the teacher's page of the Faculty's website) – Gordana Vuković-Nikolić: Kreativno pisanje, Krug centar, 2010. (available in the bookshop) | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Teaching classroom and teacher's office are equipped with audio-visual technology. Classes are based on the texts that are presented in the form of multimedia presentations and seminar papers of previous generations' students. Main part of the coursework is the Practicum that each student receives at the beginning (for free). Through announced units in the Practicum, the students are encouraged to explore tgiven topic on the internet, to discuss and to write about it in class and at home so that this gradually gained knowledge can be completed by the preparation for the final exam.</p> <p>The complete course methodology is being performed through teacher's self-developed method (Portfolio method, described in detail in the book Creative writing, G. Vukovic -Nikolić , 2010).</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 30 | Written exam | 20 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|--|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | PARAMETRIC DESIGN | | | |
| Teacher: | Professor Ph.D. Ljiljana S. Petruševski | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to methods and tools for parametric and generative modelling of complex architectural geometry. | | | |
| Learning outcomes: | Qualification for parametric modelling of complex architectural geometry using programming languages. | | | |
| Course brief: | <p><i>Theoretical education:</i> Parametric modelling. Generative modelling. Mathematical concepts. Architectural Geometry. Simulations. Software support and interface. Graphic visual editor. Scripting. Variables declaring. Loops. Recursions.</p> <p><i>Practical education:</i> Weekly assignments follow theoretical education of the course and are a way of adopting the necessary knowledge. At the same time, they indicate the level of competence for parametric modelling of complex architectural geometry using programming languages.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Payne, A., Issa, R.: Grasshopper Primer, LIFT Arch., 2009. – Kolarevic, B.: Architecture in the digital age: design and manufacturing, Spon Press, Francis & Taylor, 2003 – H. Pottmann, A. Asperl, M. Hofer and A. Kilian: Architectural Geometry, Bentley Institute, 2007, | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Ex cathedra lectures, practical classes – interactive teaching in electronic environment. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | | |
| Practical classes | 50 | Oral exam | 50 | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | CONTEXTUAL ARCHITECTURE | | |
| Teacher: | Professor Ph.D. Eva J. Vaništa Lazarević | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Understanding of architecture as a resultant of impacts of the environment (natural and social) on the one hand, and impacts of man (the whole system of human needs) on the other hand; understanding of architecture as a creative force of architect (creator of beauty) – the architect as a link past-present-future. | | |
| Learning outcomes: | Training students to understand architecture as a unity of its artistic and exact-empirical components. | | |
| Course brief: | <p><u>Theoretical education:</u> Introduction to researching methods in the field of urban regeneration, meanings of urban contextuality, constant and variable values in architecture, urban processes, phenomena and ideas affecting the research of context of the architecture in the city.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Vaništa Lazarević, Eva. Obnova gradova u novom milenijumu. Beograd: Classic map studio, 2003. – Vaništa Lazarević, Eva i Mira Milaković. Reader for the course: Architecture in context. Beograd, 2010. – in consultation with the teacher | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 50 | | |
| Seminar-s | | | |

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|---|--|-------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | FUTURE OF THE CITY | | | |
| Teacher: | Professor Ph.D. Miodrag B. Ralević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Provision of knowledge on theoretically- empirical approaches, concepts and models of CITIES OF THE FUTURE (utopian ideal, futuristic...) from different periods of emergence and development of urban civilization; introduction to methodic apparatus of discovery, consideration and tracing the future of the city. | | | |
| Learning outcomes: | <p>Upon completion of the course, the student is expected to:</p> <ul style="list-style-type: none"> – Use a variety of techniques and methods of conceiving, modeling and projecting (development) cities in the future – immediate, near or far; – Use different aspects in the design of the city and urban area; – Be ready to participate in “public debates” related to the future of the city. | | | |
| Course brief: | <p><u>Theoretical education:</u> Classes are held through a combination of various working forms:</p> <ul style="list-style-type: none"> – I BLOCK: theoretically experiential future of the city; – II BLOCK: concept and models of “cities of the future”; – III BLOCK: approach for discovering and designing the future of the city; – IV BLOCK: methodical foundation of modelling and designing the future of the city; – V BLOCK: discovering the “cities” of the future. <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Ralević, M. (1998), Programsko modelovanje urbanih funkcija, Beograd, SMS – Klotz H. H., 1984, REVISION DER MODERNE, Munchen, DAM. – Doxiadis C.A., 1970, EKUMENOPOLIS NASELJE BUDUĆNOSTI, Beograd, Arhitektonski fakultet – Alexander C., 1970, CHANGES FROM A D. No 3, vol, 41, London. – Sheckley R., 1978, FUTUROPOLIS, London, B.B. B. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays, seminars, etc., all in order to provide multi-aspect introduction to problematic exploration of the future of the city. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written study/elaborate | 40 | |
| Practical classes | | Oral exam | 30 | |
| Colloquia | 10 | | | |
| Seminar-s | 10 | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | MORPHOLOGY OF CITY STROKES | | |
| Teacher: | Associate Professor Ph.D. Aleksandra M. Djukić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Classes are directed towards developing knowledge and skills in the field of urban design, on numerous topics of urban composition. The objective of the course is to upgrade the existing knowledge from the course Design of urban spaces, as well as the understanding of basic contemporary methods and techniques for the organization of urban structure, with special emphasis on the cities in Serbia. | | |
| Learning outcomes: | | | |
| Course brief: | <p><i>Theoretical education:</i> Morphological characteristics of city strokes – function and form; Perception; Music, rhythm and architecture; Identity and cultural patterns; Painting, film, architecture and morphology of city parts; Research and evaluation of foreign examples.</p> <p><i>Practical education:</i> Research; Application on the given example</p> | | |
| Literature: | <ul style="list-style-type: none"> – Reader in the course – Đukić A., Vukmirović M.: UrbanLab Beograd 2020, Arhitektonski fakultet, Beograd, 2012. – Moughtin C.: Urban Design - street and square, Architectural Press, Oxford, 2001. – Martin E.: Architecture as a translation of music – Chris A.: Architecture and Identity: responses to cultural and technological change, Arcitectural Press, Oxford, 2000. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Combination of various teaching forms: ex cathedra lectures, interactive teaching, case studies, individual and group research projects, presentations. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 60 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | SPATIAL COMPOSITION | | | |
| Teacher: | Professor M.Sc. Petar M. Arsić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The aim of this course is to enable students to connect previously acquired knowledge and skills in the field of urbanism and architecture, with the new knowledge in the field of spatial composition, in order to further improve skills of urban and architectural design, with special emphasis on creation and design of complex urban and architectural assemblies in real urban environment. | | | |
| Learning outcomes: | Understanding of complex impacts and links within the relation theoretical framework and spatial basics – creative procedure of achieving spatial synthesis. | | | |
| Course brief: | <p><u>Theoretical education:</u> Theoretical lectures, analysis of urban development and historical continuity in the designing, improving and developing of spatial compositions, comparative analysis of complex urban and architectural compositions, review and analysis of case studies, a review of the main thematic areas of spatial composition, introducing students to the general concepts and categories of spatial composition, gaining new knowledge on the elements of the spatial composition and field relations between the elements of spatial composition, researching of the totality of spatial composition and synthesis of compositional aspects as one of the objectives pursued in the design process.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Crier, Robert. Architectural Composition. New York: Rizzoli, 1973 – Forty, Adrian. Words and Buildings, A Vocabulary of Modern Architecture. London: Thames&Hudson, 2002 – T.M. de Jong and T.J.M van der Voordt (eds.), Ways to study and research. Urban, architectural and technical design, Delft: Delft University press, 2002. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as interactive lectures, debates, case studies, comparative analysis of examples, active participation in discussions and presentation of the student work (concept and content of seminar paper). | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 50 | | | |
| Seminar-s | | | | |

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|---|---|----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | ARTISTIC SHAPING OF PUBLIC URBAN SPACES | | |
| Teacher: | Assistant Professor Zoran N. Djukanović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Introducing students to types, forms and conditions of implementation of architectural – urban – art projects in public sphere, that is in public spaces, which are to be implemented by interdisciplinary action of artists, architects, planners and designers, as well as by various forms of public participation and community involvement in the precess of planning, design and development. | | |
| Learning outcomes: | Providing students with an understanding of interdisciplinary action in the field of planning, design and implementation of projects intended to improvement of spatial aspect of the public sphere – public spaces by their activation and (re)design using different art forms and resources. Critical understanding of the specific opportunities and limitations of urban design in which arts, architecture and urbanism help improving the quality of city life. | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>1) Introductory notes: Public art vs art in public space, Spatially specific, contextually specific and art directed towards the community, Public sphere, democratic sphere, cultural citizenship, Creation of a places: Public art-work as a public space.</p> <p>2) Public art in public space: context of action: Public art in Serbia, Public art in public spaces, Citizens' participation in the process of artistic shaping of public urban spaces, Social, economic and political context as a basis for action.</p> <p>3) Strategic concept of institutionalization of Public Art: Strategies and principles of locating and activating "Public Art", Valorisation of resources in relation to the target groups' preferences, Human Resources, Institutional framework, Public art, culture, tourism and cultural tourism, Marketing and branding.</p> <p>4) Case Studies.</p> <p><u>Practical education:</u></p> <p>Research of characteristics of the public in the sphere of public spaces, as well as the possibilities of their improving by implementation of various artistic, architectural and urban programs. Exploration of ways in which architecture and urbanism find their proper role in improving public urban spaces through their activation and (re)design using different methods and forms of artistic expression. For principal subject area: a) define general characteristics of a broader thematic fields; b) define specific characteristics and qualities of existing conditions of the subject area, comparatively explore adequate case studies in domestic and international practice; identify and analyze existing and determine new development programs for improvement; c) explore potentials of selected/proposed development simultaneously overseeng the potential effects of the implementation and explore their territorial and/or topical connection into networks.</p> | | |
| Literature: | <p>– Đukanović Z., Bobić A., Živković J., i drugi; Umetnost u javnom prostoru: ekspertska studija prostorne provere užeg gradskog jezgra Užica za potrebe umetničke produkcije u javnom prostoru; Academica – akademska grupa; Beograd; 2011.</p> <p>– Đukanović, Z. Živković J.; Javna umetnost i kreiranje mesta – studija slučaja – Beograd, Gradska opština Stari grad; Arhitektonski fakulet Univerziteta u Beogradu; Beograd; 2008.</p> <p>– Djukanović Z., Živković J., Bobić A.; Public Space 4 Public Art; Gradska opština Savski Venac; Beograd; 2008.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: 1 | Practical classes: 1 | Other teaching forms: / | Studio research: / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 30 | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 20 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | INFORMAL URBAN GROWTH | | |
| Teacher: | Assistant M.Sc. Biserka Č. Mitrović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The aim of the course is to introduce students with the phenomenon of informal urban growth in Serbia, region and other areas (developing countries), which includes introduction to theoretical and methodological framework of one of the biggest challenges of spatial development – uncontrolled growth of settlements and urban dispersion, as defined by relevant international documents, and the introduction to experiential framework related to the informal growth of settlements in the world, region and Serbia.</p> | | |
| Learning outcomes: | <p>Understanding of the phenomenon of informal urban growth, causes and consequences, understanding of the possibilities to apply mechanisms and instruments for improving the quality of life and integration of informal settlements, as well as the ability to apply principles defined in international documents in order to improve informal settlements and prevent their spread.</p> | | |
| Course brief: | <p><i>Theoretical education:</i> Theoretical-methodological and empirical framework of the phenomena of uncontrolled growth of settlements and urban dispersion, followed by cases analysis; Introduction and comparative review of regional characteristics of the informal settlement growth in the Balkans, with special emphasis on the settlements in Serbia; Overview of the causes and consequences of the emergence of informal settlements in socio-political, social and economic context in Serbia; Introduction to mechanisms and instruments for improving the quality of life and integration of informal settlements into the overall urban development, as well as for preventing their spread.</p> <p><i>Practical education:</i> Students' working result is oriented towards research, analysis and definition of measures for the improvement of informal settlements in selected case.</p> | | |
| Literature: | <ul style="list-style-type: none"> – In Search for Sustainable Solutions for Informal Settlements in the ECE Region: Challenges and Policy Responses, ECONOMIC COMMISSION FOR EUROPE, Geneva, 2008. – Making Slums History – A Global Challenge for 2020, Conference Report, UN HABITAT, 2012. – Mitrovic B at al: Informal growth of housing in Belgrade under the impact of transition to global economy, Planum-The journal of urbanism: Cities to be tamed? Milan, 2012. – Mitrovic B., Antonic B.: The taming of the shrew: coping with illegal settlements in Belgrade, Serbia, REAL CORP 2013 Proceedings, Rome, 2013. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 50 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | RESEARCH OF PROPERTIES | | |
| Teacher: | Professor M.Sc. Rajko Lj. Korica | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The course is expected to present the methodology of research of properties, that is to introduce students with the complex issues of identification and evaluation of potentials and opportunities for the construction on a certain location.</p> <p>The course objective is to present techniques of research of properties, how to recognize advantages and disadvantages of certain location, opportunities and treats that a location represents to the environment and vice versa, how to perceive technical solutions and resources needed to make an investment, and how to perceive eventual odds for the investment success, and, before all, what are necessary and sufficient conditions for one property to effectuate potentials for construction.</p> | | |
| Learning outcomes: | <p>The students are expected to: * master the techniques of research of properties and preparation of feasibility studies; * to consider the economic theory, systematize the researching methodology, elaborate on the preparation of feasibility studies, define terms of property's profitability, explain the methodology of effectiveness verification and demonstrat practical application in calculation of profitability in urban planning.</p> | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>01 – Introduction into the course brief, presentation of basic terms, 02 – the term property, investments, economical aspects of an investment, 03 – feasibility studies, 04 – methodology of development of a feasibility study, 05 – property value, methods of value determination, 06 – calculations of profitability, 07 – location and planning documents, programme-spatial definition of the location, opportunities and limitations, 08 – development parameters, 09 – property equipment, 11 – techniques of research and calculation, 12 – presentation of research results, 13 – shaping and preparation of property, 14 – possibilities of further development, 15 – discussion</p> <p><u>Practical education:</u></p> <p>/</p> | | |
| Literature: | <ul style="list-style-type: none"> – Pegan, S. (2007). Urbanizam – uvod u detaljno urbanističko planiranje. Zagreb: Sveučilište u Zagrebu, Arhitektonski fakultet. – Miličević, G. (1990). Urbana ekonomika. Beograd: Ekonomski fakultet. – O’Sullivan, A. (2000). Urban Economics, (4th ed.). New York: McGraw-Hill. – Appraisal Institute (2001). The appraisal of real estate. Chicago: Appraisal Institute. – Baum, A. (2001). Freeman's guide to the property industry. London: Freeman Publishing. – Brett, M. (1990). Property and money. Avon: Bath Press – Brueggeman, W. B. and Fisher, J. D. (2001). Real estate finance and investments. New York: McGraw-Hill/Irwin. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 40 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 10 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | WOOD IN CONTEMPORARY ARCHITECTURE | | | |
| Teacher: | Associate Professor Ph.D. Jelana A. Ivanović Šekularac | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The course objective is to introduce students to the principles of application of wood elements as primary and secondary structures of architectural buildings, introduction to the logic of design, structures and construction of facilities by using wood and wood-based products and the acquisition of new knowledge and the principles of design and construction of the envelope with wood trim elements, application of contemporary technical and technological solutions. The aim of the course is to improve the existing knowledge in the field of architectural structures, with the introduction of contemporary principles and systems of construction, as part of the necessary knowledge to successfully surmount the curriculum in master studies.</p> | | | |
| Learning outcomes: | <p>Knowledge gained in this course is part of the necessary knowledge to successfully surmount the curriculum in master studies and is relevant to the buildings' materialization.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> The issue of the application of wood and wood products in a contemporary architectural facility is treated from the point of materialization, architectural design and detail, as well as the application of knowledge in practice – in the process of implementation, operation and maintenance of architectural structures.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Herzog, Natterer, etc, 204., Timber Construction Manual, Birkhäuser, Basel – Natterer, Herzog, Volz, 1991., Holzbau Atlas, Rudolf Müller, Köln – Hugues T., Steiger L., Weber J., 2004., DETAIL PRAXIS, TIMBER CONSTRUCTION, Birkhäuser, Basel – Ivanović Šekularac Jelena, 2010., Funkcionalni i oblikovni potencijali drveta kao elementa obloge arhitektonskih objekata, doktorska disertacija, Arhitektonski fakultet Univerziteta u Beogradu, Beograd – Herzog, Kripner, Lang, 2004., Fasade Construction Manuel, Birkhäuser, Basel | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active discussions, seminar papers and graphical enclosures (individually or in 2 member-group).</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 40 | |
| Practical classes | | Oral exam | 20 | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | URBAN OASIS | | |
| Teacher: | Assistant professor M.Sc. Budimir S. Sudimac | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The elective course is the secondary theoretical course in master studies, with the aim to gain certain theoretical knowledge a supplement or deepening of a subject matter. The course content includes analysis and designing of architectural elements that contribute to the reduction of extreme natural and manmade influences on the comfort and zone of cosiness for people in different climatic environments. Throughout the teaching process, there would be examining ways of protection, shaping and technological potential of certain types of protection as a response to challenges of the sustainable world. The course aims to introduce students, through theoretical lectures, case studies and guest lectures, with contemporary systems of protection, basic principles of designing of protective elements and possible ways of integration within urban structure. Elements of protection shall be treated as part of the overall energy optimization of architectural building or space within which technological development enables the use of present and future natural resources. Students will, through practical work on the seminar paper acquire knowledge about complex aspects of the space designing for pleasant stay of people.</p> | | |
| Learning outcomes: | <p>Elective course is part of the secondary theoretical module in master studies. The aim of the course is to acquire primarily theoretical knowledge. Classes are held through a combination of various teaching forms – lectures, literature study and review and analysis of cases studies from domestic and foreign practice. Students' direct participation in the teaching process through the analysis and presentation of case studies is expected.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> The basis of work within the course is to introduce students with the phenomena and trends affecting the comfort zone, and which besides functional have shaping, environmental and energy character. The teaching focus is on analysis of different tendencies in conception and designing of protective elements of architectural structures and open spaces in different climatic environments. Through the analysis of various concepts, the potential of creating of integrated systems as a part of the building structure is investigated. In addition, the seminar investigates systems that allow easy parsing for the purpose of reuse and recycling.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Klaus Daniels, TECHNOLOGIE DES ÖKOLOGISCHEN BAUENS, Birkhauser, 1999. – Behling Sophia and Behling Stefan, SOLAR POWER the evolution of sustainable architecture, New York, Prestel, 2000. – Herzog Thomas (ed.), SOLAR ENERGY IN ARCHITECTURE AND URBAN PLANNING, London, Prestel, 1996. – Kemp William H. SMART POWER: AN URBAN GUIDE TO RENEWABLE ENERGY AND EFFICIENCY, Tamworth, Aztext Press, 2004. – Gerhard Hausladen, CLIMA SKIN, Callwey, 2006. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Lectures and interactive teaching. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 70 |
| Practical classes | | Oral exam | |
| Colloquia | 10+10 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | LIGHTING IN ARCHITECTURE 1 | | | |
| Teacher: | Professor Ph.D. Lidija S. Djokić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Understanding the basic concepts of a specialized area of architectural lighting. Analysis of the nature of light and its influence on surfaces to which it comes into contact. Understanding of the factors of lighting quality. Detailed analysis of examples. | | | |
| Learning outcomes: | Understanding of the complex concept of the quality of lighting and its influencing factors. Ability to analyze and evaluate the quality of lighting. | | | |
| Course brief: | <p><i>Theoretical education:</i> History of use of light in architecture; Basic concepts; Tools; Photometric units; Quality parameters; Analysis of solutions.</p> | | | |
| Literature: | <p>– Lidija Đokić: Osvetljenje u arhitekturi – zahtevi i smernice za projektovanje. Arhitektonski fakultet Univerziteta u Beogradu. Beograd, 2007. – Miomir Kostić: Vodič kroz svet tehnike osvetljenja. Minel-Schreder. Beograd, 2000.</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex-cathedra lectures, presentation, analysis and discussion. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 30 | |
| Practical classes | | Oral exam | | |
| Colloquia | 70 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ARCHITECTURAL UTILITIES 2 | | | |
| Teacher: | Assistant Professor Ph.D. Milan A. Radojević (course leader), Professor Ph.D. Lidija S. Djokić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Understanding the architectural structure as a whole and implementation of utilities networks within the architectural structure with respect to the structural system. Introducing students to the utilities needs of buildings of various purposes. | | | |
| Learning outcomes: | Acquiring additional knowledge utilities networks providing essential comfort in a variety of facilities, as well as of space that is needed to be provided for their proper and adequate operation. | | | |
| Course brief: | <p><u>Theoretical education:</u> Design of utilities in high-rise buildings; Design of utilities and space required for devices and equipment for swimming pools and fountains; Design of energy efficient buildings utilities; Design of passive houses utilities networks; Protection of buildings against atmospheric water; Protection of buildings against fire; Buildings' equipment and fire risk; Reconstruction of buildings in terms of utilities network; Maintenance of utilities networks, devices and equipment in buildings.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Krešimir Martinković: Priprema i realizacija arhitektonskih objekata 1. Izgradnja. Beograd, 1994. – Predrag Zrnić: Građevinski priručnik 5. Instalacije u zgradama. Građevinska knjiga. Beograd, 1990. – Lidija Đokić, Milan Radojević: Textbook – practical instructions. Arhitektonski fakultet u Beogradu. – Erich Schild; Rainr Oswald: Structural ailure in Residential Buildings, London, 1978. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures, presentation. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 50 | | | |
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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | EVALUATION OF THE ENVIRONMENTAL CHARACTERISTICS OF BUILDINGS | | | |
| Teacher: | Assistant Professor M.Sc. Nataša D. Ćuković Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main objective of the course is introduction to the possibilities of the assessment of the ecological characteristics of architectural buildings in different designing phases, as well as in the assesment of existing buildings. | | | |
| Learning outcomes: | Development of critical view on the ecological characteristics of architectural buildings and mastering main mechanisms for the evaluation of these. | | | |
| Course brief: | <p><i>Theoretical education:</i></p> <p>Environmental issues in the context of contemporary architectural theory and practice. Assessment of the ecological characteristics of architectural structures: basics and principles, criteria, parametres, indicators. Model for the assessment of the ecological characteristics of individual housing in the Belgrade area.</p> <p>Interactive teaching – development of a model for the assessment of the ecological characteristics of individual housing in the Belgrade area (during lecturing terms). Case studeis (homework, presentations in lecturing terms).</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Textbook (distributed during the semester) – Collection of texts and extracts from the relevant regulations (distributed during the semester) – Ekološki ispravne zgrade – uvod u planiranje i projektovanje, S. Kosanović, Zad. Andrejević, 2009. – Green Building Certification Systems, T. Ebert et al, Detail Green Books, 2011. – A Life Cycle Approach to Buildings, H. Koning et al., Detail Green Books, 2010. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as ex cathedra lectures, interactive teaching, case studies, short research assignments, presentations, seminar papers, etc. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | 25 | Oral exam | | |
| Colloquia | 25 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | OPTIMIZATION OF STRUCTURAL SYSTEMS | | |
| Teacher: | Assistant Professor Ph.D. Žikica M. Tekić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | Attended seminars Applied mathematics for structural systems and Theory of structural systems. | | |
| Objectives: | Design of the structure is a process in which selection of structural systems, materials, shape, size, surface properties and other properties are being performed in order to meet the functional tasks of the structure and satisfy a number of conditions, which will be analysed in this course. | | |
| Learning outcomes: | Development of skills to perform the optimal selection of structural systems, to determine dispositions and form of sections. Analysis of procedures, systems and materials in the selection of construction technology. | | |
| Course brief: | <p><u>Theoretical education:</u> Course programme. Introduction to basic principles of modelling in developed optimization examples. Criteria for evaluating the elements of optimization and weight factors by significance. Systematic approach in the selection of the structural system according to the valid parameters. Elements of optimization. Solving specific tasks in simple optimization problems. The application of mathematical optimization appliances on the analysis of alternative solutions. Determination of limiting values with must-be conditions. Finding extreme values of the optimization function in the allowed range. Developing a set of alternative solutions to the conditions set by task and approximation of the optimal solution by elimination. The application of mathematical optimization appliances on the analysis of alternative solutions. Determination of limiting values with must-be conditions. Finding extreme values of the optimization function. Developing a set of alternative solutions by conditions set by task and approximation of the optimal solution by elimination. Examples of optimization models associating to defined values in the assessment. Work on the optimization process within the individual project in the field of structural systems. Mathematical formulation of the optimal design of the particular case. Selection of the structural system, disposition and form closer to the optimum solution by elimination from the set of alternative solution. Work on the optimization process within the individual project in the field of structural systems.</p> <p><u>Practical education:</u> Individual modelling.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Đ. Zloković. KOORDINIRANI SISTEMI KONSTRUKCIJA. Građevinska knjiga, Beograd 1969. – Đ. Zloković. OPTIMIZACIJA U IZBORU I PROJEKTOVANJU KONSTRUKCIJA. Univerzitet u Beogradu, Arhitektonski fakultet, Poslediplomske studija kurs-stanovanje 1975. – Ž. Preščević. PREDAVANJA NA DOKTORIM STUDIJAMA. 2008. – W. R. Spillers, K. M. MacBain. STRUCTURAL OPTIMIZATION. Springer Science+Business Media, LLC. 2009. – J.S. Arrora. OPTIMIZATION OF STRUCTURAL AND MECHANICAL SYSTEMS. World Scientific Publishing C. Pte. Ltd. 2007. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Combination of various teaching forms, such as ex cathedra lectures, interactive teaching, individual and group projects, research, seminar paper. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | DESIGN OF CONCRETE STRUCTURES | | | |
| Teacher: | Assistant Professor Ph.D. Ruža D. Okrajnov-Bajić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The course objective is to introduce students to design and calculation of engineering structures in reinforced concrete. | | | |
| Learning outcomes: | The students learn about special conditions related to th certain types of buildings. | | | |
| Course brief: | <p><i>Theoretical education:</i> Storage-houses, industrial plants, reservoirs, tanks, towers, water-towers, TV-towers, high-rise buildings, sports halls, supporting and specific issues of underground garages.</p> <p><i>Practical education:</i> Design and modeling of a particular structure.</p> | | | |
| Literature: | – Technical standards in the field of architectural design (regulations and standards) – Collection of course lectures | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Lectures and design on given real models. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | DESIGN OF PREFABRICATED CONCRETE STRUCTURES | | |
| Teacher: | Professor Ph.D. Milan T. Glišić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | The main objective of the course is to train students for design and construction of prefabricated concrete structures. | | |
| Learning outcomes: | This course provides knowledge which enable students to understand the logic of designing and building prefabricated concrete structures. | | |
| Course brief: | <p><i>Theoretical education:</i></p> <ul style="list-style-type: none"> – Basic concepts and principles of design, – Types of elements of prefabricated concrete structures and using conditions, – Calculation of elements of prefabricated concrete structures in all stages, from production to exploitation, – Determination of disposition of elements of prefabricated concrete structures within given architectural solution, – Calculation of elements in the phase of construction and transport, – Calculation of elements in the phase of exploitation, – Design of the supporting links of elements, – Preparation of manufacturing drawing, – Preparation of manufacturing drawings of the ceiling supporting link, – Analysis of optimality of the application of the system of elements of prefabricated concrete structure. | | |
| Literature: | – Slobodan Romić, Prednapregnuti beton u teoriji i arhitektonskoj praksi, Građevinska knjiga, Beograd, 1978. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Ex cathedra lectures. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 60 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | GLASS IN CONTEMPORARY ARCHITECTURE | | | |
| Teacher: | Assistant professor Ph.D. Jasna Lj. Čikić – Tovarović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>Significant changes in contemporary architecture are the result of the application of materials of advanced characteristics, new technologies and new approach to the building' structures. The course objective is the introduction with the formative (openness, transparency, communication) and constructive potential of the glass in contemporary architecture and the identification of opportunities and disadvantages. On the other hand, the interactive performances of digital media and integrated communication technologies within the architecture create new conditions of urban perception and the perception of architectural work; thereby it is important to study the phenomenon of media-architecture and media-facades with special emphasis on the role of the glass as a material. What is perceived is a large variety of available systems and the possibility of flexible adjustment and quality integration according to the needs of individual design.</p> | | | |
| Learning outcomes: | <p>Knowledge gained in this course theoretical education is complemented and improved knowledge from Architectural structures 4, as well as completely knowledge in the field of media-facades, which represents the basis for development of critical view on the importance and application of the latest technologies and materials in architecture. Additionally, gained knowledge can be applied in the proces of designing innovative structures and buildings.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> During the classes, numerous possibilities of glass as a material will be systematically exposed – through an overview of structural elements and assemblies made of glass. In addition, the course will explore the phenomenon of media-architecture, interactive, flexible architecture and media facades, and then analyse and systematize a significant number of new technologies along with the overview of their technical and other characteristics.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Schittich, Staib, Balkow, Schuler, Sobek: Glass Construction Manual, Birkhauser, Berlin, 1999. – Wurm, J: Glass Structures, Birkhauser, Basel, 2007. – Čikić J. „Staklo i konstruktivna primena u arhitekturi”, Građevinska knjiga, Beograd, 2007. – Haeusler, H. Media facade, Avedition, Ludwigsburg, 2009. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active discuccions, seminar papers and graphical enclosures (individually or in 2 member-group).</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | points |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | CONTEMPORARY THEORY OF ARCHITECTURE | | |
| Teacher: | Associate Professor Ph.D. Ljiljana M. Blagojević | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Introduction to sources, documents, works and theoretical texts from modern era which shaped the contemporary architectural thought, as well as to current issues and movements in theory of architecture. Understanding of the complex relationships between art, social and technological aspects of the discipline and their reflections on theory. Introduction to the topic, basics and methodology of scientific research in the field of history and theory of modern and contemporary architecture as a specific area within the educationally-scientific field of social sciences and humanities. | | |
| Learning outcomes: | Upon completion of the course, the student: <ul style="list-style-type: none"> – Acquires intellectual competence in the field of the subject, – Acquires the ability to competently use sources for the independent scientific research, – Develops the ability of critical thinking, and – Develops skills of oral, written and visual communication. | | |
| Course brief: | <p><u>Theoretical education:</u></p> Through ex cathedra lectures and interactive teaching, the course presents several thematic units related to contemporary theories of architecture: <ul style="list-style-type: none"> – theory of avant-garde, – theory of modern movement, – critique of modern theory and modernism, – architectural phenomenology, – postmodern theory, – theory of ecological / environmental architecture, – current trends and movements of the theory. | | |
| Literature: | <ul style="list-style-type: none"> – Kenet Frempton. Moderna arhitektura: kritička istorija. Beograd: Orion, 2004 – Michael K. Hays, ed. Architecture Theory since 1968. Cambridge, Mass.: The MIT Press, 1998 – Miloš R. Perović, ur. Antologija teorija arhitekture. Beograd: Građevinska knjiga, 2009 – Jean-Louis Cohen. The Future of Architecture Since 1889, London: Phaidon Press, 2012 – Ljiljana Blagojević. Postmodernism in Belgrade Architecture: Between Cultural Modernity and Societal Modernisation, Spatium International Review, no. 25, 23-29, 2011 (www) | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Thematic units are exercised through reviewing and problematic lectures, interactive teaching, students' independent research and development of semester paper. During the semester there are 2 colloquies by which are checked students' consistency in classes, individual consultations, interactive public class and students' presentations. Final exam consists of development of semester paper. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 20+20=40 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | CONTEMPORARY PRINCIPLES OF ARCHITECTURAL HERITAGE PRESERVATION | | |
| Teacher: | Associate Professor Ph.D. Mirjana Z. Roter Blagojević | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Acquiring knowledge on historical and contemporary theoretical approaches related to the study, preservation and restoration of architectural heritage, contemporary principles, recommendations and charters in the field of preservation and presentation of cultural heritage, as well as principles related to the contemporary approach of construction and regeneration of historic ambiances, which will contribute to the formation of theoretical basis for development of creative skills and competences for critical thinking, creating one's own concepts and approaches to the preservation of cultural and architectural heritage. | | |
| Learning outcomes: | Ability to understand the field of research; formation of a broader relevant basis of the historical and cultural context; systematization and analysis of different sources in the field of cultural history and preservation of architectural heritage; competent use of sources; understanding of different researching methods; analytical skills; critical thinking; ability to write comprehensive, systematic and relevant research work. High level of oral and written communication. | | |
| Course brief: | <p><u>Theoretical education:</u> Theoretical fundamentals, principles and postulates of the contemporary doctrine of preservation and presentation of cultural heritage. Tangible and intangible heritage. Problems of valorisation of different types of heritage. The concept of maintaining the authenticity and integrity of heritage in the processes of preservation and presentation. Cultural landscape and expanding the scope of protection. Evaluation and protection of contemporary architecture. Principles of regeneration and presentation of architectural heritage.</p> <p><u>Practical education:</u> Collection of information and field research, collection of sources in archives and institutions, analysis of data and sources, study of theoretical sources, definition of the concept of renewal and presentation, development of proposal, concept rationale.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Jokilehto, J. A history of architectural conservation. London, 1999. – Vučenović, S. Urbana i arhitektonska konzervacija, Evropa. Svet. Beograd: DKS, 2004. – Brandi, Č. Teorija konzervacije. Beograd: Italijanska kooperacija, 2007. – Kulturno nasleđe, izbor najznačajnijih dokumenata Saveta Evrope u oblasti kulturnog nasleđa. Beograd: Mnemosyne, 2004. – Evropske konvencije i preporuke u oblasti kulturnog nasleđa. Kotor: EXPEDITIO, Centar za održivi prostorni razvoj – Kotor, 2005. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 1 | 1 | / | / |
| Teaching methodology: | Ex cathedra lectures, group and individual consultations between lecturer and associates with students, preparations for a seminar paper which include independent student's research, case studies, analysis of theoretical references, comparative analysis, and like, depending on the topics explored in the paper. Testing of knowledge and students' consistency in classes is by 2 colloquies. Final exam – seminar paper consists of written part and necessary documentation, graphics, tables and other, and oral presentation. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 50 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | ANCIENT HERITAGE IN THE REGION | | |
| Teacher: | Assistant Professor Ph.D. Gordana D. Milošević-Jevtić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The main objective of the elective course is to introduce students to the most representative buildings of antiquity in Serbia and in immediate surroundings (Macedonia, Montenegro, Croatia, Bosnia and Herzegovina, Bulgaria, Romania, Greece, Hungary), and to their place within the ancient architecture in Roman Empire. This knowledge shall complement the general knowledge gained in undergraduate studies in the field of study and restoration of architectural heritage and represent a good basis for future design work in protected areas. Acquired specific knowledge shall be of direct benefit to future architects for the proper understanding of the issues related to integrated protection and restoration of architectural heritage.</p> | | |
| Learning outcomes: | <p>Upon passing the exam, the students are expected to master the basic knowledge of ancient architecture in the region, to have studied and learned research methodology of individual buildings and settlements and to be able to make comparative analysis of impact of Roman architecture on provincial architecture of late antiquity. Acquired specific knowledge shall be of direct benefit to future architects for proper understanding and literacy in the field of cultural heritage and its protection.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Defining the spatial and historical framework origin of ancient architecture in the region with special review of previous research related to elective subject. Administrative division of settlements in the Roman Empire in urban settlements (municipium, colonia), other settlements (canabea, civitates) and villages (vicus, the villa rustica) and their abaliza. Possible to reconstruct the appearance and organization of urban structures designed on the basis of archaeological research, historical sources and scientific studies. The systematic structure that relates to public facilities, pagan temples, early Christian churches and burial architecture of private and imperial mausoleum. Residential architecture of late antiquity, the territory of Serbia in the immediate environment and attitude towards the residence. The internal arrangement and decoration of ancient residential objekata. Primenjene construction and construction techniques in Late Antiquity in the region, with special emphasis on monolithic and skeletal construction method and applied types of structural assemblies. The economic rise of the city and provincial architecture in the general development of Roman architecture, particularly since the end of three, and in the 4th century in relation to the construction of the Roman emperors who comes from the territory of Serbia and the Balkan Peninsula.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Konstantin Veliki i Milanski edikt 313., Rađanje hrišćanstva u rimskim provincijama na tlu Srbije (ed. I. Popović, B. Borić-Brešković), Narodni muzej u Beogradu 2013. – Đ. Mano-Zisi, Pogled na pitanja urbanizacije u Iliriku, Zbornik radova Narodnog muzeja 4, Beograd 1964, 93 – 113 – M. Suić, Antički grad na Jadranu, Zagreb 1976. – V. Popović, Dezintegracija i ruralizacija grada u istočnom Iliriku od 5. do 7. veka n.e., Sirmium, Grad careva i mučenika, Sremska Mitrovica 2003, 239 – 258. – S. Elis, The End of the roman House, American Journal of Archaeology 92 (1988), 565 – 576. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Introduction, through lectures, to modern methodology of studying ancient heritage on archeological sites in Serbia and region (Balkan peninsula) with special emphasis on the comparative analysis of historical sources, written and archaeological materials. Consultations regarding preparation of the final paper and additional readings.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | THEORY OF URBAN DESIGN | | |
| Teacher: | Assistant Professor M.Sc. Jelena A. Živković A. Jelena | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | The course objective is to introduce students with theoretical concepts, topics and issues of urban design. The emphasis is on the overview of different approaches in identifying the nature, purpose, role and content of urban design in relation to economic, social, cultural and naturally-environmental conditions of urban development. | | |
| Learning outcomes: | <p>Upon completion of the course, the students are expected to:</p> <ul style="list-style-type: none"> – Have knowledge of various theories, concepts, topics and dimensions of urban design, – Understand the multi-disciplinary nature and process of urban design, as well as its relation to social, economic, political, naturally-environmental and cultural context, – Understand the complex role of urban design within contemporary urban development, – Be introduced to contemporary topics, issues and debates in the field of urban design and to be able to participate, – Be able to independently formulate quality criteria of urban design in a given spatial and social context. | | |
| Course brief: | <p><u>Theoretical education:</u> The course teaching includes: a) Definition of subject of the theory of urban design, b) Introduction to different philosophical foundations, concepts, theories and models in urban design, c) Overview of basic topics in urban design, d) Overview of different researching approaches in urban design; e) Consideration of the scope of urban design in various theoretical concepts (morphological, perceptual, social, visual, functional, ecological, temporal), f) Identification of the role of urban design in contemporary urban development, g) Summary of new approaches in urban design in relation to contemporary urban phenomena and problems, h) Consideration of the relationship between theory and practice of urban design.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Carmona M, Heath T., Oc T., Tiesdell S. (2003) Public Places Urban Spaces: The Dimensions of Urban Design, Oxford, UK: Architectural Press – Carmona M., Tiesdell S. (ed.) (2007) Urban Design Reader, Oxford, UK: Architectural Press. – Kelbaugh D. , McCullough K. (2008) Writing Urbanism: A Design Reader, NY: Routledge – Šoe, F. (1978). Urbanizam, utopija i stvarnost, Beograd: Građevinska knjiga – Elin, N. (2002). Postmoderni urbanizam, Beograd: Orion. – Živković J. Teorija urbanog dizajna , Beograd:AF (in production) | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 40 |
| Practical classes | | Oral exam | |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | THEORETICAL BASICS OF URBAN MANAGEMENT | | | |
| Teacher: | Assistant Professor M.Sc. Uroš B. Radosavljević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to basic theoretical development and the relationship of urban governance, management and planning, and their impact on urban development. | | | |
| Learning outcomes: | Understanding of the latest theories of urban management and urban development; ability of critical evaluation of these theories and their relevance to the local context; skills to analyze urban policies, negotiation, representation of stakeholders' and institutions' interests. | | | |
| Course brief: | <p><u>Theoretical education:</u> This course offers the latest theories of urban management and dynamics of urban development. Through the understanding of urban management position in the economic, social and environmental urban theories and connecting it with with management theories which include theories on urban policies, plans, finances and governance structures, the course offers knowledge to analyze urban development and successful urban management of the 21st century cities.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Bajić Brković, M (ur) (2010) Kreativne strategije za održivi razvoj gradova u Srbiji. Beograd: Arhitektonski fakultet – Fainstein, S. (2010). The Just City. New York: Cornell University Press. – Healey, P. (2007) Urban complexity and spatial strategies: Towards a relational planning for our times. London, UK: Routledge. – Radosavljević, U., Lalović, K. & Milovanović, D. (2012) Key Agencies Networking of Local Sustainable Urban Design Projects in Golubac & Negotin. In Pucar, M., Dimitrijević, B. & Marić, I. ed. (2012) Climate Change and the Built Environment: Policies and Practice in Scotland and Serbia. Belgrade: IAUS – UN-HABITAT & Transparency International (2004.) Tools to Support Transparency in Local Governance, Urban Governance Toolkit Series, Nairobi, UN-HABITAT – Van Den Dool, L. (2006) Making Local Government Work: An Introduction to Public Management for Developing Countries and Emerging Economies (Ihs Series in Urban Management and Development). Delft: Eburon Publishers | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | BUILDING'S PHYSICS: ENERGY IN BUILDINGS | | |
| Teacher: | Associate Professor Ph.D. Ana P. Radivojević, Assistant Professor Ph.D. Aleksandar N. Rajčić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Introduction to specific problems in the domain of building's physics which in different ways address the issue of energy in buildings and are directly linked to the aspect of comfort, respectively thermal and aerial comfort. Mastering the basic elements and principles of calculation of buildings' energy performances. Communication of ideas, visualization, presentation and production of unconventional forms and rational solutions. | | |
| Learning outcomes: | Upon completion of the course, the student should be able to better understand the importance which adequate (designing) attitude towards the buildings' energy has for the overall building's performance, and to master the basic knowledge necessary for the calculation and verification of relevant buildings' characteristics or its envelope in the function of starting elements in the procedure of calculation of overall building's energy performance. | | |
| Course brief: | <p><i>Theoretical education:</i></p> <p>Contemporary tendencies in the field of building's energy: preservation of energy, energy efficiency, integrated energy. Evolution of the thermal protection of buildings. The concept of buildings' energy performances. Thermal comfort – physiological basis, parameters of the environment and conditions of comfort. Thermal energy in buildings – heat conduction – types of structures and materials' properties. Indoor air quality – aerial comfort and vapor diffusion. Structural accumulation. Solar energy and buildings – problems of solar gains and thermal stability of buildings in the summer. Heat loss and the factor of building shape. Total energy needs of the building – concept of the budget.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Szokolay, Steven: Introduction to Architectural Science, Architectural Press, 2004. – Vilems, Wolfgang, Kai Šild i Simone Dinter: Građevinska fizika 1 i 2, Građevinska knjiga, 2008. – Hauslanden, Gerhard et al.: Climate Design, Birkhauser, 2005. – Harris, Cindy and Pat Borer: The Whole House Book, 2nd ed., Centre for Alternative Technology, 2005. – Danijels, Klaus: Tehnologija ekološkog građenja, Jasen, Beograd, 2009. – Textbook – selection of texts | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Ex cathedra lectures, overview and analysis of examples with discussion and students' active participation, consultations. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | |
| Practical classes | | Oral exam | |
| Colloquia | 40 | Seminar paper | 50 |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | DESIGN AND CALCULATION OF ARCHITECTURAL STRUCTURES 3 | | | |
| Teacher: | Professor Ph.D. Milan T. Glišić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main objective is to train students for the design and construction of foundations of architectural structures, as well as to introduce them to design and structural principles relevant for seismic zones. By this, the course improves knowledge in the field of structural engineering. | | | |
| Learning outcomes: | This course provides knowledge which enable students to understand the logic of design and construction of foundations of architectural structures and knowledge about requirements and systems relevant for the design of buildings in seismic zones. | | | |
| Course brief: | <p><i>Theoretical education:</i> Basic concepts of soil – origin, classification, structure, physical and mechanical properties, limiting and tolerable pressures, pressure spreading by depth, active soil pressure, passive soil resistance. Geomechanical study. Main types of foundations – ribbon, foundation ground counter-beam, foundation plate, footings. Structural details of foundation. Basic concepts and principles of design of architectural structures in seismic zones. Analysis of forces flow in a particular structural solutions. Calculation principles of architectural structures in seismic zones using the Finite Element Method. This course brief also includes design and calculation of architectural structures variants in seismic zones. Draft structures of a given multi-storey building architectural design, calculation of structural impacts of gravity and seismic loads and calculation of structural elements.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Milan Glišić, Fundiranje arhitektonskih objekata, Arhitektonski fakultet i Orion Art, Beograd, 2004.. – Slobodan Romić, Armirano betonske konstrukcije, Građevinska knjiga, Beograd, 1985. – Regulation on technical standards for construction of buildings in seismic areas, 1981. – Regulations on concrete and reinforced concrete, 1987. – J. Zurovac, 1994, „Konstruisanje seizmički otpornih zgrada“, Beograd, Arhitektonski fakultet. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Lectures. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | HUMAN ECOLOGY – SPACE AND HEALTH | | | |
| Teacher: | Associate Professor Ph.D. Ružica Đ.Božović Stamenović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: Interest in informal teaching methods. Affinity for critical thinking and research. Knowledge of English (required for the use of literature, understanding of terms and verbal presentations). Access to Internet and knowledge of computer programs for processing of data, visual material in digital form and programs for presentation and communication. | | | | |
| Objectives: Research of the balance in interactions of people and the complex context in which they exist. Definition of characteristics, roles and potentials of space as an important resource in function of psychophysical and social health. The objective of the course is to recognize the character of relations between space and users in different levels in order to understand The objective is for students to recognize the character of the relationship between space and users in different levels in order to understand the universality of principles defining these relationships. | | | | |
| Learning outcomes: The course provides ability of independent and critical thinking of key issues: <ul style="list-style-type: none"> – How space becomes a healthy and good place? – How to avoid destructive and provide constructive interaction between space and people? – How to understand the role of space in the concept of human ecology and salutogenesis? – How to use architecture to overcome the state of amnesia of human spirit and to translate it from anaesthesia in a state of synaesthesia – coordination of sensory experience? – How to replace dealing with pathogen spaces with creation of salutogen? – How to apply learned/comprehended in real spaces? | | | | |
| Course brief: <u><i>Theoretical education:</i></u> Urban phenomena – The city as a healthy and stimulating place. Human ecology through history and projections for future. Basic physical, functional and contextual characteristics of space that affect human ecology: form, function and style, sensory apparatus and perception, haptic space-materials, color, orientation, environment and sustainability. Social, cultural and contextual aspects of space – from space for healing to space that heals. Space as a platform for critical and creative review and improvement. The students are expected to initiate topics and based on lectures to develop an appropriate methodology as the approach to chosen phenomenon (and phenomena) and to demonstrate creativity in proposing new approaches and solutions. Methods to be applied are: <ul style="list-style-type: none"> – Perception of the phenomenon (photo- and phono- records), research and critical consideration of selected examples of real spaces, "brainstorming", interviews, audio-visual recordings. Discussions and debates, presentations and critics. Creative extending of the initial phenomenon as an installation in space-time. | | | | |
| Literature: <ul style="list-style-type: none"> – Considering the chosen topic-phenomenon on which student works, his/her first task is to form a list of relevant literature with teacher's help – Pallasmaa, Juhani, The eyes of the skin : architecture and the senses Chichester : Wiley-Academy, 2005 – Leach, Neil. The anaesthetics of architecture. London, CambridgeThe MIT Press,1999 – PSYCHOSOCIALLY SUPPORTIVE DESIGN- ALAN DILANI http://www.asianhnm.com/knowledge_bank/articles/supportive_design.htm – International Academy for Design and Health http://www.designandhealth.com/ | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Combination of various teaching forms, such as: lectures, interactive teaching, case studies, research projects, presentations, essays, seminars. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | 30 | Oral exam | | |
| Colloquia | | Seminar paper | 60 | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | ARCHITECTURE AND METASTRUCTURE – Typology of complex designs | | |
| Teacher: | Associate Professor M.Sc. Milan M. Vujović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The main objective of the course instruction is to introduce students with the typology of complex architectural design projects. The researching focus is on design projects which by their structure, concept and programme- spatial characteristics are complex and can not be viewed, analyzed or evaluated in the context of traditional typological discourse. The term "meta" is used as a theoretical-philosophical pre-text with the aim to open the discussion on contemporary trends in architectural design. Lectures, discussions and analysis will be focused on historical and theoretical geneses of design approaches and attitudes (language, dialect), projections, sustainable development opportunities and future tendencies.</p> | | |
| Learning outcomes: | <p>The outcome of the course is deepening of knowledge and training in the narrower field of expertise – architectural and urban design, and formation of focused view on current developments in contemporary architecture. Teaching relies on prior students' knowledge gained in studio design courses at undergraduate level as well as on theoretical courses performing by the Department of architecture.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Thematical units / course timetable: 1. Typology – views (traditional typology, typology of function, typology of form, style, element, ornament) – Quatremère de Quincy, Le Corbusier, Aldo Rossi, Rob Krier, Nikolaus Pevsner... 2. Contemporary approach to architectural typology: criteria, classification, theory: type, archetype, stereotype, prototype... 3. Complex structures: suspenseful typology, hybridization, resulting typology, open typology, adaptability and evolvability of architectural form 4. Architecture of passengers' terminal (piers, ports): correlations: technology -typology and content-form-typology; content "searches" its appearance; genesis of archetype 5. Movement as a generator of architectural compositions: airport, rail, maritime, river and cosmic passengers' terminals, traffic and movement, intentions, needs, exchange, distance, trajectory, objective, time, communication; movements: Futurism, Structuralism, Metabolism, Neo-metabolism 6. Hubs, transfers and terminals: architectural and urban dimension of hubs: places of concentration, overlapping and change of type, forms and intensity movement; "interchange" zones 7. Complex profile facilities: sedimentation of functions, segregation of functions, explicitness of correlation: function-composition 8. Large volume facilities (XL, XXL, XXXL), historical context (from Crystal Palace to O2 Arena); architecture of world exhibitions; temporary-ephemeral-virtual in architecture, terms "over-form", hierarchy and "cathedral" hierarchy, emanations 9. Polyfunctionality and volume: hall and membranes, compositional aspects of the relationship of form and function: "form presupposes the function" 10. Border Field: Structure-megastructure-metastructure, compositional characteristics and principles of modification of architectural structures. 11. Special problems of complex typologies: buildings in the complex typological context (historical, socio-political, urban-morphological, regulatory, financial, programming, creative), terms: concept and context, aspect</p> | | |
| Literature: | <p>– Koolhaas, R., Obrist, H. O. (2011). Project Japan: Metabolism Talks. Cologne: Taschen. – Arnheim, R.(1977).The dynamics of architectural form.Berkley: University of California Press – Vujović, M. (2010). Analiza tokova kretanja kao generatora arhitektonske kompozicije na primeru aerodromskih putničkih terminala. Beograd: Arhitektonski fakultet, magistarski rad – Ching, F.D.K.(1979). Architecture: Form, Space & Order. New York: VNR – Blow, C. (2005). Transport terminals and modal interchanges.Oxford: Architectural press</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Each teaching term will be held interactively. In the presence of the teacher and hosting the most expert speakers from the subject area, students will have the opportunity to present their knowledge and issues arising during the preparation of semester assignment. Visiting teachers shall through talks, panel discussions, consultations and lectures if necessary be able to share their different experiences and knowledge with students and thus, from their own point of view, to assist them to apply new knowledge and to exercise the final paper.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 70 |
| Practical classes | | Oral exam | |
| Colloquia | 10+10=20 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | TOURIST FACILITIES _CONTEXT _CONCEPT _METHOD | | | |
| Teacher: | Assistant Professor Nebojša S. Fotirić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The course objective is to present the contemporary architectural conception of tourism and to introduce students to specific skills needed for the design of different tourist facilities. Throughout the course, key concepts in the field of catering industry and tourism will be explained to students. | | | |
| Learning outcomes: | The students gain knowledge which gives them actual, professional and sustainable leverage when designing these types of facilities. | | | |
| Course brief: | <p><u>Theoretical education:</u> Thematic units – course curriculum: Theoretical education is directed towards overviewing the historical, social, economic and social aspects of the development of tourism at the level of physical, psychological and spiritual comprehension. Also, the course subject aims to define position and role of an architect within the emergence of this type of facilities, in terms of appearance, sustainability, expertise and relevance.</p> | | | |
| Literature: | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | A series of interactive lectures, case studies, simulations and discussions in the spirit of designing research as an integral part of the design process. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ARCHITECTURE OF RURAL AREAS – Reconstruction of village centers | | | |
| Teacher: | Assistant Professor M.Sc. Aleksandar Č. Videnović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective of the course is to provide theoretical and practical knowledge in the field of planning and design of public spaces in rural areas. Classes are designed to improve students' ability in mastering the urban and architectural problems of central facilities in rural areas taking into account the specificity of different environments and spatial situations. Development of students' resourcefulness in design approaches to real contexts.</p> | | | |
| Learning outcomes: | The students gain knowledge which gives them actual, professional and sustainable leverage when designing these types of facilities. | | | |
| Course brief: | <p><u>Theoretical education:</u> Rural territory and specificities of the settlements in them, zone, characteristics of public facilities, design principles of new and reconstruction of existing village centers. Emphasis is on the insistence for students to treat real spaces, design on particular models and in real-life situations.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Cvijić J.: Opšta geografija i antropogeografija; Zavod za izdavanje udžbenika, Beograd 1969. – Kanić F.: Srbija - zemlja i stanovništvo; Srpska književna zadruga, Beograd 1986. – Katalog izložbe: Seoske kuće i stanovanje u Srbiji; Etnografski muzej, Beograd 1969. – Kojić B.: Seoska arhitektura i rurizam; Građevinska knjiga, Beograd 1973. – Kojić B., Simonović Đ.: Seoska naselja Srbije; IICS, Beograd 1975. – Petrović Z.: Tragajući za arhitekturom; Arhitektonski fakultet, Beograd 1981. – Petrović Z., Stanić R.: Stare srpske kuće kao graditeljski podsticaj; Grad. Knj., Beograd 1985. – Ribar M.: Savremeni rurizam, CMS, Beograd 1988. – Simonović Đ.: Seoski stan; PS - sveska 53, AF, Beograd 1980. – Simonović Đ.: Sistemi seoskih naselja u užoj Srbiji; IAUS, Beograd 1976. – Simonović Đ., Ribar M.: Uređenje seoskih teritorija i naselja; IBI, Beograd 1993. – Vukosavljević S.: Istorija seljačkog društva; Naučno delo, Beograd 1965. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | A series of interactive lectures, case studies, simulations and discussions in the spirit of designing research as an integral part of the design process. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 5 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | 10+10=20 | Final study/elaborate | 40 | |
| Seminar-s | 10 | | | |

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|---|--|--------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | CONTEMPORARY SCULPTURE | | |
| Teacher: | Professor M.Sc. Dragan M. Jelenković | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | The course objective is to introduce students with the production of contemporary sculptures and art objects whose importance in the field of contemporary art was confirmed in historical and theoretical sense. | | |
| Learning outcomes: | Understanding of the cultural context, tradition and conditions in which contemporary art work, object, sculpture is being created. Raising awareness about the connection between social circumstances in the formation of artistic expression and poetics. Understanding and knowledge of contemporary artistic technologies. Comparability between contemporary artistic and architectural language. | | |
| Course brief: | <p><u>Theoretical education:</u> The course lectures include analysis of various poetics of contemporary artists and their works. Introduction to the major projects of contemporary art, museum and gallery institutions and spaces influencing the formation and direction of art movements.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Pavle Vasić, Uvod u likovne umetnosti, Fakultet likovnih umetnosti, Beograd, 1968. – Zoran Pavlović, Prostor oblika i boje, Klio, Beograd, 1997. – Johannes Itten, Umetnost boje, Umetnička akademija, Beograd, 1973. – Rudolf Arnheim, Umetnost i vizuelno opažanje, Univerzitet umetnosti Timothy Samara, Design Elements, Rockport. – H.V. Dženson Istorija umetnosti, Beograd 1983 ili kasnija izdanja | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 1 | 1 | / | / |
| Teaching methodology: | The methodology refers to research, designing, development and production of works related to synthetic fields of architecture and fine arts. Students perform practices and in each of these they elaborate some of the topics in visual arts. The aim is to form a final portfolio (map) which will demonstrate knowledge and methodological and researching process of a student and must include all elements of the thematic units of the course. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | |
| Practical classes | | Oral exam | |
| Colloquia | 20+20=40 | Semester study/elaborate | 50 |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ARCHITECTURE OF THEATRES AND SPECTACLES | | | |
| Teacher: | Assistant professor Ph.D. Gordana D. Milošević – Jevtić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The course objective is to introduce students with the history of the development of architectural principles in the design of the theatres and stage space through continuity and discontinuity of developing forms and applied structure. The cultural phenomenon of the theatre will be considered also through the place and position in the city, organization of festivals and performances and through the contemporary concept of the open/broken stage space.</p> | | | |
| Learning outcomes: | <p>After each chronological unit, there are colloquias (4 in total) in which students choose a certain urban space, stage concept and a play. It is expected that students upon passing the exam have the knowledge in the field of history of architecture and methodology of design of theater and spectacle facilities, and are able to define and valorize contemporary needs in this area. It is expected that they are able to make use of applied principles of historic architecture and implement this knowledge per the needs of present movements in the field of theater arts, scenery design and contemporary spectacle.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> Theatre plays are a companion to the social and political transformations in the society. Sprang from pagan beliefs they contained, in a different historical context, educational, entertaining, religious, and often politicized character. In line with the development of theatre plays a space is formed for their performance. At the same time, for the purpose of various competitive disciplines, and later gladiators' fights, certain forms are established in the architecture of classical Greece and Rome. Chronological development of theatres, stage space and theatre plays. The lectures are divided following thematic groups – about theatres and about theatre shows in ancient Greece and Rome, cultural disruption of pagan plays and establishing of liturgical theatre, restoration of classical ideals during the Renaissance. Special attention will be put on Shakespearian theatre and Globe Theatre, as well as on a brief history of Serbian theatre and its place in the development of European theatre.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vitruvije, Deset knjiga o arhitekturi, Beograd 2003 – Čezare Molinari, Istorija pozorišta, Beograd 1982. – Žorž Popović, Istorija arhitekture pozorišta, gledališča i teatra Evrope i Jugoslavije, Beograd 1986, Građevinski fakultet, priručnik. – Petar Marjanović, Mala istorija spskog pozorišta XIII – XXI vek, Novi Sad 2005. – Ronald Harvud, Istorija pozorišta : ceo svet je pozornica, Beograd 1988, Klio. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>The teaching consists of ex cathedra lectures following above thematic units. Each lecture includes several teaching forms: case studies, interactive communication and guided thematic discussions, in order to excite students' personal interests and to master basics of designing theatres and spectacle spaces throughout history. Connecting general and specific analysis of the design principles in contemporary architecture and urbanism. Integral part of teaching are consultations with students regarding the exam, as well as introduction to the use of basic and additional literature.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ENGLISH FOR ARCHITECTS 3 | | | |
| Teacher: | Assistant Teacher Ph.D. Gordana M. Vuković Nikolić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The focus is on controversial topics in architecture on which is discussed in classes and on which the students write seminar paper as final exam. By an integrated teaching approach, it is being developed a communicative competence in listening, reading, speaking and writing but the primary goal is to synthetically use previous knowledge of English and to develop complex lexical and grammatical apparatus needed to discuss, argumentate and debate about architecture in English. | | | |
| Learning outcomes: | Development of verbal skills in foreign language (English) in specific discourse of debate and argumentation in the field of architecture. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The focus is on the functional apparatus of debate and argumentation. The base are authentic texts systematically arranged to follow thematically and functionally the course programme, that is the practicum is being complemented each year, as well as multimedia presentations and students' seminar papers of previous generations.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Dr Gordana Vuković-Nikolić: Engleski za arhitekta 3, praktikum, Arhitektonski fakultet, Beograd, 2012. (distributed on the first class) – Gordana Vuković-Nikolić: Gramatika engleskog jezika sa vezbanjima, Viša PTT škola, Beograd, 1995. (online edition is on the teacher's page of the Faculty's website) – Gordana Vuković-Nikolić: Kreativno pisanje, Krug centar, 2010. (available in the bookshop) | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching classroom and teacher's office are equipped with audio-visual technology. Classes are based on the texts that are presented in the form of multimedia presentations and seminar papers of previous generations' students. Main part of the coursework is the Practicum that each student receives at the beginning (for free). Through announced units in the Practicum, the students are encouraged to explore given topic on the internet, to discuss and to write about it in class and at home so that this gradually gained knowledge can be completed by the preparation for the final exam. The complete course methodology is being performed through teacher's self-developed method (Portfolio method, described in detail in the book Creative writing, G. Vukovic -Nikolić , 2010). | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 30 | Written exam | 20 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | DESIGN AND THE CITY | | | |
| Teacher: | Professor Ph.D. Eva J. Vaništa Lazarević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to current problems and phenomena associated with the city as a theoretical platform on which are being based design concepts within the Studio. Depending on the scope of the task given in Studio, approach to the problem will be strategic, tactical or operational on which will depend the final product of design process – development scenario, urban design or architectural design. | | | |
| Learning outcomes: | Understanding and use of methods intended for restoration of deserted and construction of new urban areas, both at the level of the whole city and larger urban zones and particular locations. | | | |
| Course brief: | <p><u>Theoretical education:</u> Introduction to the methods of urban design and regeneration, including relevant urban processes, phenomena and ideas affecting the transformation and renewal of the city.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vaništa Lazarević, Eva. Obnova gradova u novom milenijumu. Beograd: Classic map studio, 2003. – Vaništa Lazarević, Eva. Urbana Rekonstrukcija. Beograd: Zadužbina Andrejević, 1999. – Bajić Brković, Milica, ur. Kreativne strategije za održivi razvoj gradova u Srbiji. Beograd: Arhitektonski fakultet 2010. – Stupar, Aleksandra. Grad globalizacije: Izazovi, transformacije, simboli. Beograd: Arhitektonski fakultet i Orion art 2009. – Madanipour, Ali. Design of Urban Space: An Inquiry into a Socio-spatial Process. Baffins Lane, Chichester: John Wiley & Sons Ltd., 1996. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 50 | | | |
| Seminar-s | | | | |

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|---|--|-------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | THE CITY OF THE FUTURE | | |
| Teacher: | Professor Ph.D. Miodrag B. Ralević | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>Practical application of the knowledge gained so far via modelling of an imaginary city of the future as a physical model developed by students with teacher's help. Attempts to combine elements or units of already existing – applied ideas, theoretical models or ideas obtained at the class by using different techniques and designing manners, modeling and projecting (development) of the city of the future – immediate, near or far...</p> | | |
| Learning outcomes: | <p>Upon completion of the course, the student is expected to:</p> <ul style="list-style-type: none"> – Understand theoretically experiential approaches, concepts and models of the cities of the future (utopian ideal, futuristic...) from different periods of emergence and development of urban civilization – deepening of knowledge gained in the course “Future of the city”; – Adopt higher level of using methodic apparatus of discovery, consideration and tracing the future of the city; – Master use of different techniques and methods of conceiving, modeling and projecting (development) cities in the future – immediate, near or far... | | |
| Course brief: | <p><u>Theoretical education:</u> Lectures – theoretically experiential future of the city: – Concept and models of the “cities of the future”; – Approaches for discovering and designing the future of the city; – Methodical foundation of modelling and designing the future of the city; – Discovering the “cities” of the future.</p> <p><u>Practical education:</u> Development of a physical model of the city of the future by applying principles and guidelines of theoretical education in the course.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Ralević, M., 2005, Modelovanje urbanog procesa, Beograd, Arhitektonski fakultet – Hall P., 1977, The world city, London, W.N – Sheckley R., 1978, Futuropolis, London, B.B. B. – Alekxander C., 1970, Changes FROM AD., No 3, vol, 41 – Le Corbusier, 1971, The city of tomorrow, Cambridge, MIT. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Combination of various teaching forms, such as: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, modelling, all in order to provide multi-aspect introduction to problematic exploration of the city of the future and an experimental form of preparation for designing cities for the future.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written study/elaborate | 10 |
| Practical classes | | Design project | 40 |
| Colloquia | | Oral presentation | 20 |
| Seminar-s | 20 | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN MOBILITY | | | |
| Teacher: | Assistant Professor M.Sc. Uroš B. Radosavljević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective of the course is to introduce students with the aspects of design and planning of development of the urban structure and to achieve higher levels of quality of life in urban areas, in accordance with the principles of sustainable urban transport systems. Students will gain the understanding of contemporary theoretical and practical worldwide and European approaches in the field of sustainable urban development and mobility management, as well as of their applicability in the context of Serbia through a series of examples of policies, actions and case studies.</p> | | | |
| Learning outcomes: | <p>Understanding of key contemporary disciplinary issues related to provision of multimodal transport and mobility of people in urban areas through an overview of basic tenets from the following areas: mobility and transport management, parking management, land-use planning to ensure sustainability of transport, safety and environmental protection. Knowledge of basic methods of mobility management, parking management and land-use planning to ensure sustainability of transport. Practical knowledge of the principles of urban design in accordance with the requirements of high mobility and sustainable transport in the city.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>1. Urban mobility and accessibility as the main challenges in the functioning of cities 2. (No) the efficiency of the transport system and road network 3. Problems related to reduced mobility, traffic congestion and air pollution 4. The limited availability of and dependence on the automobile to certain urban areas and informal settlements On the periphery 5. The method of land use is planned through formal traditional sectors planning 6. The paradigm shift from traditional to modern transport planning sustainable mobility and mobility 7. Transport policies, measures and modern technology to encourage change in the way kratanja 8. Land use planning and measures for reducing distances and long-haul journeys through mixed urban functions and density 10. Planning the transport-oriented urban development 11. The Management and Parking Options 'park and ride' (the public transport) 12. Encouraging greater efficiency in the transport system and technological innovation to reduce emissions CO2 and the transition to clean, non-fossil energy sources 14. Urban design for a compact space and increase availability.</p> <p><u>Practical education:</u></p> <p>/</p> | | | |
| Literature: | <p>– Banister, D., 2008. The sustainable mobility paradigm. <i>Transport Policy</i>, 15 (2), pp. 73-80.</p> <p>– Pressl R., Reiter, K. ed., 2005. <i>Mobility Management and Travel Awareness</i>. Translated from English by K. Lalović, U. Radosavljević, and T. Mrđenović. Belgrade: Faculty of Architecture Belgrade University.</p> <p>– Rye, T. ed., 2007. <i>Transport and Land Use Planning</i>, Vol. 2. Teaching and Learning Material. Edinburgh: Napier University.</p> <p>– Radosavljević, U., Lalović, K. & Đorđević, A. (2013) <i>Sustainable Urban Development & Concept of Mobility Management in Belgrade</i>. Belgrade: UNDP Serbia, pp. 91-103.</p> <p>– Tapestry, Department for Transport, 2005. <i>Making Campaigning for Smarter Choices Work. Guidelines for Local Authorities</i>. Translated from English by K. Lalović, U. Radosavljević, U. and T. Mrđenović. Belgrade: Faculty of Architecture Belgrade University.</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms, such as: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, modelling, all in order to provide multi-aspect introduction to problematic exploration of the city of the future and an experimental form of preparation for designing cities for the future.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | NETWORK OF PEDESTRIAN PATHS USED FOR URBAN RE-DESIGN | | |
| Teacher: | Associate Professor Ph.D. Aleksandra M. Djukić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | The course is aimed at development of knowledge and skills in the field of urban design and upgrading existing knowledge in this field. The objective of the course is to introduce students with newest methods and techniques of research and valorisation of open urban spaces, with particular regard on pedestrian environment. | | |
| Learning outcomes: | Development of the ability to research in the field of urban design, and to apply contemporary tools of urban design. Upgrading of existing knowledge and skills in the field of urban design. Development of ability for analytical thinking, systematization and drawing conclusions. Development of ability for graphical and verbal expression, as well as for individual and group work. | | |
| Course brief: | <p><u>Theoretical education:</u> Relationships between pedestrian paths, experiencing of immediate environment from the aspect of a pedestrian, architecture and urban design. Spatial syntax. Mental urban maps. Active citizens' participation in processes of urban re-design. Re-design of open urban spaces in the context of climate changes. Examples of successful networking of pedestrians paths. Research of a particular urban location. Formulation of recommendations and guidelines for the networking of pedestrian paths in a given location.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Đukić, A., Vukmirović, M.: UrbanLab Beograd 2020, Arhitektonski fakultet, Beograd, 2012. – Cullen, G.: Gradski pejzaž, Građevinska knjiga, Beograd, 2007. – Linč K.: Slika jednog grada, Građevinska knjiga, Beograd, 1974. – Gehl, J.: Life Between Buildings - Using Public Spaces, the Danish Architecture Press, Copenhagen, 1996. – Whyte, W.: The Social Life of Small Urban Spaces, Project for Public Spaces, New York, 1980. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Lectures, interactive teaching, case studies, group research projects. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 60 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | URBAN CENTERS | | |
| Teacher: | Assistant Professor Ph.D. Ksenija Ž. Lalović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Establishment of a new cognitive framework for understanding, overseeing and research of a network of urban centers in the given urban environment. | | |
| Learning outcomes: | Understanding of the structural complexity of the network of urban centers, key factors of generative changes, dynamics and stochastic nature of development processes. Ability for typological identification and methodologically articulated systematization of knowledge about urban centers. Ability of structuring a model of evaluation and quality assessment of the functional and spatial quality of central zones. | | |
| Course brief: | <p><u>Theoretical education:</u> Defining the concept of the city center and central functions, the holder of centralization, their importance in the development of settlements and urban structure. Theoretical basis - elements of locational, structural and procedural theories. The classification function of centrality and recognizing the role of the private and public sectors. Central places like homology term function of centrality. Factors development of a network of urban centers - social, economic, technological, natural. Historical review of the causal relationship between the structure of urban centers and the basic factors of development. The characteristics of the process of developing a network of centers in relation to the degree of public control, internal and external factors of development - the process of concentration, dispersion observed through a variety of spatial levels in cities različitog level of development. Typological classification of urban centers in relation to the time of the generation, functional role in the city, rank, type of common needs that suits etc. The characteristics and the nature of the centers in the city. modeling and programming concepts of new centers in the city. A strategic approach to the development of urban centers. The basic elements of urban planning and regulation of urban central areas, - location factors, dimensioning capacity and programming. The key criteria for evaluating the quality of organization of space centers and the city's network functionality -savremeni analytical and monitoring tools based on GIS technologies. Principles of spatial organization and formal articulation.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Herzog, L., 2006, Return to the Center: Culture, Public Space, and City-Building in a Global Era, University of Texas Press – Gwyndaf, Williams, 2003, The Enterprising City Centre: Manchester's Development Challenge, Routledge Chapman & Hall – Whyte, William H., 2012, City: Rediscovering the Center, University of Pensilvania Press – Badovinac, Petar, "Centralne urbane funkcije-Centri", Arhitektonski fakultet, Beograd, 1997. – Mirko Maretić, Gradski centri, Manualia Universitatis studiorum Zagabiensis, Zagreb, 1996 | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Lectures, interactive teaching, case studies, group research projects. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 50 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ELEMENTS OF SPATIAL PLANNING | | | |
| Teacher: | Assistant Professor M.Sc. Biserka Č. Mitrović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Understanding the importance and role of a strategic approach to spatial development, as well as mechanisms of its application. Gaining knowledge of the basic components of physical and integrated spatial planning. Introduction to relevance, methods and principles of sustainable development concept in the process of planning, design and use of space. Understanding of possibilities of application of general knowledge on spatial planning in the practice of spatial planning. | | | |
| Learning outcomes: | Ability to understand the position of spatial development within the system of social regulation of spatial development, and to apply methods and mechanisms in contemporary planning practice. Ability to understand and apply principles and methods of sustainable development in the planning process. | | | |
| Course brief: | <p><u>Theoretical education:</u> Social role of planning, mechanisms of social regulation of spatial development, the concept of urbanization. The general models of processes and procedures in spatial planning, principles of spatial design. Legislation, types, characteristics and implementation of planning documents. Impact factors in spatial planning, classification and relevance (natural conditions: geological, hydrological and hydrographic factors, meteorological and microclimate factors, environment, manmade conditions: demography, transport and infrastructure, economy, systems of settlements, etc.). Students' working result is oriented towards research and analysis of spatial planning documents in the selected case.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vujošević, M. "Novije promene u teoriji i praksi planiranja na zapadu i njihove pouke za planiranje u Srbiji/Jugoslaviji", IAUS, Beograd, 2002. – Đorđević D.: Uvod u teoriju planiranja. Geografski fakultet Univerziteta u Beogradu, Beograd, 2004. – Tošković D.: Uvod u prostorno i urbanističko planiranje, GrosKnjiga, Beograd, 1995. – Marinović Uzelac A.: Prostorno planiranje. Školska knjiga, Zagreb, 2001. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Lectures, interactive teaching, case studies, group research projects. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | TRENDS OF URBAN INFRASTRUCTURE | | | |
| Teacher: | Professor M.Sc. Rajko Lj. Korica | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The existence of urban infrastructure is a necessary condition for a certain area to become urban, but not sufficient. The aim of the course is to explain the connection between management of urban infrastructure systems and city management, as well as to show trends of urban infrastructure, i.e. current trends of urban living environment which aim to have cities of the future wide-ranging, energy and information provided, and at the same time humane, safe and sustainable. | | | |
| Learning outcomes: | Ongoing development and accelerating of urbanization rates, overpopulation, strong competition and unequal distribution of space, congested communication and increase of transport time, negative effects of noise and waste, inefficient city services and lack of finance intended for systems maintenance caused the collapse of the health of urban population and modern cities attractiveness. Today, most modern capitals around the world are struggling with accumulated problems related to its urban environment, and above all with the problems of inherited and developed urban infrastructure. The course shall present thematic framework of urban infrastructure through examples of practice in order to recognize contemporary trends by which is possible to go beyond the above problems. | | | |
| Course brief: | <p><u>Theoretical education:</u> Consideration of the state of the urban infrastructure of modern cities, determining characteristics and parameters (natural and manmade). New social trends and the restoration and reconstruction of infrastructure (transition, globalization, ownership relations, the European Union, environmental impacts). Impact of previous manners of planning, construction, financing. Integral urban policy and sectoral policies related to better urban living environment and urban infrastructure management. Monitoring of planning processes and quality of urban infrastructure facing performances and implementation.</p> <p><u>Practical education:</u> Practical part includes presentation of an example of the modern trend of urban infrastructure in practice through application of principles and guidelines given in theoretical education.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Enrique Cabrera, Miguel Ángel Pardo, 2008, Performance Assessment of Urban Infrastructure Services, IWA Publishing – Simon Guy, Simon Marvin, Timothy Moss, 2001, Urban infrastructure in transition: networks, buildings, plans, Earthscan Publication – Royce Hanson, National Research Council (U.S.), 1984, Perspectives on urban infrastructure, National Academies Press – Peter Schübeler, 1996, Participation and Partnership in Urban Infrastructure Management, World Bank Publications | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Lectures, interactive teaching, case studies, group research projects. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 10 | |
| Practical classes | | Oral exam | 20 | |
| Colloquia | 20 | | | |
| Seminar-s | 40 | | | |

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|---|--|----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | CONTEMPORARY FACADES AND ROOFS | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić (course leader), Associate Professor Ph.D. Jelana A. Ivanović Šekularac, Assistant professor M.Sc. Budimir S. Sudimac, Assistant professor Ph.D. Jasna Lj. Čikić – Tovarović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The aim of the course is to introduce students with the principles of design and performance of the building envelope with low energy consumption, and energy-efficient buildings, concepts and technical solutions for facades and roofs as a function of energy gain (heat and electricity), control brightness and daily intrusion of sunlight and achieve natural ventilation, and the use of renewable energy, and to reduce the building's energy needs and thereby the environmental pollution. Students get an overview of the application of energy renewable resource to the concept, design of materialization and details and yet the construction of architectural structures' envelopes, as well as the pollution reduction. The aim is the introduction with technically innovative systems of façade and roof coverings.</p> | | |
| Learning outcomes: | <p>The student develops skills in critical and complex approach to the theoretical research and practical field of architectural and urban design. The outcome is knowledge of concepts and materialization techniques of energy efficient architectural structures' envelopes. Learn about the potentials of new technologies of materialization-covering and glass-placement of architectural structures, from the concepts to details and the effect of the material. Acquiring the ability to act with innovative, technical competence in the application of construction techniques and understanding their development that contributes to the overall competence of the student.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Basic thematic areas included in the seminar are architectural and structural design and details, while it also includes following topics: innovative covering techniques for facades and roofs; features of energy efficient envelopes and multidisciplinary of approach; concepts / principles of design and construction of energy efficient envelopes; concepts and technical solutions for facades and roofs as a function of energy savings and gains- production of heating (solar energy) and electrical energy (photovoltaic modules), double facades; concepts and technical solutions for facades and roofs as a function of natural brightness control and sun's rays intrusion, and natural ventilation and cooling. Regarding the previously mentioned, students should get acquainted with the influence of location, natural and manmade conditions, the concept of the structure-envelope, and especially the materialization of it. Analysis of case studies is part of theoretical education.</p> | | |
| Literature: | <p>– Krstić-Furundžić, A., PV Integration in Design of New and Refurbishment of Existing Buildings: Educational Aspect, A., članak u časopisu JAAUBAS- Journal of the Association of Arab Universities for Basic and Applied Sciences, Volume 4 (Supplement), University of Bahrain, 2007, str. 135-146 – Hercog, T., Krippner, P., Lang, W., Facade Construction Manual, Birkhauser Edition Detail,, Basel, 2004. Krstić-Furundžić, A., Kosorić, V., Golić, K., Potential for reduction of CO2 emissions by integration of solar water heating systems on student dormitories through building refurbishment, članak u časopisu Sustainable Cities and Society, Editor: Prof. Saffa Riffat, Volume 2, Issue 1, February 2012, Elsevier, str. 50-62. – Prasad, D., Snow, M., Ed., Designing with Solar Power, The Images Publishing Group, 2005. Krstić-Furundžić, A., Kosić, T., Terzović, J., Architectural Aspect of Structural Design of Glass facades/Glass Skin Applications, in Challenging Glass 3, Proceedings of the Conference on Architectural and Structural Applications of Glass, Editors: Bos, Louter, Nijse, Veer, Faculty of Civil Engineering and Geosciences, Delft University of Technology, IOS Press BV, The Netherlands, June 2012, str. 891-900</p> | | |
| Active training classes no.: | Other: | | |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / |
| Teaching methodology: | <p>Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active discussions and papers' concepts presentations, preparations of seminar papers and graphical enclosures (individually or in 2 member-group).</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ARCHITECTURE: DESIGN – BUILDING -DETAIL | | | |
| Teacher: | Assistant Professor Dragan N. Marčetić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to terminology, principles, elements of materialization and problem situations in design and execution of an architectural work. Introduction to analysis, evaluation and drawing of conclusions on the basis of aesthetic and technological requirements and characteristics of an architectural work. Establishment of connections between a design, a building and details. | | | |
| Learning outcomes: | Students are informed, able to evaluate and ready in practical sense to improve their architectural design through the next curriculum system, both through aesthetic and design aspects and technological and execution aspects of development of an architectural work. Establishment and analysis of links between a design, a building and details. | | | |
| Course brief: | <p><u>Theoretical education:</u> ARCHITECTURE BETWEEN THEORY AND PRACTICE, ART AND TECHNIQUE Theory and practice / architecture and art / architecture and technique DESIGN Investor / architect – designer Spatial levels of presentation Sketch, conceptual solution, master design, executive design, as-built design FACILITY (STRUCTURE) Contractor Compliance between a design and a building Factors that impact construction of a facility Assessment and evaluation of a building DETAIL Structure – substructure Insulation – protection Facade – materials Openings – blinds/shades Staircases – fences Case studies – domestic and foreign practice</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Dragan Marčetić, ARHITEKTURA: projekat-objekat-detalj, Arhitektonski fakultet Univerziteta u Beogradu, 2012 – Kaltenbach, Frank, ed. TransluceNt Materials. Munich: Birkhauser, Edition Detail, 2004. – Le Cuyer, Annette. Steel and beyond, New Strategies for Metals in Architecture. Basel: Birkhauser, Publishers for Architecture, 2003. – Pawley, Martin. Theory and Design in the Second Machine Age. Oxford: Basil Blackwell, Inc. 1990. – Vollers, Karel. Twist & Build creating non-orthogonal architecture. Rotterdam: 010 Publishers, 2001. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 50 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | LIGHTING IN ARCHITECTURE 2 | | | |
| Teacher: | Professor Ph.D. Lidija S. Djokić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective is to introduce students with conditions and principles of lighting design in architecture. Analysis of lighting design criteria, as well as effects that can be achieved. Numerous and diverse impacts on the lighting quality or light comfort are perceived in wider sense, within the overall architectural conception. Analysis of the conditions resulting from requests of users, space, buildings, objects or surfaces that are illuminated in order to identify possibilities and limitations under which a certain quality of light can be achieved.</p> | | | |
| Learning outcomes: | <p>Understanding of the effects that can be achieved by lighting. Ability to define criteria setting the requirements for the quality of lighting and parameters by which desired effects can be achieved.</p> | | | |
| Course brief: | <p><i>Theoretical education:</i> Parameters of lighting quality, Lighting sources and luminaires, Aspects of the quality of lighting, Analysis and critics of particular solutions.</p> | | | |
| Literature: | <p>– Lidija Đokić: Osvetljenje u arhitekturi – zahtevi i smernice za projektovanje. Arhitektonski fakultet Univerziteta u Beogradu. Beograd, 2007. – Miomir Kostić: Vodič kroz svet tehnike osvetljenja. Minel-Schreder. Beograd, 2000.</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex-cathedra lectures, presentation, analysis and discussion, city tour and critics of lighted buildings in Belgrade. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 30 | |
| Practical classes | | Oral exam | | |
| Colloquia | 70 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | GREEN CONSTRUCTION – LESSONS OF THE PAST | | | |
| Teacher: | Associate Professor Ph.D. Ana P. Radivojević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to basics of modern construction which can be defined as green architecture and their latter identification on the buildings from the past. Starting from the premise that certain concepts and strategies of green construction (primarily a question of choice of materials and building techniques in the context of care towards resources, energy, and environmental pollution) were in the past incorporated into the process of designing and constructing buildings, by analysis of selected examples of buildings and construction principles of historical and/or traditional, the students make connections between historical that is traditional principles to the modern which we today finds as resilient part of green architecture. | | | |
| Learning outcomes: | Understanding of the green building concept and establishment of a historical framework of this construction method. Analysis of the elements of historical and traditional architecture through the prism of one of modern concepts of design and construction, such as is the green architecture concept, shall contribute to formulation of a more careful standings and higher level of respect and appreciation of architectural heritage. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The life cycle of materials and impact / material interactions in the environment - resources, energy, pollution Problems of resources and waste as an incentive for the concepts of recycling and reuse The traditional, low-cost alternative materials as a green building material Lessons from the past - examples of the use of green materials and construction concepts to objects from the past A reinterpretation of traditional concepts and materials of construction in contemporary examples of green architecture</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Textbook – selection of texts – Harris, Cindy and Pat Borer: The Whole House Book, 2nd ed., Centre for Alternative Technology, 2005. – Berge, Bjørn: The Ecology of Building Materials, Architectural Press, 2001. – Woolley, Tim et al.: Green Building Handbook, Volume 1, Spon Press, 2001. – Woolley, Tim and Sam Kimmins: Green Building Handbook, Volume 2, Spon Press, 2002. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures, overview and analysis of examples with discussion and students' active participation, consultations. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | | Seminar paper | 70 | |
| Seminar-s | 20 | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | SMART RECYCLING – Houses of recycled materials | | | |
| Teacher: | Assistant professor M.Sc. Budimir S. Sudimac | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective of the seminar is to introduce students to contemporary trends of design and implementation of architectural objects from recycled materials. Recycling is an energy intensive process that affects the reduction of the amount of energy in the life cycle of the building. The seminar aims to introduce students, through theoretical lessons, case studies and guest lectures, with recycling systems, usage of recycled materials and basic design principles. Recycled materials and design requirements shall be treated as part of the complete process of energy optimization of architectural structure within which technological development and awareness of the necessity to use recycled materials allows the use of the potential of the materials obtained in this way. Students will, through practical work on a design from recycled materials gain appropriate theoretical and practical knowledge about the complex aspects of the design of buildings while using recycled materials.</p> | | | |
| Learning outcomes: | <p>Elective course is part of the secondary theoretical module in master studies. The aim of the course is to acquire primarily theoretical knowledge. Classes are held through a combination of various teaching forms – lectures, literature study and review and analysis of cases studies from domestic and foreign practice. Students' direct participation in the teaching process through the analysis and presentation of case studies is expected.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> The basis of the work of the seminar is to familiarize students with the design of buildings that contribute to the maintenance of the natural environment and ecological balance, preserving the planet and its natural systems and resources. The uses of recycled materials other than economic feasibility establish an ecological balance with other living beings on earth. The focus of the seminar is to analyse different tendencies in the conception and design of objects from recycled materials in different climatic environments. Through the analysis of various concepts the possibility of using recycled materials in the design of the physical structure and systems that allow for easy parsing for the purpose of reuse and recycling is explored.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Klaus Daniels, TECHNOLOGIE DES ÖKOLOGISCHEN BAUENS, Birkhauser, 1999. – Kemp William H. SMART POWER:AN URBAN GUIDE TO RENEWABLE ENERGY AND EFFICIENCY,Tamworth, Azttext Press, 2004. – Herzog Thomas (ed.), SOLAR ENERGY IN ARCHITECTURE AND URBAN PLANING, London,Prestel, 1996. – Christian Schittich, SOLARES BAUEN-strategien.vision.koncepte, Birkhauser, 2003. – Gerhard Hausladen, CLIMA SKIN, Callwey, 2006. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Lectures and interactive teaching. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 10+10 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | BUILDINGS MAINTENANCE AND MANAGEMENT | | | |
| Teacher: | Assistant professor Ph.D. Milan A. Radojević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | Enrolled in ongoing semester | | | |
| Objectives: | The teaching objective is to present the importance of maintainance of utilities' systems, equipment, the whole building and its environment in the life cycle, as well as a comprehensive understanding of the role of architect in a multidisciplinary teams involved in facilities management and maintenance. | | | |
| Learning outcomes: | Understanding of the importance of buildings maintenance, graphical and numerical data on a building, as well as the number of participants in the process of documentation creation and implementation of maintenance. Overview of the maintenance costs, time and optimal period for the implementation of the maintenance process in relation to the purpose and exploitation of a building, equipment and utilities. | | | |
| Course brief: | <p><u>Theoretical education:</u> Introduction to basic concepts related to buildings maintenance, management and formation of maintenancing documentation. Teaching is based on obtaining theoretical knowledge on the operation of utilities, equipment and a building in order to preserve or improve its purposeem architectural and economical value in exploatation time.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Edward Mills, Building Maintenance and Preservation, Architectural Press, Oxford, 1994. – Eric Teicholz, Facility Design and Management Handbook, McGraw-Hill, USA, 2004. – Milan Radojević, Održavanje objekata i upravljanje, skripte, Arhitektonski fakultet u Beogradu, 2013. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Theoretical education via lectures. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | 20 | Oral exam | | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | WOODEN STRUCTURAL SYSTEMS | | | |
| Teacher: | Assistant professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The course includes the design problems of structures made of laminated wood regarded the overall optimization. It is insisted on the symbiosis of the work between architect/designer and constructor in designing wooden structures. Basic principles of this work are being analysed on the selected examples of architectural practice. | | | |
| Learning outcomes: | Analysis of the structural system of the building built in the technique of laminated wood, with all relevant information about static systems of all structural elements at all levels of loads transfer. Special attention is paid to the analysis of elements of spatial stability and typical details of the connection of structural elements. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The students through a series of lectures are presented with technology of laminated wood. As part of the course, there are also foreseen a visit to LW manufacturing, construction sites implementing LW structures, as well as a tour of the buildings constructed with structural systems of LW. Presenting of numerous examples of realized structures the students are introduced with a wide field of application of laminated wood in architectural structural engineering.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vojislav Kujundžić, Žikica Tekić, Saša Đorđević, Savremeni sistemi drvenih konstrukcija – HOLZBAU ATLAS – INFORMATIONSDIENST HOLZ – BAUEN MIT HOLZ – Prospektni materijal proizvođača LLD konstrukcija i materijal koji je dostupan na internetu | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching is performed in small groups of students, studying and analysing structural concepts of industrialized wooden roof systems and their influence on architectural space organization regarding the details of connections between structural elements and compositional elements of architectural interior space. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 6 | Written exam | 20 | |
| Practical classes | | Oral exam | 50 | |
| Colloquia | 24 | | | |
| Seminar-s | | | | |

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|---|---|----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | DESIGN OF WOODEN STRUCTURES | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The course objective is to train students in the field of design and calculation of wooden architectural structures formed from monolithic timber. During this course, students increase the knowledge in the field of architectural engineering. This course is intended for students who so far have acquired basic knowledge in the field of design and calculation of wooden architectural structures.</p> | | |
| Learning outcomes: | <p>The main objective is for students to master the principles of design and calculation of monolithic wooden structures of architectural buildings. Teaching is aimed at students to learn the basics of structural forming and calculation of wooden architectural structures. Development of a seminar paper – design project of a structural system and calculation..</p> | | |
| Course brief: | <p><i>Theoretical education:</i> During the course programme, students will receive training in design, modeling and calculation of wooden architectural structures from monolithic timber.</p> | | |
| Literature: | To be prepared by teacher and available in printed in bookshop. | | |
| Active training classes no.: | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / |
| Teaching methodology: | Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active participation in discussions, development of a seminar paper and graphical sheets (individually or in two-member group). | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | |
| Practical classes | | Oral exam | 20 |
| Colloquia | 20 | | |
| Seminar-s | 40 | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | BASICS OF CONTEMPORARY CONCRETE TECHNOLOGY | | | |
| Teacher: | Assistant Professor Ph.D. Ruža D. Okrajnov-Bajić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | New technologies in design and manufacture of concrete very often open unexpected opportunities when performing architectural structures. The objective of this course is to introduce students to contemporary technology used in applying concrete in architecture. The students are introduced with contemporary design of concrete mixtures which are suitable for specific conditions of construction or operation of facilities. | | | |
| Learning outcomes: | Training to resolve technological requirements occurring in particular architectural structures by applying contemporary sorts of concrete. Full cooperation between architects/designers, engineers and contractors. | | | |
| Course brief: | <p><u>Theoretical education:</u> Properties of fresh concrete. Structure and physical and mechanical properties of hardened concrete. Rheological properties of hardened concrete, durability of concrete. Determination of concrete mixture / high strength concrete, concrete with high-performances, self-built concrete, lightweight aggregate concrete, heavy concrete, reinforced concrete, visible (architectural concrete), waterproof concrete, recycled concrete. Performing concrete works in extreme weather conditions (low and hot climate). Students independently explore examples of architectural structures performed by applying a contemporary technological procedure in production and/or applying concrete. At the of semester, they write a seminar paper including two mandatory units: description of the building and presentation of applied technological process.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – prof.dr. Mihailo Muravljev: Osnovi teorije i tehnologije betona – Specijalni betoni i malteri, svojstva, primena, monografija, Građevinski fakultet u Btd. – prof.dr. S. Živković: Betoniranje u žarkim klimatima, | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching includes lectures presenting some of the technological processes in detail and analysis of examples of architectural structures in which the materials were applied. During the semester there are two colloquies by which is checked the level students' adopted knowledge. Each colloquia is a test with 10 questions. At the end of course, students write a seminar paper. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | THEORETICAL BASIS OF SYMBOLIC AND AESTHETIC COMMUNICATION IN ARCHITECTURE | | | |
| Teacher: | Professor Ph.D. Vladimir F. Mako | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main objective of the course is to introduce students with basics of symbolism and aesthetics in architecture considering the aesthetic and symbolic discourses from antiquity to the contemporary age. | | | |
| Learning outcomes: | The course via lectures aims to systematically study and recognize impacts that have caused the development of symbolic and aesthetic thought in architecture. | | | |
| Course brief: | <p><i>Theoretical education:</i></p> <p>The 20th century dynamically interprets areas of symbolic and aesthetic in architecture. A new kind of interpretation can be seen as a consequence of events in a broader theoretical field and forming of new interpretations of the symbolic and aesthetic values in an artistic creation and the impact on the observer. As part of this process, in 20th century there appear different contradictions, conflicts and contradictory attitudes of these interpretations. This has been particularly evident in the field of architectural creations. What was particularly influenced by the specific connection between symbolism and aesthetics in theories of artistic creative process? Formal qualities, meanings and social role of architecture in this way are given new dimensions and interpretations regarding ideas and attitudes of previous ages.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vladimir Mako, Estetika arhitektura, Knjiga 1, Arhitektonski fakultete Univerziteta u Beogradu i Orion art, Beograd, 2005. – Vladimir Mako, Estetika arhitektura, Knjiga 2, Arhitektonski fakultete Univerziteta u Beogradu i Orion art, Beograd, 2009. – Vladimir Mako, Estetičke misli o arhitekturi – doba antike, Arhitektonski fakultet Univerziteta u Beogradu, Beograd 2011. – Vladimir Mako, Estetičke misli o arhitekturi – srednji vek, Arhitektonski fakultet Univerziteta u Beogradu, Beograd 2012. – Džilbert-Kun, Istorija Estetike, Dereta, Beograd, 2004. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures follow determined timetable and include main thematic units on aesthetic starting from antiquity to the new age. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | | |
| Practical classes | | Oral exam | 70 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | RELIGION AND ARCHITECTURE | | |
| Teacher: | Assistant Professor Ph.D. Gordana D. Milošević-Jevtić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The aim of the course is to introduce students of the last year of studies to mutual influence and feedback between religion and architecture. Students' attention is focused at the interpretation of the relationship between religion and belief in creating a cultural milieu and certain historical milestones in architecture. Interaction with students should lead to a discussion of questions related to the origin of archetype and takeover and transfer of the concept of architecture of pagan monotheisms. Comparative research and case studies are related to the establishment of forms and types of religious architecture throughout history and their transformations in contemporary society and architecture.</p> | | |
| Learning outcomes: | <p>The acquired specific knowledge would directly benefit the understanding of the provenance of the attitude of medieval and Renaissance architect and client to religious architecture on one hand and the establishment of strong church institutions and nobility of the church on the other hand. Mastering the knowledge necessary for the design of religious buildings in terms of contemporary needs of believers, respect for religion and traditional architectural values.</p> | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The mutual relationship between religion and architecture can be traced back to the establishment of the cult, nature and the cult of ancestors, and the need to organize a space to perform rites, express respect, and admiration and offer sacrifices. The first appearance of prehistoric art is expressed through a magical meaning, then a spatial marking and the establishment of forms of cult architecture. God is "the world", and the accompanying architecture bears a clear message in its design and structure. The basic elements of religious architecture established in the early civilizations of the East were adopted and transposed into the architecture of pagan antiquity and Christianity, and solar and Mithraic ideas were an integral part of the concept of temples. Splits in the teachings and their impacts on the separation and the formation of the two major Christian churches in the Middle Ages caused the establishment of type and the development of symbols of the cross and circle and accented theological views of triadology, especially in the Byzantine architecture. Architecture in the Diaspora-defining of the spatial and historical framework of the emergence of Judaism. Historical conditions of the formation of Islam and integration of elements of religion and architecture. Relationship between the cultural environment and analysis of the organization and typology of religious architecture. The transformation of ideas and the emergence of new forms of architecture in contemporary approach to design. Introduction to the ideological positions of the leading religions in relation to contemporary society and design principles. Relationship between the Church and believers, founders and users. Introduction to the modern and anachronistic directions in the development of religious architecture in the conditions of the formation of religious ideology of the 21st century.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Slobodan Ćurčić , Architecture in the Balkans: From Diocletian to Süleyman the Magnificent, New Haven, CT: Yale University Press, 2010. – Džozef Linč, Istorija srednjovekovne crkve, Beograd, 1999, Klio. – E.O. Džems, Uporedna religija, Matica srpska 1961. – Sir B. Fletcher, A History of Architecture on the Comparative Method, Charles Schribner s Sons, New York, razna izdanja – Mirča Elijade, Sveto i profano, Književna zajednica Novog Sada 1986. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Introducing students through <i>ex-cathedra</i> lectures to modern methodology of studying comparative interpretation of sacred objects in relation to cultural circumstances and ideological stance, with special emphasis on the analysis of historical sources and architectural materials. Consultations related to the preparation of the final paper.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ARCHITECTURE AND NATIONAL IDENTITY | | | |
| Teacher: | Associate Professor Ph.D. Aleksandar M. Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective of the course is to introduce students to the basic forms, motivations and mechanisms of the role of architecture in the process of constructing national identity. Particular objectives of teaching include the acquisition of knowledge and competencies that will enable students to perceive, understand and interpret the complex role of architecture as a constituent holder of the idea of nation as the most complex intellectual construction of modern times. Specific objective of the course is study of the architecture outside of traditional theoretical focus of architectural theory and history.</p> | | | |
| Learning outcomes: | <p>Understanding of different social roles and ideological functions of architecture, observation of architecture as a social practice involved in constructing of collective identity. Acquiring knowledge on the relationship between culture, architecture, ideology and politics in the context of new age marked with new forms of social identification.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> The content of the course is based on a systematic theoretical study of architecture as the content of national identity in the diachronic perspective. This primarily refers to the historical process of shaping of European nations (XVIII-XIX century). A systematic theoretical study of these complex processes will be set through a certain theoretical assumptions of semiotics, discourse analysis and cultural studies. In the first part of the course students will be acquainted with the general processes of creation and development of nations on the example of some of European communities, which include a range of aspects of the problem, a special attention will be given to those aspects that fall within the domain of visual. The second part will analyse the process of construction of the Yugoslav national identity through architecture as a constitutive discourse of Yugoslav ideology. As an indispensable link in mastering the knowledge provided, students will be referred to an independent library work, consultation with the teacher, and the critical use of other sources of information.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Aleksandar Ignjatović, Jugoslovenstvo u arhitekturi 1904-1941 (Beograd: Građevinska knjiga, 2007). – Anthony Alofsin, When Buildings Speak (Chicago: The University of Chicago Press, 2006). – June Hargrove and NeilMcWilliam, eds. Nationalism and French Visual Culture, 1870-1914 (Washington: National Gallery of Art and New Haven: Yale University Press, 2005). – Lawrence J. Vale, Architecture, Power, and National Identity (London: Routledge, 2008). – Anthony Smith, Nacionalni identitet (Beograd: XX vek, 1998). | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>The applied teaching methodology varies depending on the said thematic units. Teaching methodology includes: a) ex -cathedra lectures; b) active teaching. Thus, each lecture may include several methods of active teaching that is carried out through focused thematic discussions initiated by the teacher and the students. Within each lecture, students may present other aspects of the problem, which shall be analyzed, either individually or collectively. Several thematic units are to include a case study and comparative analysis, via multitered analytical reading of artistic and architectural work - from formal and stylistic analysis to cultural interpretation.</p> <p>The teaching also includes regular consultations regarding mid-term examinations, preparations for examination, and the introduction to the manner of use of literature.</p> <p>An integral part of the teaching at the course will include one or two field exercises - a tour of the referential architectural monuments or a group of buildings in Belgrade, which will be the basis for further work on the problem in the studio.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

| | | | |
|--|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | THEORY OF PLANNING | | |
| Teacher: | Assistant Professor Ph.D. Maruna L. Marija | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The course is focused on two main objectives:</p> <ul style="list-style-type: none"> – Introduction to the theoretical and practical resources in order to understand the role of urban planning in the shaping of contemporary cities – Training for the use of theoretical knowledge to solve practical problems in urban planning. | | |
| Learning outcomes: | <ul style="list-style-type: none"> – Training for critical reflection about different forms of urban interventions – Understanding and identification of the factors influencing the change in the nature of planning in the modern global society – Introduction to alternative forms of professional work – Creation of an articulated personal position in relation to the profession. | | |
| Course brief: | <p><u>Theoretical education:</u></p> <ul style="list-style-type: none"> – Current issues of the development of cities and solutions offered by the planning practice; – Introduction to the place and role of planning in the construction of cities; – Understanding of the planning system and process in a particular social and historical and cultural context; – Introduction to different models of directing the development of cities and their practical applications; – Planning in the developed world, developing countries and post-socialist countries; – Place of the urban planning intervention in the decision-making process about spatial development; – The decision-making process- political, institutional, decision-making about spatial, infrastructural and technological interventions; – The process and product of planning; – Understanding of different roles of urban planners in society; – Ethical basis of urban planning profession: the problem of public interest. <p><u>Practical education:</u></p> <p>/</p> | | |
| Literature: | <ul style="list-style-type: none"> – Begović, B. (1995) Ekonomika urbanističkog planiranja, Beograd: CES MEKON. – Vujošević, M.(2002) Novije promene u teoriji i praksi planiranja,Beograd: IAUS – Faludy, A. (1973). Planning theory. Oxford: Pergamon – Lazarević Bajec N. (2000) Teorija planiranja. Beograd: Arhitektonski fakultet (skripta) – Healey, P. (1997). Collaborative Planning: Shaping Places in Fragmented Societies. University of British Columbia Press. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>The coursework is focused on the debate on theoretical sources and special cases from the planning practice. Teaching is carried out through ex-cathedra lectures, and discussion in class. The examination takes the form of a seminar paper on a chosen topic that links planning theory and practice.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | |
| Practical classes | | Oral exam | |
| Colloquia | 30 | Seminar paper | 60 |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | THEORETICAL BASICS OF SUSTAINABLE DEVELOPMENT | | |
| Teacher: | Assistant Professor Ph.D. Ksenija Ž. Lalović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Introducing students to the philosophical and theoretical foundations of the development of the concept of sustainability from its inception to the present. | | |
| Learning outcomes: | The awareness of the developmental course of philosophical and theoretical foundations of the concepts of sustainability and sustainable development. Awareness and understanding of key global different positions of the approach to the operationalization of the concept of sustainability. Ability to identify basic theoretical directions of the modern approach to the operationalization of the concept of sustainability. Ability to understand the basic tenets of the theories which are the backbone of sustainability paradigm in modern conditions. The ability of critical thinking and understanding of different theoretical approaches to sustainability issues. | | |
| Course brief: | <p><u>Theoretical education:</u> Complexity and oxymoronity of the concepts of sustainability and sustainable development. Historical overview of the development of the concept of sustainability in relation to key global social factors: significant political, ecological, social events and movements, the development of philosophical thought, the development and review of the theoretical grounds for action. Establishment of relationships between current theories (per period) and conceptual approaches to the operationalization of sustainability verified through formal documents of the international community. Overview of the theoretical concepts that form the basis of modern approaches to the conceptualization of sustainability. The integral theoretical framework - a post-positivistic position of critical realism in the contemporary approach to the operationalization of sustainable development. Overview of current theories of planning and design in relation to the paradigm of sustainability and the principles of sustainable urban development. Consideration of the key contemporary global problem of climate changes through the lens of different theoretical approaches to articulation of urban spaces - a comparative analysis of the nature of cognitive processes depending on the theoretical starting point and limitations to the range of research and operational results.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Wilber, K. (2002). The Spectrum of Consciousness (First edition: 1977, 1993.). New Delhi: Motilal Banarsidass – Hamilton, M. (2008). Integral City, Evolutionary Inteligences for the Huma Hive. Canada: New Society Publishers – Fainstein, S. (2010). The Just City. New York: Cornel University Press. – Castells, M. (2009). The Power of Identity: The Information Age: Economy, Society, and Culture. John Wiley&Son – Adams, W. (2006). The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century. IUCN. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Interactive teaching. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 40 |
| Practical classes | | Oral exam | 20 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | ECONOMICS IN ARCHITECTURE | | | |
| Teacher: | Assistant Professor Ph.D. Miloš P. Gašić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | Enrolled in current semester | | | |
| Objectives: | Enabling students to understand and provide consultancy services and support to investors in order to achieve their economic goals. More detailed introduction to the economic theory in correlation with architecture. Directing students to observe a project in terms of management, and comprehensive perception of the value of the project. | | | |
| Learning outcomes: | Acquisition of knowledge in the field of economic analysis of projects in architecture, methodologies, funding and investment, including the management of the organization, monitoring and supervision of projects. Students are able to understand the tangible aspects of projects, and to provide multidisciplinary consultancy support to investors in the process of design and construction | | | |
| Course brief: | <p><u>Theoretical education:</u> Basic concepts in the field of theoretical and applied economics, as well as macro- and micro-economic analysis, and functional areas of economy. Analysis of the investment aspect of projects in architecture, and the study of methodology of investment management. The process of funding architectural projects and financial management. Aspects of business operations and organization management, with an emphasis on business architecture. Cost-benefit analysis of projects, and different methodologies for the analysis of the economic performance of projects. Studying the life cycle of the project, its exploitation, and economic aspects of the impact of design decisions on future performance.</p> <p><u>Practical education:</u> Practical education and assignments in the field of application of theoretical knowledge. The assignments in the field of economic analysis of the location for the design and construction, business plan development, elements of cost-benefit analysis, the elements of financial sustainability analysis, assessment of investment and exploitation costs of architectural projects.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Petar Jovanović, "Upravljanje investicijama", Visoka škola za projektni menadžment, Beograd, 2008, – Gavriilo Mihaljević, "Ekonomija i kuća", Arhitektonski fakultet u Beogradu, 1995. – Miloš Gašić, "Ekonomika projektovanja i građenja", skripte sa predavanja, Arhitektonski fakultet u Beogradu, 2013. – Dragan Vučinić, "Finansijski menadžment", Udruženje menadžera Srbije, Beograd, 1996. – Miloš Gašić, "Primena vrednosnog inženjeringa u fazi arhitektonskog programiranja", doktorska disertacija, Arhitektonski fakultet u Beogradu, 2011. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Theoretical education via lectures. Presentation and discussion. Practical education via case studies and tasks solving. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | INNOVATIVE ELEMENTS AND ASSEMBLIES IN ARCHITECTURE | | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić (course leader), Associate Professor Jelena A. Ivanović Šekularac, Assistant Professor M.Sc. Budimir B. Sudimac, Assistant Professor Ph.D. Jasna Lj. Čikić Tovarović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The goal of the course is to familiarize students with innovative architecture - elements and assemblies; interdependence of ideas, technology, modern materials and software support in the design and construction of architectural structures. | | | |
| Learning outcomes: | The knowledge gained through theoretical instruction at this subject is an upgrade of previously acquired knowledge in the field of materialization of architectural space and it contributes to the continuous education of students in the field of advanced technologies in architecture. | | | |
| Course brief: | <p><i>Theoretical education:</i></p> <p>Defining the term "innovative architecture." How is innovative architecture created? The philosophy of work in the design process and in the approach that is committed to innovation in the development and mutual influence and adaptation of technical solutions to projects by using modern materials and systems; innovative facade assemblies (vegetative facades, media facades, membrane facade, metal facade, eco-facade, ...); application of innovative composite materials and structures in the interior; Intelligent systems in architecture, hybrid architecture.</p> | | | |
| Literature: | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures, case studies, interactive teaching, active participation in discussions, preparation of seminar and graphic papers. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

| | | | | |
|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | PLACES OF IDLENESS IN CONTEMPORARY CITY: Open public spaces | | | |
| Teacher: | Associate Professor Ph.D. Dragana M. Vasiljević Tomić, Assistant Professor Ph.D. Ana Z. Nikezić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to the phenomenon of urban public space - public space as a cohesive element of the city: exploration of the various phenomena which, in addition to shaping, suggest ways of establishing and transformation of ecological, functional, artistic, cultural and social values of public space. | | | |
| Learning outcomes: | <ol style="list-style-type: none"> 1. Choose a concrete spatial phenomenon in the context of the proposed polygon 2. Present it from the ecological, functional, artistic, cultural and social aspects 3. Propose an intervention as an expression of the individual attitude towards the selected space | | | |
| Course brief: | <p><u>Theoretical education:</u> Lectures include the following topics: landscapes and human ecology, socio-cultural behavioral factors, landscape aesthetics and artistic principles in the architectural design and design. The context in which the architectural design and design studios closely simulate the profession in order to cover urban and historical landscape. Special attention is paid to ecology, culture and history.</p> <p><u>Practical education:</u> Teaching (lectures and exercises) is mandatorily carried out through a combination of various methods, such as ex-cathedra lectures, interactive teaching methods, case studies, individual and group projects, research projects, presentations, essays.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vasiljević Tomić, D. Natkriveni gradski prostori. Beograd: Zadužbina Andrejević, 2003. – Vasiljević Tomić, D. KULTURA BOJE U GRADU: identitet i transformacija. Arhitektonski Fakultet, Beograd, 2007. – Dostupnost za sve-prostor bez prepreka. Dragana Vasiljević Tomić, Tatjana Karabegović, Marijela Cvetić, University of Belgrade – Faculty of Architecture, British Council, (Beograd), 2010. – Teorija Arhitekture i urbanizma. Petar Bojanić i Vladan Đokić. Beograd: Arhitektonski fakultet, 2009. – Misliti grad. Petar Bojanić i Vladan Đokić. Beograd: Arhitektonski fakultet, 2011. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Combination of various teaching forms: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | 30 | Oral exam | 10 | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|--|----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | SPACES OF SPECTACLES | | |
| Teacher: | Associate Professor Dejan R. Miljković, Professor M.Sc. Branko D. Pavić | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | The average grade across courses completed so far. Motivation letter of up to 1000 characters. | | |
| Objectives: | After having completed the complex process of designing and after having given stage performances, students gain knowledge and adopt mechanisms of analytical approach to designing spectacle buildings. | | |
| Learning outcomes: | Understanding of research methods and preparation of terms of reference and the ability to implement a transdisciplinary artistic process in designing of specific spaces. | | |
| Course brief: | <p><u>Theoretical education:</u> Classes consist of the presentation and analysis of various artistic phenomena related to the space of the stage.</p> <p><u>Practical education:</u> Through the analysis of various stage poetics and via stage exercises, students gain the foundation for the formation of personal attitude and the design of the final task.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Audio -vizuelna istraživanja 1994-2004, Branko Pavić, Dragan Jelenković, Milorad Mladenović, Arhitektonski fakultet 2008. – Teatar-politika-grad, studija slučaja Beograd, uredili Radivoje Dinulović i Aleksandar Brkić, YUSTAT, 2007. – Tajna umetnost glumca, Eudjenio Barba, Nikola Savareze, Fakultet dramskih umetnosti, 1996. – Diskurzivna analiza, Orion Art, Miško Šuvaković, 2010. – Šta je scenografija, Pamela Huard, Klio, 2002. | | |
| Active training classes no.: | | | Other: |
| Lectures: 1 | Practical classes: 1 | Other teaching forms: / | Studio research: / |
| Teaching methodology: | A series of lectures and practical classes. By compilation of papers and case studies, students define the topic and manner for a final paper. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | Points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 70 |
| Practical classes | | Oral exam | |
| Colloquia | 20 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN OBJECTS | | | |
| Teacher: | Associate Professor Aleksandru J. Vuja | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The goal of the course is to introduce students to the elements of a comprehensive composition of a diverse structure of an architectural structure and to consider mutual relations between the composition of the structure and the structure of the city. Understanding of the structure is transferred from the plane of type to the plane of viewing the structure as an element of broader urban systems. | | | |
| Learning outcomes: | The outcome of the course is a combination of knowledge and skills that students acquire through exploration, description and critical evaluation of the sense of relations between the city and architecture. | | | |
| Course brief: | <p><u>Theoretical education:</u> The course brief includes knowledge which is used to analyze and explain the structural features of the architecture of the city and the architecture of structures, and disciplines which conceptualize the idea of urban and architectural relations.</p> | | | |
| Literature: | XXXXXXXXXXXXXXXXXXXX | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | A series of lectures and practical classes. By compilation of papers and case studies, students define the topic and manner for a final paper. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | | points |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | Seminar paper | | 70 |
| Seminar-s | | | | |

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|--|---|-----------------------------------|------------------------------|--|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | USE OF HERITAGE IN CONTEMPORARY ARCHITECTURE | | | |
| Teacher: | Associate Professor Ivan V. Rašković | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | The average grade across courses completed so far. Motivation letter of up to 1000 characters. | | | |
| Objectives: | Mastering of the concepts of tradition and heritage, as well as the methods of placing modern architecture in an optimal position in relation to the historical experience in accordance with the value system of the present epoch. | | | |
| Learning outcomes: | Improved understanding of the concepts of tradition, heritage, innovation, development and modernity; elimination of prejudice and stereotypes about the said concepts; competences in the field of influencing factors of the design process that includes legacy as a creative material; mastering of the skills of the use of spatial design codes, metaphor and allegory. | | | |
| Course brief: | Introducing students to the concepts of: tradition, heritage, contemporariness. Consideration of the relationship between historical and contemporary experiences through the following categories: a. generative: ethno and expert b. ambiental: rural - urban Introduction to potential approaches to the use of historical postulates of architecture and modern trends in architecture and urbanism. | | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | | |
| Active training classes no.: | | | Other: | |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Lectures, lecture cum discussion, field research, lectures by guest lecturers; preparation of a paper for mid-term exams, seminars and the final exam, which includes a conceptual architectural and urban design. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | 10 | Oral exam | 30 | |
| Colloquia | 10 | | | |
| Seminar-s | 10 | | | |

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|---|--|----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | SPACES OF SPECTACLES – From stage to stage | | |
| Teacher: | Professor M.Sc. Branko D. Pavić, Associate Professor Dejan R. Miljković | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | The average grade across courses completed so far. Motivation letter of up to 1000 characters. | | |
| Objectives: | After having completed the complex process of designing and after having given stage performances, students gain knowledge and adopt mechanisms of analytical approach to designing spectacle buildings. | | |
| Learning outcomes: | Understanding of research methods and preparation of terms of reference and the ability to implement a transdisciplinary artistic process in designing of specific spaces. | | |
| Course brief: | <p><u>Theoretical education:</u> Classes consist of the presentation and analysis of various artistic phenomena related to the space of the stage.</p> <p><u>Practical education:</u> Through the analysis of various stage poetics and via stage exercises, students gain the foundation for the formation of personal attitude and the design of the final task.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Audio -vizuelna istraživanja 1994-2004, Branko Pavić, Dragan Jelenković, Milorad Mladenović, Arhitektonski fakultet 2008. – Teatar-politika-grad, studija slučaja Beograd, uredili Radivoje Dinulović i Aleksandar Brkić, YUSTAT, 2007. – Tajna umetnost glumca, Eudjenio Barba, Nikola Savareze, Fakultet dramskih umetnosti, 1996. – Diskurzivna analiza, Orion Art, Miško Šuvaković, 2010. – Šta je scenografija, Pamela Huard, Klio, 2002. | | |
| Active training classes no.: | | | Other: |
| Lectures: 1 | Practical classes: 1 | Other teaching forms: / | Studio research: / |
| Teaching methodology: | A series of lectures and practical classes. By compilation of papers and case studies, students define the topic and manner for a final paper. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | Points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 70 |
| Practical classes | | Oral exam | |
| Colloquia | 20 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | RESIDENTIAL ARCHITECTURE IN SERBIA IN 19 TH AND ON THE BEGINNING OF 20 TH CENTURY | | |
| Teacher: | Associate Professor Ph.D. Mirjana Z. Roter Blagojević | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The goal is to familiarize students with the transformation of residential architecture in Serbia during the 19th and early 20th century, through the transition from the traditional to the modern concept. To learn about the basic varieties and types of residential complexes and schemes of units, as the product of a certain degree of economic and cultural development, housing culture and investor's abilities. The specific objective is for the housing construction to be seen in relation to the immediate and wider environment.</p> | | |
| Learning outcomes: | <p>Acquisition of knowledge about the varieties and types of historic residential buildings, spatial structures and assemblies. The ability to use this knowledge in modern design and evaluation of the attained architectural range and specificities in relation to the contemporary European architecture. Acquisition of a critical attitude about the value and importance of the individual authors and their works. The ability to use resources, systematize material, analyze and reason independently.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Theoretical teaching provides a basic insight into the transformation of the housing concept from the traditional towards the modern, in the course of the 19th and early 20th century. Social, economic and cultural influences from the immediate and wider environment, the impact of urban development of settlements and the structure of the population are interpreted. The general and specific characteristics of individual varieties and types of residential buildings - single-family and multi-family; residential, and commercial and residential; in the city and in the suburbs, and the like are analysed in the course of instruction. The impact of the development of legislation and education on housing is followed. Fundamental principles of forming assemblies, the impact of urban disposition, regulations and the like are defined via the analysis of characteristic examples.</p> <p><u>Practical education:</u> Group or individual consultations of the lecturer and associate with students, preparation of a term paper, introduction to the general and specific literature. The intention is for the students to independently collect data from literature and conduct field research, gather sources in archives and institutions, analyze data and sources, study theoretical sources and draw conclusions by writing a reasoning.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Nestorović, B. Arhitektura Srbije u XIX veku. (Beograd: Art pres, 2008). – Đurić-Zamolo, D. Graditelji Beograda 1815-1914. Beograd: Muzej grada Beograda, 1981. – Đurić-Zamolo, D. Beograda 1898-1914, iz Arhive Građevinskog odbora. Beograd: Muzej grada Beograda, 1980. – Nestorović, B. „Evolucija beogradskog stana“, u: Godišnjak grada Beograda, knj. II (1955), 247-266. – Roter Blagojević, M. Stambena arhitektura Beograda u 19. i početkom 20. veka. Beograd: Arhitektonski fakultet i Orion Art, 2006. | | |
| Active training classes no.: | Other: | | |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 1 | 1 | / | / |
| Teaching methodology: | <p>Ex-cathedra lectures, group and individual consultations of the lecturer and associate with students, preparation for the drawing up of a term paper that includes students' independent research, the presentation of a case study, analysis of theoretical references, comparative analysis, etc., based on the topic chosen by the student. Knowledge assessment and oversight of teaching via two tests are provided for. Final written exam is a term paper comprised of the written part and the necessary documentation, graphics, spreadsheets, and other enclosures. An oral examination- oral presentation of the paper is provided for.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | Points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 40 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | RESEARCH BY DESIGN | | | |
| Teacher: | Assistant Professor Ph.D. Djordje V. Stojanović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>Enhancing the theoretical knowledge in the field of architectural design. Understanding of the complex links between economic, environmental and technological factors and instruments of design activity. Assessment of the value of different approaches in relation to the contemporary challenges faced by the profession.</p> | | | |
| Learning outcomes: | <p>Developing analytical skills and research methods in the field of architectural design. Developing critical thinking. The ability to use sources and written communication. Understanding of space as a spendable resource. Understanding of the profession of architect and the architect's role in the society, particularly in relation to related disciplines, through economic, social, environmental and technological factors. Understanding of the relationship between the theory and practice of architectural design.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> An overview of different types of research throughout the project. Introduction to the methodology of research in the field of architectural design and to various roles of models in the process of architectural design that allow the inclusion of knowledge from other areas in the framework of architecture. The study of the principles of design, construction and materialization of architectural structures.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Stojanovic, Dj. 2013. Self-regulating Fields and Networks: Elasticity in material performance and spatial organization. In: S. Sariyildiz and R. Stouffs eds. Computation and Performance. Proceedings of the Association for Education and research in Computer Aided Architectural Design in Europe eCAADe. Delft University of Technology. Delft, September 18-20, 2013. – Stojanovic, Dj. 2013. The Promise of Performative: Relational, Genetic and Scripted Models in Architectural Design. Facta Universitatis Series Architecture and Civil Engineering, Volume 11(1), 2013. – March, L. and Steadman, J. P. 1971. The Geometry of Environment: an Introduction to Spatial Organization in Design. Cambridge, Massachusetts : MIT Press. – Kepes, G. 1965. The Nature and Art of Motion. New York: George Braziller. – Kolarević, B. and Klinger K. 2008. Manufacturing Material Effects: Rethinking Design and Making in Architecture. London and New York: Routledge (Taylor and Francis). | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | | Oral exam | 30 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|-------------------------|---|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | CONTEMPORARY URBAN PHENOMENA | | |
| Teacher: | | Associate Professor Ph.D. Aleksandra B. Stupar | | |
| Type of course: | | Elective | | |
| ECTS: | | 2 | | |
| Preconditions: / | | | | |
| Objectives: Exploration of the phenomenon of the modern city, its main characteristics and principles that are the result of accelerated changes in the second half of the twentieth century. Presentation of the latest trends and flows that are manifested in architecture, urban space and society. | | | | |
| Learning outcomes: Comprehensive understanding of the relationships between urban structure/ architecture and the political, social and economic trends in terms of the latest technological revolution. | | | | |
| Course brief: <u>Theoretical education:</u> Teaching is focused on understanding of the specificities of the contemporary city - the socio-economic context, urban transformations, architecture and trends. The phenomena are observed at all three spatial levels - global, regional and local. Special attention is dedicated to the relationship between the general patterns of current processes and their local characteristics. The course treats urban structure and architecture equally - their newly formed identity, attractiveness and competitiveness. <u>Practical education:</u> / | | | | |
| Literature: – Stupar A: Grad globalizacije - izazovi, transformacije, simboli, Beograd:AF, Orionart, 2009 – Cities – Architecture And Society, vol.I, II, Venice: Marsilio editori s.p.a., 2006 – Graafland A. and Kavanah L. J. Crossover. Architecture, Urbanism, Technology, Rotterdam, 010 Publishers, 2006 – Long K: The new architectural generation, London: LKP, 2008. – Hubbard, P: City, London, NY: Routledge, 2006. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Interactive teaching. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|--|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MODELING OF A CREATIVE CITY | | | |
| Teacher: | Professor Ph.D. Miodrag B. Ralević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of teaching at this course is related to the process of modeling and its application in urban planning and design. The presentation of different topics within the modeling of the city as a creative process will introduce students to the topic of modeling and provide a foundation for their individual work.</p> | | | |
| Learning outcomes: | <p>Upon the completion of the course students are expected to:</p> <ul style="list-style-type: none"> – use theoretical and empirical approaches and concepts and processes of modeling of cities and their systems; – learn how to use the apparatus for constructing models of urban systems; – become familiar with various techniques and routes of designing, modeling and projecting (development) of urban systems. | | | |
| Course brief: | <p><u>Theoretical education:</u> The thematic blocks of theoretical education include:</p> <ul style="list-style-type: none"> – the concept of a model and modeling; – modeling techniques; – model(ing) of the ideal city; – modeling of urban systems and networks; – implementation of urban modeling on concrete examples. <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Ralević, M. (2006), Modelovanje urbanog procesa, Beograd, Arhitektonski fakultet – Ralević, M. (1998), Programsko modelovanje urbanih funkcija, Beograd, SMS – Ralević, M. (1993), Budućnost malih i srednjih gradova – putevi formiranja razvojnih trajektorija, Beograd Arhitektonski fakultet – Ralević M., Aranđelović, N. (2001), Urbani menadžment, urbani marketing i preduzetništvo u funkciji razvoja urbanih aglomeracija, Beograd, Udruženje urbanista Srbije – Ljubinko Pušić, (2002), Preduzetnici i grad, Novi Sad, Centar za sociološka istraživanja | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 30 | |
| Practical classes | | Oral exam | 20 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN MANAGEMENT | | | |
| Teacher: | Assistant Professor M.Sc. Uroš B. Radosavljević | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The course includes theoretical and practical work and research for the purpose of reprogramming and transformation of space, through which students acquire new knowledge based on modern paradigms of urban management that involves the participation of all actors (stakeholders) in the creation, reprogramming and transformation of space in a pluralistic society. The aim is for students to acquire a basic understanding of modern management concepts in urban areas at the local level, as well as an understanding of the role of architects and urban planners in these processes.</p> | | | |
| Learning outcomes: | <p>Understanding of the key contemporary disciplinary issues concerning urban management to ensure sustainability of solutions and environmental protection. Knowledge and application of basic methods in an integrated approach to the process of analysis and conceptualization of solutions in urban space. Practical knowledge of the principles of creative solutions to complex urban situations. Methods of involving partners, creating organizational arrangements, financing methods and mechanisms for implementation in urban space. Methods of evaluation of integrated solutions, monitoring of the process and quality of objectives and indicators which are aimed at performances and implementation of solutions.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> Formal, comprehensive, traditional urban plans, rules of construction and planning, and zoning are traditionally used even today at the local level of local self-governments in order to manage urban development and ensure the quality of the urban environment. However, urban growth trends, urbanization and the growing public concern for the quality of the natural and urban environments are exposed to the constraints posed by traditional planning techniques. The main constraints for their implementation are due to lack of inclusion of all stakeholders in the planning process; sectoral planning; failure to connect actors, resources and institutions for implementation in the planning stage and the low capacity of local self-governments to organize the entire process, including transnational funds. An increasing number of local and metropolitan communities in the world and in Europe accept the new concepts of management and urban management in order to ensure balanced growth and create and implement the required policies, plans and actions. Urban management in the 21st century is the main focus of urban and regional planning.</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Bajić Brković, M (ur) (2010) Kreativne strategije za održivi razvoj gradova u Srbiji. Beograd: Arhitektonski fakultet – Berg, L. V. D., Braun, E. & Meer, V. D. J. (1997) Metropolitan Organising Capacity. Aldershot: Ashgate Publishing Ltd. – Radosavljević, U., LALOVIĆ, K. & MILOVANOVIĆ, D. (2012) Key Agencies Networking of Local Sustainable Urban Design Projects in Golubac & Negotin. In PUCAR, M., DIMITRIJEVIĆ, B. & MARIĆ, I. ed. (2012) Climate Change and the Built Environment: Policies and Practice in Scotland and Serbia. Belgrade: IAUS – UN-HABITAT (2001.) Tools to Support Participatory Urban Decision Making, Urban Governance Toolkit Series, Nairobi, UN-HABITAT – UN-HABITAT & Transparency International (2004.) Tools to Support Transparency in Local Governance, Urban Governance Toolkit Series, Nairobi, UN-HABITAT | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms: ex cathedra lectures, interactive teaching, case studies, individual and group projects, research, presentations, essays.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | |
| Type and level of studies: | Master academic studies | | |
| Course: | ARCHITECTS AND CIVIL INITIATIVES FOR SUSTAINABLE DEVELOPMENT | | |
| Teacher: | Assistant Professor Ph.D. Ksenija Ž. Lalović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The main objective of the course is to explore the phenomenon of citizens' initiatives for the improvement of the quality of life of local communities, which have resulted in actions and interventions in the physical space. The goal of this course is to understand the phenomenon of citizens' initiatives, the acquisition of knowledge about their potential for delivering sustainable solutions for various developmental issues, understanding of the connection between the profession of urban planners and architects, and this phenomenon.</p> | | |
| Learning outcomes: | <p>Capacity to reflect on and to generate recommendations for the inclusion of citizens' initiatives in the spatial management system (total) development on the selected level. The acquisition of practical professional skills of communication and collaboration between architects in the projects of citizens' initiatives.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> Definition of the concept and understanding of the phenomenon. - Citizens' Initiatives represent a network of people who share similar values, lifestyles or problems, and who have established some sort of partnership in pursuit of their interests, and who do so in an active and organized manner. Introduction to the foundations of developmental concepts that encourage and involve these kinds of initiatives, research and comparative analysis of examples of good practice.</p> <p><u>Practical education:</u> Research and case studies of a specific citizens' initiative in the context of the Republic of Serbia and the pursuit of urban and architectural solutions which best support the achievement of its objectives. Research solution for a concrete case will be created through a continuous interactive process of cooperation with the representatives of citizens' initiatives and the local community, but also with experts from various fields and other relevant stakeholders. Thanks to this process, students will be able to explore, through personal experience, the concept of sustainable development, to apply integrated and collaborative approach to planning and design and to improve their communication and negotiation skills.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Pušić, Lj. (2001): Održivi grad : ka jednoj sociologiji okruženja, Beograd – Fišer, F. (2004): Izgradnja ostova između građana i lokalnih vlasti u cilju efikasnijeg zajedničkog rada kroz participativno planiranje, Niš: Resurs centar – Bajić-Brković, M. (ur)(2009): Inovacija i kreativni prostori u održivim gradovima, Popovac: Holcim – Votson,, Džon B. (2011): Inicijativa i smelost: prvi uslovi napretka, Beograd : Partenon – Bajić Brković, M (ur)(2010): Kreativne strategije za održivi razvoj gradova u Srbiji, Beograd : Arhitektonski fakultet | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 1 | 1 | / | / |
| Teaching methodology: | <p>Ex-cathedra lectures and interactive group workshops where students apply methods of case analysis, prepare individual and group conceptual designs, apply methods of good communication and presentation.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | Points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 40 |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN REGULATIONS | | | |
| Teacher: | Assistant Professor M.Sc. Biserka Č. Mitrović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>Becoming familiar with the meaning, significance and content of urban development and spatial planning legislation in the Republic of Serbia. Acquisition of information on the diversity of demands and needs of professions involved in the process of urban and spatial planning. Introduction to the general context of EU legislation. Introduction to procedures and institutions in the practice of urban and spatial planning in the Republic of Serbia.</p> | | | |
| Learning outcomes: | <p>The outcomes of the course are linked to the students' ability to understand and apply urban and spatial planning legislation in practice, as well as to recognize the responsibilities, competencies, place and time of involvement of participants in the process of urban and spatial planning in accordance with applicable legislation. In addition, the outcomes are related to the recognition of the importance and role of the system of institutions involved in the process of urban and spatial planning in the Republic of Serbia.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> Theoretical instruction includes the basic laws and regulations of urban and spatial planning in the Republic of Serbia, as well as regulations governing related fields relevant to urban and spatial planning and their compatibility and inter-sector links; regulations in the field of environmental protection and building land are important for urban and spatial planning. Then, the development of legislation in our country and general compliance with EU legislation. Special attention is paid to the public interest and public participation, conflict situations related to the legislation, then the implementation of urban and spatial plans, procedures and institutions at different levels of urban and spatial planning in the Republic of Serbia, and finally to the planning documents that are not governed by the urban and spatial planning legislation in the Republic of Serbia (development strategies, master, local, environmental and action plans, plans).</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – EUR-Lex, European Union Law database – Moore V., Huges, D.: Statutes on Planning law, Blackstone Press Limited, London, 1995. – Pajović D.: Urbanistički zakoni južnoslovenskih zemalja – BiH, Crna Gora, Hrvatska, Makedonija, Slovenija, Srbija- Prikaz važećih zakona, u: Planiranje, investicije i realizacija u tranziciji ka evropskom zakonodavstvu, Letnja škola urbanizma, Vrnjačka Banja, 2006. – Pajović D.: Pregled urbanističkog zakonodavstva Srbije. Udruženje urbanista Srbije. Novi Sad, 2005. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching, studio research. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | URBAN RECREATION | | | |
| Teacher: | Assistant Professor M.Sc. Jelena A. Živković | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The goal of the program is to introduce students to a variety of forms, factors and concepts of development of recreation in the modern city and to enable them to acquire basic knowledge and skills in the planning and design of open and recreational spaces. | | | |
| Learning outcomes: | <p>Upon the completion of the course students are expected to:</p> <ul style="list-style-type: none"> • Understand the context and complexity and dynamics of the meaning and forms of recreation • Possess knowledge of basic theoretical concepts of development of recreation in the city • Recognize, analyze and critically evaluate contemporary forms and conditions of the development of recreation in the city • Be capable of analyzing and evaluating the recreational potential of urban areas and some urban locations, as well as of identifying appropriate forms for their program-spatial and formal promotion | | | |
| Course brief: | <p><u>Theoretical education:</u> The program examines the relations: recreation - tourism - urban space in the context of contemporary urban development. The development of modern recreational facilities and space are discussed in terms of global social and climate change and the transformation of cities at the beginning of the 21st century. Special attention is dedicated to the issues of diversification of lifestyles, increase of mobility and consumption, environmental challenges, the development of new urban policies and economics, which are changing the role and importance of recreation in the city's development. In addition, activities, facilities and recreation areas are viewed through the prism of everyday life and the possibility of exercising of the "right to the city". In such conditions, in addition to traditional, the temporary, intermittent, integrated and hybrid forms of recreation that are shaped by the different processes of urban space production are recognized and analyzed. Accordingly, the new concepts of recreation in the city are discussed.</p> <p><u>Practical education:</u> Teaching at the course includes: 1) research of networks of recreational and tourist facilities and spaces within the urban area. 2) Research on the characteristics of the use and design of individual recreational spaces, 3) consideration of the possibilities of their improvement in the domain of urban design.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vesnić Neđeral Ž., (1993) Urbana rekreacija - funkcionalno i prostorno organizovanje rekreativnih prostora u gradu, Arhitektonski fakultet u Beogradu, Beograd – Baud-Bovy Manuel, Lawson Fred, (2002) Tourism And Recreation Handbook Of Planning And Design, Architectural Press, Oxford(etc.) – Đukanović Z., Živković J., (2008) Public art and Placemaking / Javna umetnost i kreiranje mesta: studija slučaja Beograd-gradska opština Stari grad, Arhitektonski fakultet Univerziteta u Beogradu; Beograd; – Živković J. Urbana rekreacija - forme i koncepti (in production) | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching, studio research. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 40 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | CONTINUITY IN URBAN DEVELOPEMENT | | | |
| Teacher: | Professor M.Sc. Petar M. Arsić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is for students to explore and learn about the complex phenomenon of town construction through the various aspects (form, content, ideas ...), by placing each of the aspects into the complex relation of continuity-discontinuity (not just chronological), but in the totality of all possible relations. | | | |
| Learning outcomes: | Understanding of the complexity of factors influencing the development and design of urban structures | | | |
| Course brief: | <p><u>Theoretical education:</u> Introduction to the different thematic areas relevant for the understanding of the complexity of factors influencing the continuity of the development of cities (definition and meaning of concepts, continuity of development and form, continuity of development and content, continuity of development and structure, continuity of development and ideas, continuity of experiencing of the space of the city, continuity and discontinuity) .</p> <p><u>Practical education:</u> Teaching is carried out through:</p> <ul style="list-style-type: none"> – Lectures – Analysis and comparison of cases – Debate workshops and knowledge presentations – Compilation of a seminar paper / final paper | | | |
| Literature: | <ul style="list-style-type: none"> – Pušić, Lj. (2001): Održivi grad : ka jednoj sociologiji okruženja, Beograd – Spiro Kostof, The City Shaped, Urban Patterns and Meanings Through History, London:Thames and Hudson, 2001 – Edward Soja, Postmetropolis-Critical Studies of Cities and Regions. Blackwell publishing, 2000. – T.M. de Jong and T.J.M van der Voordt (eds.), Ways to study and research. Urban, architectural and technical design, Delft: Delft University press, 2002. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | | Written exam | 25 | |
| Practical classes | | Oral exam | 25 | |
| Colloquia | 50 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | BUILDINGS RENOVATION IN THE CONTEXT OF SUSTAINABLE ARCHITECTURE | | | |
| Teacher: | Professor Ph.D. Milica Dj. Jovanović Popović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>Given the age of the building stock and the fact that new buildings constructed in accordance with the applicable regulations represent a small percentage of the total number of buildings constructed in the Republic of Serbia, it is necessary to refurbish the existing buildings in order to align their characteristics with the tendencies and obligations undertaken by the Republic of Serbia to reduce energy consumption in buildings. The objective of the course is to familiarize students with methods that allow the refurbishment, at different levels, to bring about a reduction of energy consumption in buildings with a mandatory requirement of preserving the comfort of use.</p> | | | |
| Learning outcomes: | <p>The outcome of the course is to master the skills and techniques that allow the design and construction of buildings and renovation in order to achieve energy efficiency. Student learns methods to improve the energy efficiency from the level of existing city block (the level of urban project) to the level of detail.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> Teaching is theoretical and it is conducted through lectures. Course content includes principles and basic postulates of attitudes related to the sustainability (as the approach to design and construction) of architecture on one hand and the possibility of restoration of buildings on the other hand. Urban parameters influencing the characteristics of sustainability, legislation in the field, structure, zoning and building materials are considered and possible methods of refurbishment are defined. In addition, the details of the building envelope, the structure in the broader sense are considered, and possible improvements in the reconstruction process are defined.</p> <p><u>Practical education:</u> In the course of exercises, students master, based on the defined methodology, ways of building renovation. A case study of a selected structure is conducted, and possible solutions to renovation are assessed in accordance with the principles of applicable architectural and urban planning regulations.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Milica Jovanović Popović, Zdravo stanovanje, Arhitektonski fakultet, Beograd, Giebeler et al>Refurbishment manual, Detail, Birkhauser, 2009. – Milica Jovanović Popović, Obnova zgrada u kontekstu održive arhitekture, Arhitektonski fakultet, Beograd, – Richarz, Scuhly, Yeitler> Energy-efficiency upgrades, edition Detail, Birkhauser, 2007. – Klaus Danijels: Tehnologija ekološkog građenja, Jasen,Beograd 2009. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Theoretical education. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | TECHNOLOGIES OF BUILDINGS RENEWAL | | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić (course leader), Associate Professor Jelena A. Ivanović Šekularac A. Jelena, Assistant Professor M.Sc. Budimir B. Sudimac, Assistant Professor Ph.D. Jasna Lj. Čikić Tovarović Lj. Jasna, | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main objective of the course is for students to expand their knowledge in the field of architectural design and architectural structures and details, through the exploration of measures and technologies of building renovation, which improve the physical, thermal, acoustic comfort, natural lighting and ventilation of the space, as well as the design characteristics of buildings, depending on the intended use of the buildings and characteristics of the environment. Students are trained to overcome specific problems of reconstruction and revitalization of structures in the urban fabric, with an emphasis on improvement of energy performances as an imperative in the treatment of existing urban stock in contemporary architectural practice. | | | |
| Learning outcomes: | Students develop skills in critical and complex approach to theoretical research and practice of architectural and urban design. The result is the knowledge of the concepts and techniques of materialization of the envelope of energy efficient architectural structures. They become familiar with potentials of new technologies for materialization of architectural structures, from concepts to detail and the influence of applied materials. Acquisition of the ability to use innovative, technical competences while applying construction techniques and understanding of their development contribute to the overall students' competence. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>Key thematic areas include architectural design and architectural structures and details, with emphasis on functional flexibility, measures and techniques for reconstruction of buildings in order to improve their spatial, design and energy performances. Theoretical instruction includes the following topics: Methodology of renovation of buildings; Classification and presentation of building renovation measures - functional, technical, energy, environmental and design aspect (for different uses of structures and features of the environment); Increasing spatial comfort - concepts and technical solutions; Improving the thermal performances of the envelope and characteristics of the shape of a structure-transformation of the envelope into energy-efficient structures; Functional and ecological aspects of material selection in the reconstruction of buildings; Reconstruction of brownfield sites; Analysis of case studies.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Krstić-Furundžić, A., Đukić, A., Improvement of the suburban housing; Case Study: Karaburma, Belgrade, Serbia, poglavlje u međunarodnoj monografiji "Improving the Quality of Suburban Building Stock", Volume 2, edited by Roberto Di Giulio, Università di Ferrara, Dipartimento di Architettura, COST Action TU0701, Unife Press, Italy, 2012, str. 205-213. – Krstić-Furundžić, A., Unapređenje termičkih performansi fasadnih zidova, poglavlje u monografiji "Stanovanje ka III milenijumu", Edicija ARHITEKTONIKA, monografija 11, Arhitektonski fakultet Univerziteta u Beogradu, 2001., Beograd, str. 303-315. Krstić-Furundžić, A., Kosić, T., Grujić, M., Economic analysis of Improvement of Energy Performances of Dwelling Housing in Belgrade, Eleventh World Renewable Energy Congress and Exhibition - WREC 2010, United Arab Emirates, Abu Dhabi, 2010, str. 591-596. Krstić-Furundžić, A., Sudimac, B., Improvement of Energy Efficiency of Office Building in Belgrade by Application of PV Modules, Zbornik 2nd International Conference - Advanced Construction, Litvanija, Kaunas, 2010.god., str. 248-254. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various methods – ex cathedra lectures, the study of literature and a review and analysis of case studies from domestic and foreign practice. Students' direct participation in the teaching through the analysis and presentation of case studies is something that is understood. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | INTERIOR LIGHTING | | | |
| Teacher: | Professor Ph.D. Lidija S. Djokić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to the conditions and principles of interior lighting design. The criteria for the design of lighting are analyzed through user requirements, functions, applied materials, including the physical characteristics of space. Impacts on the quality of light are observed within the overall architectural concept. | | | |
| Learning outcomes: | Understanding of the effects that can be achieved by interior lighting. The ability to define criteria set by customers, materials and space for which the solution is being sought. The ability to achieve desired effects. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <ul style="list-style-type: none"> – Parameters of the quality of lighting; – Light sources and luminaires; – Aspects of the quality of lighting; – Analysis and criticism of specific solutions. | | | |
| Literature: | <ul style="list-style-type: none"> – Lidija Đokić: Osvetljenje u arhitekturi – zahtevi i smernice za projektovanje. Arhitektonski fakultet Univerziteta u Beogradu. Beograd, 2007. – Derek Phillips: Lighting Modern Buildings. Architectural Press. Oxford, 2007. – Christopher Cuttle: Lighting by Design. Architectural Press. Oxford, 2003. – Miomir Kostić: Vodič kroz svet tehnike osvetljenja. Minel-Schreder. Beograd, 2000. – Lidija Đokić: Osvetljenje u arhitekturi – zahtevi i smernice za projektovanje. Arhitektonski fakultet Univerziteta u Beogradu. Beograd, 2007. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Ex cathedra lectures, presentation, analysis and discussion. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | | Written exam | 30 | |
| Practical classes | | Oral exam | | |
| Colloquia | 70 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | SPECIAL STRUCTURES | | | |
| Teacher: | Professor Ph.D. Miodrag S. Nestorović, Assistant Professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | To introduce students to current unconventional structural solutions. Generation and analysis of special structures. | | | |
| Learning outcomes: | Students are trained to understand the methods of research and to prepare terms of reference; to create design solutions that comply with both aesthetic and technical requirements; to manage and handle computer models. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>MERO system (Germany). NOVUM system (USA). Nodes with shells, pulling and connecting using bolts, perpendicular to the band plane. Installation of spatial lattices. Corrosion protection. Roof covering. Spatial structures in architecture and construction in our country and abroad (research, projects and implementation). Geometric and static analysis of geodesic domes.</p> <p>The genesis of tensile-integrity structures (tensegrity structures) according to Buckminster Fuller.</p> <p>The systematization of spatial tensile-integrity (tensegrity) networks according to Gernot Minke. Iterative nonlinear analysis of tensegrity structures. Algorithm for nonlinear analysis of tensegrity structures using FASTTENS software program. Phenomenology of system.</p> <p>Technological phases of assembly and disassembly, standard node joint, pretensioning and adjustment of the structure.</p> <p>Facilities with pressure surge, their form and engineering. Formation of pneumatic membranes with cables and nets. Double-layer pneumatic structures. Pneumatic structures of complex forms. Engineering of pneumatic structures (materials, tailoring of parts, connection of parts, support contour, anchors, inlet chamber, door. Analysis of pneumatic structures. (foundations of theory, stress-strain analysis, momentless linear theory of membranes of pneumatic structures). Assembly and use (assembly, disassembly, transport, provision of maintaining pressure surge, safety, durability, indoor microclimate.</p> <p>Membrane structures in the form of tents. STROMEYER system. BIRDAIR system. Generating geometry of membranes structures as momentless structures (foundations of theory, stress-strain analysis). Analysis using minimal surfaces. Production and assembly of membrane structures.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – M. Nestorović. KONSTRUKTIVNI SISTEMI - PRINCIPI KONSTRUISANJA I OBLIKOVANJA. Beograd (2000). Uključen kompakt disk – monografija povodom održane izložbe studentskih radova “30 godina predmeta Konstruktivni sistemi i Prostorne strukture“, Muzej primenjene umetnosti u Beogradu, 199. god. – M. Nestorović. INTEGRALNO ZATEGNUTI (TENSEGRITI) KONSTRUKTIVNI SISTEMI I. Arhitektonika, Arhitektonska sveska br. 4, Arhitektonski fakultet Univerziteta u Beogradu, 1994. – M. Nestorović. INTEGRALNO ZATEGNUTI (TENSEGRITI) KONSTRUKTIVNI SISTEMI II. Arhitektonika, Arhitektonska sveska br. 10, Arhitektonski fakultet Univerziteta u Beogradu, 1994. – A. Nenadović. PRILOG ANALIZI PONAŠANJA KABLOVSKIH KUPOLA TENSEGRITI TIP. Magistarska teza, Arhitektonski fakultet Univerziteta u Beogradu, 2004. god. – R. Motro. TENSEGRITY: STRUCTURAL SYSTEMS FOR THE FUTURE. Kagan Page Sterling, VA. 2005. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching is conducted through ex-cathedra lectures, consultations for the purpose of performance of tasks. Students’ active participation in the educational process is something that is understood. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|--|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | PRESTRESSED STRUCTURES | | | |
| Teacher: | Assistant Professor Ph.D. Ruža D. Okrajnov-Bajić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction of students to the possibilities of the pre-stressing and to ways of applying this procedure in architectural structures. | | | |
| Learning outcomes: | Proper application of prestressed structures in new buildings and in the renovation of existing structures. | | | |
| Course brief: | <p><i>Theoretical education:</i> Basic principles of prestressing, adhesion and cable systems, ideal and actual effects of prestressing (losses of prestress force). Design of prestressed structures (assumption of dimensions, power requirements, defining the end zone), special chapters on application of prestressing.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – V. Alendar: Prethodno napregnuti beton, praktikum, Građevinski fakultet, Beograd – Rulebooks and standards (PNB 71) | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Theoretical lectures and particular practical tasks. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | 20 | Oral exam | | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | RECONSTRUCTION AND REHABILITATION OF BUILDINGS | | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The goal of the course is to introduce students to basic principles of reconstruction and rehabilitation of buildings as a very important part of engineering activities in the field of architecture and civil engineering. Acquisition of the necessary knowledge in this area and introduction to the logic of construction and reconstruction for the purpose of changing the use of space, as well as rehabilitation and elimination of problems arising from: uneven settling of soil, earthquakes, inadequate construction or maintenance, fire, and due to the age of the building - structure.</p> <p>The goal of teaching at this course is to introduce students to the static-structural conservation of monuments of architectural heritage as the most important part of the process of their total conservation. Instruction at this course leads to the improvement of existing knowledge in the field of structural statics, architectural structures and conservation of architectural heritage as the part of the necessary skills for successful mastering of the curriculum of undergraduate academic studies of architecture.</p> | | | |
| Learning outcomes: | <p>Acquisition of new knowledge in this area is possible by applying modern technical and technological solutions in the field of reconstruction of buildings, with the application of modern principles of rehabilitation and conservation; introduction to vast and significant experience from practice applied to contemporary architectural structures, including buildings of architectural heritage. The knowledge gained through theoretical teaching at this course is necessary for further successful work on the master studies and integrated studies of architecture, and it is related to the materialization of an architectural structure.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The issue of reconstruction and rehabilitation of buildings, through the methods of structural rehabilitation of the foundations, walls, inter-floor ceilings, arches, vaults, domes, chimneys and other parts of architectural structures, is an inexhaustible field of research and work and it is treated in terms of statics-structural conservation, materialization and details, as well as the application of acquired knowledge in practice - in the process of reconstruction and rehabilitation of buildings.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Milorad Dimitrijević, 1984, Statičko konstruktivni problemi u zaštiti graditeljskog nasleđa, Univerziteta u Beogradu Arhitektonski fakultet, Beograd, – Pravilnik o tehničkim normativima za sanaciju, ojačanje i rekonstrukciju objekata visokogradnje oštećenih zemljotresom i za rekonstrukciju i revitalizaciju objekata visokogradnje. – Zbirka jugoslovenskih pravilnika i standarda za građevinske konstrukcije knjiga 1 – dejstvo na konstrukcije, 1995, Građevinski fakultet, Univerziteta u Beogradu, Beograd. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Teaching includes several methods such as ex-cathedra lectures, case studies, interactive teaching methods, active participation in discussions, preparation of seminar papers and graphs (individually or in groups - two members).</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 40 | |
| Practical classes | | Oral exam | 20 | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | WOODEN STRUCTURES | | | |
| Teacher: | Assistant Professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The goal of the course is for students to master the principles of modern software design and construction of modern wood structural systems (lightweight wood roof trusses). The coursework is based on modern principles of design of wooden structures, in the area of creating different shapes of wooden structures. | | | |
| Learning outcomes: | The concept of a wooden structure in the system of lightweight roof trusses (LRT), over the base of a given shape and dimensions, using a given shape of LRT element, the functional organization of the roof structure, the formation of functional elements, making 3D models and models of wooden structures. | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The system of lightweight roof trusses is presented to students through a series of lectures. The teaching framework provides for visits to LRT production plants, visits to construction sites, and the monitoring of assembling of LRT structures, including a tour of the structures with LRT. At the lectures, through the overview of many examples of built structures, students are presented a wide range of applications of lightweight wood roof trusses, in architectural construction engineering.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Vojislav Kujundžić, Žikica Tekić, Saša Đorđević, Savremeni sistemi drvenih konstrukcija – Žikica Tekić, Oblikovanje funkcionalnih elemenata krovnih drvenih Struktura u sistemu LKV - programski paket, Magistarska teza – Saša Đorđević, Oblikovanje funkcionalnih elemenata krovova sa potkrovljem u sistemu LKV, Magistarska teza | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching is conducted in small groups of students, where with the use of various forms of LRT elements, functional elements of wooden structures and functional organization of roof structures are shaped for the purpose of the rationality of the adopted design solution. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 6 | Written exam | 50 | |
| Practical classes | | Oral exam | 20 | |
| Colloquia | 24 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A, Module U, Module AT, Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | LEED AND ENVIRONMENTAL ASPECTS OF ARCHITECTURAL PRACTICE | | | |
| Teacher: | Assistant Professor M.Sc. Nataša D. Ćuković Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main objective of this course is to familiarize students with systems for environmental certification of buildings and trends in contemporary architectural practice which are in a causal relationship with them. | | | |
| Learning outcomes: | Knowledge of the principles and structure of the certification system for the assessment of the environmental characteristics of architectural structures. Students who successfully complete the course are entitled to take the examination in order to acquire the professional title LEED GA (LEED Green Associate). | | | |
| Course brief: | <p><u>Theoretical education:</u> Environmental issues in the context of contemporary architectural theory and practice. Assessment of environmental characteristics of architectural structures: rationale and principles. The structure and principles of the most used certification systems. LEED - Basic concepts, criteria, loans, certificates.</p> <p><u>Practical education:</u> Interactive teaching - LEED scorecard (in the course of lectures). Research through a critical analysis of their own projects prepared in the course of I, II and III semester MAS (work at home, presentations in the course of lectures).</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Skripta (distribuirana se studentima tokom semestra) – Zbornik tekstova i izvoda iz relevantne regulative (distribuirana se studentima tokom semestra) – LEED Reference Guide for Building Design and Construction (LEED v4), USGB 2013 – LEED Core Concepts Guide, USGBC 2010 – LEED GA Study Guide, USGBC 2011 | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching is a combination of methods, such as ex-cathedra lectures, interactive teaching methods, case studies, small research projects, presentations, seminars, etc. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | Points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | 25 | Oral exam | | |
| Colloquia | 25 | | | |
| Seminar-s | | | | |

ELECTIVE COURSES

Module – Architecture

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|---|---|-----------------------------|-----------------------|
| Study programme: | Master academic studies Architecture / Module A | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M01 A – DESIGN PROJECT-01-11 | | |
| Teacher: | Assistant Professor Ph.D. Vladimir B. Milenković; Assistant Professor Ph.D. Ana Z. Nikezić; Assistant Professor Dragan B. Stamenović; Assistant Professor Ph.D. Djordje V. Stojanović; Assistant Professor Nebojša S. Fotirić; Assistant Professor Igor Ž. Rajković; Assistant Professor Ph.D. Milan D. Maksimović; Assistant Professor Vesna P. Cagić Milošević; Assistant Professor Miloš M. Nenadović; Assistant Professor M.Sc. Zoran R. Abadić; Assistant Professor Miloš M. Komlenić | | |
| Type of course: | Elective | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>The bases for work in the Master academic studies courses are set through the balance of selection of Studios M01-A (M05), M02-A and M03-A (M07) which cover the diversity of modern and innovative approach to the matter of architectural and urban design.</p> <p>Work in the studio includes wide expert interests of architecture, urbanism and technologies, as well as knowledge of other scientific disciplines. All tools are brought together to form a complex intellectual whole that absorbs understanding of the needs of the modern society.</p> <p>Processing of increasingly complex architectural assignment encourages integral thinking through students' practical and theoretical response to the complexity of urban surroundings.</p> | | |
| Learning outcomes: | <p>The outcome of work in the Studio has theoretical and practical bases:</p> <p>The theoretical part includes two emphasized components: research and experiment, put in practice through conventional and also experimental methods of work materialized through elaborate the outcome of which is determined by the character of the study programme. The focus of theoretical work is within the Studio seminar.</p> <p>The practical work in the form of an architectural design: a preliminary architectural and urban solution with elements of a preliminary design should provide a convincing concept of a design and practical training within architectural and urban design</p> | | |
| Course brief: | <p>The content of work within Studio M01-A (M05) depends on the complexity of assignments of Master academic studies. The content of work is adjusted to the need to link and improve knowledge and skills acquired during undergraduate academic studies, both at the level of research and generalization and at the level of designing and execution.</p> <p>The work is focused on building of skills of architectural and urban organization and shaping of space appropriate for aesthetic, functional and technical requirements of modern living. The design assignment stimulates understanding and interpretation of the relation between a man and a space and between architectural and urban buildings and their surroundings in regulatory design, typology of space and technical models of building construction. The focus is on study of the phenomenon of a building and its organizational, technical and urban sustainability.</p> <p>The scope of work on development of the architectural and urban design includes spaces intended for education and training as the place of the adequate level of complexity of the synthesis of interrelations between all components of architectural design in the cycle of Master academic studies.</p> | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | |
| Active training classes no.: | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 10 | Studio research: / |
| Teaching methodology: | Teaching must include combination of several various forms of work such as interactive teaching, case studies, individual and group projects, research projects, presentations | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | Design project | 50 |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 A – SEMINAR -01-11 | | | |
| Teacher: | Assistant Professor Ph.D. Vladimir B. Milenković; Assistant Professor Ph.D. Ana Z. Nikezić; Assistant Professor Dragan B. Stamenović; Assistant Professor Ph.D. Djordje V. Stojanović; Assistant Professor Nebojša S. Fotirić; Assistant Professor Igor Ž. Rajković; Assistant Professor Ph.D. Milan D. Maksimović; Assistant Professor Vesna P. Cagić Milošević; Assistant Professor Miloš M. Nenadović; Assistant Professor M.Sc. Zoran R. Abadić; Assistant Professor Miloš M. Komlenić | | | |
| Type of course: | Elective | | | |
| ECTS: | 4 | | | |
| Preconditions: | Selection of the course Seminar within the Study Unit STUDIO M01A (STUDIO 05A) depends on whether the course Project has been selected within the same Study Unit | | | |
| Objectives: | <p>The objective of the course is determined by the position of Seminar M01-A (M05) curriculum unit within the Studio M01-A (M05) of Master Academic Studies: Architecture.</p> <p>Due to the need to provide to students a balanced offer of various and modern approaches to the matter of architectural and urban design, Seminar M01-A (M05) became an autonomous field of work in the Studio which, depending on the manner of work in a specific course, develops a high level of freedom of choice and improvement of independent and individual working methods.</p> | | | |
| Learning outcomes: | The outcome of the course Seminar within the Studio is set as a research and theoretical part of work carried out through various methods and approaches to analytics made before and during the work on development of an architectural and urban design. Conventional and experimental methods of work are materialized through elaborate, the outcome of which is determined by the character of a study programme. | | | |
| Course brief: | The content of the course Seminar M01-A (M05) within the Studio M01-A (M05) of Master academic studies is set as methodologically specific research autonomous by its content based on the modern changes in approach to architecture classes and aimed at developing of various interests and inclinations in architecture students. | | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching must include a combination of several various forms of work, such as ex-cathedra lectures, discussions, interactive teaching, case studies, presentations | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | Seminar paper/study | 60 | |
| Seminar-s | | | | |

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|---|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 A – WORKSHOP-01-11 | | | |
| Teacher: | Assistant Professor Ph.D. Vladimir B. Milenković; Assistant Professor Ph.D. Ana Z. Nikezić; Assistant Professor Dragan B. Stamenović; Assistant Professor Ph.D. Djordje V. Stojanović; Assistant Professor Nebojša S. Fotirić; Assistant Professor Igor Ž. Rajković; Assistant Professor Ph.D. Milan D. Maksimović; Assistant Professor Vesna P. Cagić Milošević; Assistant Professor Miloš M. Nenadović; Assistant Professor M.Sc. Zoran R. Abadić; Assistant Professor Miloš M. Komlenić | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | Selection of the Workshop course within the Study Unit STUDIO M01A (STUDIO 05A) depends on whether the Design course has been selected within the same Study Unit | | | |
| Objectives: | The main objective is to develop gaining of practical experiences and to develop creativity. The experience of concentrated design workshops as a form of professional internship provides an opportunity for students to develop the skill of fast and efficient making of design decisions. The workshop programme also contributes to acquiring of additional knowledge on practical procedures, to the extent that they impact the quality of an architectural design. | | | |
| Learning outcomes: | Understanding of design assignments and how to evaluate them critically in order to ensure designs are in compliance with the location and context, for reasons such as sustainability and budget; understanding of relevant philosophic approaches leading to identification and understanding of theories in the cultural context. Ability to generate and systematically review, analyse and evaluate design solutions and draw conclusions which clearly show methodological and theoretic rules. Ability to work as a part of a team. Ability to use imagination, to think creatively and innovatively and to provide design leadership; ability to collect information, define problems, apply analyses and critical evaluation and to formulate action strategies; ability to think three-dimensionally in research of a design solution; ability to bring into compliance divergent factors, integrate knowledge and apply skills in development of a design solution. Ability to act with knowledge of professional, business, financial and legal context; ability to understand different forms of provision of architectural services; awareness of cooperation with the construction industry and organisations involved in development, financial dynamics, investments in properties and management of equipment; awareness of potential roles of architects in conventional and new fields of activity and in the international context; understanding of business principles and their application on the development of constructed environment, management of designs and functioning of expert consulting; understanding of professional ethics and the code of conduct as applied in architectural practice and legal; responsibilities of an architect taking into account registration, practice and construction contracts. | | | |
| Course brief: | Application of theoretical and expert knowledge. | | | |
| Literature: | --- | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | 1 |
| Teaching methodology: Individual students' work through case studies and presentations for various topics in the field of architectural design and research. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | | |
| Practical classes | 70 | Oral exam | | |
| Colloquia | | Seminar paper/study | 30 | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module A | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 A – DESIGN PROJECT-01-07 | | |
| Teacher: | Associate Professor Borislav A. Petrović; Associate Professor Dejan D. Miletić; Associate Professor Ivan V. Rašković; Assistant Professor Aleksandar Č. Videnović; Assistant Professor M.Sc. Ivan J. Kucina; Associate Professor Aleksandru J. Vuja; Associate Professor Milan A. Djurić | | |
| Type of course: | Elective | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>The bases for work in the Master academic studies courses are set through the balance of selection of Studios M01-A (M05), M02-A and M03-A (M07) which cover the diversity of modern and innovative approach to the matter of architectural and urban design.</p> <p>Work in the studio includes wide expert interests of architecture, urbanism and technologies, as well as knowledge of other scientific disciplines. All tools are brought together to form a complex intellectual whole that absorbs understanding of the needs of the modern society.</p> <p>Processing of increasingly complex architectural assignment encourages integral thinking through students' practical and theoretical response to the complexity of urban surroundings.</p> | | |
| Learning outcomes: | <p>The outcome of the course Seminar within the Studio is set as a research and theoretical part of work carried out through various methods and approaches to analytics made before and during the work on development of an architectural and urban design. Conventional and experimental methods of work are materialized through elaborate, the outcome of which is determined by the character of a study programme.</p> | | |
| Course brief: | <p>The content of work within the Studio M02-A is set as a complex design problem through which students individually develop a wider programme platform of reviewing of relations between the city and architecture. The scope of work includes multi-purpose urban centres which enable various interpretations and concepts of urban situations and phenomena.</p> <p>Through study of functional morphological, social and cultural structure of a city, students are trained to develop architectural designs which met conceptual, functional and structural requirements to equal extent by application of modern architectural approaches and paradigms.</p> <p>The result of work is a conceptual architectural and urban solution that has its own clearly distinguished research and applicable component, which clearly shows elements of thematic fields and programme bases on which the design relies.</p> <p>Multi-purpose urban centres enable creation of assemblies of contents or individual multi-functional, hybrid and other entities which reflect typological features of public contents in line with modern approaches to the city. Typological group of public contents consists of: business, administration, trade, hospitality, recreation and other complementary contents.</p> | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | Teaching must include combination of several various forms of work such as interactive teaching, case studies, individual and group projects, research projects, presentations | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | |
| Practical classes | | Oral exam | 10 |
| Colloquia | 30 | Design project | 50 |
| Seminar-s | | | |

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|---|--------------------------------|--|------------------------------|---------------|
| Study programme: | | Master academic studies Architecture / Module A | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M02 A – SEMINAR -01-07 | | |
| Teacher: | | Associate Professor Borislav A. Petrović; Associate Professor Dejan D. Miletić; Associate Professor Ivan V. Rašković; Assistant Professor Aleksandar Č. Videnović; Assistant Professor M.Sc. Ivan J. Kucina; Associate Professor Aleksandru J. Vuja; Associate Professor Milan A. Djurić | | |
| Type of course: | | Elective | | |
| ECTS: | | 4 | | |
| Preconditions: Selection of the course Seminar within the Study Unit STUDIO M01A (STUDIO 05A) depends on whether the course Project has been selected within the same Study Unit | | | | |
| Objectives: The objective of the course is determined by the position of Seminar M01-A (M05) curriculum unit within the Studio M01-A (M05) of Master Academic Studies: Architecture. Due to the need to provide to students a balanced offer of various and modern approaches to the matter of architectural and urban design, Seminar M01-A (M05) became an autonomous field of work in the Studio which, depending on the manner of work in a specific course, develops a high level of freedom of choice and improvement of independent and individual working methods. | | | | |
| Learning outcomes: The outcome of the course Seminar within the Studio is set as a research and theoretical part of work carried out through various methods and approaches to analytics made before and during the work on development of an architectural and urban design. Conventional and experimental methods of work are materialized through elaborate, the outcome of which is determined by the character of a study programme. | | | | |
| Course brief: The content of the course Seminar M01-A (M05) within the Studio M01-A (M05) of Master academic studies is set as methodologically specific research autonomous by its content based on the modern changes in approach to architecture classes and aimed at developing of various interests and inclinations in architecture students. | | | | |
| Literature: Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Teaching must include a combination of several various forms of work, such as ex-cathedra lectures, discussions, interactive teaching, case studies, presentations | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | Seminar paper/study | 60 | |
| Seminar-s | | | | |

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|--|---|----------------------------|-----------------------|---------------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 A – WORKSHOP-01-07 | | | |
| Teacher: | Associate Professor Borislav A. Petrović; Associate Professor Dejan D. Miletić; Associate Professor Ivan V. Rašković; Assistant Professor Aleksandar Č. Videnović; Assistant Professor M.Sc. Ivan J. Kucina; Associate Professor Aleksandru J. Vuja; Associate Professor Milan A. Djurić | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | Selection of the Workshop course within the Study Unit STUDIO M01A (STUDIO 05A) depends on whether the Design course has been selected within the same Study Unit | | | |
| Objectives: | The main objective is to develop gaining of practical experiences and to develop creativity. The experience of concentrated design workshops as a form of professional internship provides an opportunity for students to develop the skill of fast and efficient making of design decisions. The workshop programme also contributes to acquiring of additional knowledge on practical procedures, to the extent that they impact the quality of an architectural design. | | | |
| Learning outcomes: | Understanding of design assignments and how to evaluate them critically in order to ensure designs are in compliance with the location and context, for reasons such as sustainability and budget; understanding of relevant philosophic approaches leading to identification and understanding of theories in the cultural context. Ability to generate and systematically review, analyse and evaluate design solutions and draw conclusions which clearly show methodological and theoretic rules. Ability to work as a part of a team. Ability to use imagination, to think creatively and innovatively and to provide design leadership; ability to collect information, define problems, apply analyses and critical evaluation and to formulate action strategies; ability to think three-dimensionally in research of a design solution; ability to bring into compliance divergent factors, integrate knowledge and apply skills in development of a design solution. Ability to act with knowledge of professional, business, financial and legal context; ability to understand different forms of provision of architectural services; awareness of cooperation with the construction industry and organisations involved in development, financial dynamics, investments in properties and management of equipment; awareness of potential roles of architects in conventional and new fields of activity and in the international context; understanding of business principles and their application on the development of constructed environment, management of designs and functioning of expert consulting; understanding of professional ethics and the code of conduct as applied in architectural practice and legal; responsibilities of an architect taking into account registration, practice and construction contracts. | | | |
| Course brief: | Application of theoretical and expert knowledge. | | | |
| Literature: | --- | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | 1 |
| Teaching methodology: Individual students' work through case studies and presentations for various topics in the field of architectural design and research. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | | |
| Practical classes | 70 | Oral exam | | |
| Colloquia | | Seminar paper/study | 30 | |
| Seminar-s | | | | |

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|---|--|------------------------------|-------------------------|---------------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 A – DESIGN PROJECT-01-11 | | | |
| Teacher: | Professor Branislav B. Mitrović; Professor Milorad B. Ribar; Professor Mihailo B. Timotijević; Professor Miodrag M. Mirković; Professor Zoran M. Lazović; Associate Professor Ružica Dj. Božović Stamenović; Associate Professor Dragana M. Vasiljević Tomić; Associate Professor Vladimir M. Lojanica; Associate Professor Dejan R. Miljković; Associate Professor Milan M. Vujović; Associate Professor Borislav A. Petrović | | | |
| Type of course: | Elective | | | |
| ECTS: | 15 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The bases for work in the Master academic studies courses are set through the balance of selection of Studios M01-A (M05), M02-A and M03-A (M07) which cover the diversity of modern and innovative approach to the matter of architectural and urban design.</p> <p>Work in the studio includes wide expert interests of architecture, urbanism and technologies, as well as knowledge of other scientific disciplines. All tools are brought together to form a complex intellectual whole that absorbs understanding of the needs of the modern society.</p> <p>Processing of increasingly complex architectural assignment encourages integral thinking through students' practical and theoretical response to the complexity of urban surroundings.</p> | | | |
| Learning outcomes: | <p>The outcome of work in the Studio has theoretical and practical bases:</p> <p>The theoretical part includes two emphasized components: research and experiment, put in practice through conventional and also experimental methods of work materialized through elaborate the outcome of which is determined by the character of the study programme. The focus of theoretical work is within the Studio seminar.</p> <p>The practical work in the form of an architectural design: a preliminary architectural and urban solution with elements of a preliminary design should provide a convincing concept of a design and practical training within architectural and urban design.</p> | | | |
| Course brief: | <p>The content of work within the Studio M03-A (M07) is set as complex work on recognition and appropriate application of architectural concepts, principles and theories in the field of buildings and cultural contents as the place of recognition of manifestations of relations in a society.</p> <p>Work in the course M03-A (M07) is focused on theoretical abstraction and practical presentation of the main elements and relations in defining of an architectural solution, as well as on skills necessary to identify the needs of a user, regulations and investments.</p> <p>Understanding of architectural space as a synthesis of conceptual ideas develops critical thinking, research skills, intellectual integrity and professional knowledge and skills which ensure for future generations of architects to be able to recognize particular and general effects of modern architecture on environment.</p> | | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 10 | / | |
| Teaching methodology: | | | | |
| Teaching must include combination of several various forms of work such as interactive teaching, case studies, individual and group projects, research projects, presentations. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 30 | Design project | 50 | |
| Seminar-s | | | | |

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|--|--|-----------------------|------------------|---------------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 A – SEMINAR-01-11 | | | |
| Teacher: | Professor Branislav B. Mitrović; Professor Milorad B. Ribar; Professor Mihailo B. Timotijević; Professor Miodrag M. Mirković; Professor Zoran M. Lazović; Associate Professor Ružica Dj. Božović Stamenović; Associate Professor Dragana M. Vasiljević Tomić; Associate Professor Vladimir M. Lojanica; Associate Professor Dejan R. Miljković; Associate Professor Milan M. Vujović; Associate Professor Borislav A. Petrović | | | |
| Type of course: | Elective | | | |
| ECTS: | 4 | | | |
| Preconditions: | Selection of the course Seminar within the Study Unit STUDIO M03A (STUDIO 07A) depends on whether the course Project has been selected within the same Study Unit | | | |
| Objectives: | <p>The objective of the course is determined by the position of Seminar M03-A (M07) curriculum unit within the Studio M03-A (M07) of Master Academic Studies: Architecture.</p> <p>Due to the need to provide to students a balanced offer of various and modern approaches to the matter of architectural and urban design, Seminar M03-A (M07) became an autonomous field of work in the Studio which, depending on the manner of work in a specific course, develops a high level of freedom of choice and improvement of independent and individual working methods.</p> | | | |
| Learning outcomes: | The outcome of the course Seminar within the Studio is set as a research and theoretical part of work carried out through various methods and approaches to analytics made before and during the work on development of an architectural and urban design. Conventional and experimental methods of work are materialized through elaborate, the outcome of which is determined by the character of a study programme. | | | |
| Course brief: | The content of the course Seminar M03-A (M07) within the Studio M03-A (M07) of Master academic studies is set as methodologically specific research autonomous by its content based on the modern changes in approach to architecture classes and aimed at developing of various interests and inclinations in architecture students. | | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching must include a combination of several various forms of work, such as ex-cathedra lectures, discussions, interactive teaching, case studies, presentations | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | Seminar paper/study | | 60 |
| Seminar-s | | | | |

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|---|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 A – WORKSHOP-01 | | | |
| Teacher: | Professor Branislav B. Mitrović; Professor Milorad B. Ribar; Professor Mihailo B. Timotijević; Professor Miodrag M. Mirković; Professor Zoran M. Lazović; Associate Professor Ružica Dj. Božović Stamenović; Associate Professor Dragana M. Vasiljević Tomić; Associate Professor Vladimir M. Lojanica; Associate Professor Dejan R. Miljković; Associate Professor Milan M. Vujović; Associate Professor Borislav A. Petrović | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | Selection of the Workshop course within the Study Unit STUDIO M03A (STUDIO 07A) depends on whether the Design course has been selected within the same Study Unit | | | |
| Objectives: | The main objective is to develop gaining of practical experiences and to develop creativity. The experience of concentrated design workshops as a form of professional internship provides an opportunity for students to develop the skill of fast and efficient making of design decisions. The workshop programme also contributes to acquiring of additional knowledge on practical procedures, to the extent that they impact the quality of an architectural design. | | | |
| Learning outcomes: | Understanding of design assignments and how to evaluate them critically in order to ensure designs are in compliance with the location and context, for reasons such as sustainability and budget; understanding of relevant philosophic approaches leading to identification and understanding of theories in the cultural context. Ability to generate and systematically review, analyse and evaluate design solutions and draw conclusions which clearly show methodological and theoretic rules. Ability to work as a part of a team. Ability to use imagination, to think creatively and innovatively and to provide design leadership; ability to collect information, define problems, apply analyses and critical evaluation and to formulate action strategies; ability to think three-dimensionally in research of a design solution; ability to bring into compliance divergent factors, integrate knowledge and apply skills in development of a design solution. Ability to act with knowledge of professional, business, financial and legal context; ability to understand different forms of provision of architectural services; awareness of cooperation with the construction industry and organisations involved in development, financial dynamics, investments in properties and management of equipment; awareness of potential roles of architects in conventional and new fields of activity and in the international context; understanding of business principles and their application on the development of constructed environment, management of designs and functioning of expert consulting; understanding of professional ethics and the code of conduct as applied in architectural practice and legal; responsibilities of an architect taking into account registration, practice and construction contracts. | | | |
| Course brief: | Application of theoretical and expert knowledge. | | | |
| Literature: | --- | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: / | Studio research: / | 1 |
| Teaching methodology: | Individual students' work through case studies and presentations for various topics in the field of architectural design and research. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | | |
| Practical classes | 70 | Oral exam | | |
| Colloquia | | Seminar paper/study | 30 | |
| Seminar-s | | | | |

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|---|--|----------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS A – 01-28 | | | |
| Teacher: | Professor Branislav B. Mitrović; Professor Milorad B. Ribar; Professor Mihailo B. Timotijević; Professor Miodrag M. Mirković; Professor Zoran M. Lazović; Associate Professor Ružica Dj. Božović Stamenović; Associate Professor Dragana M. Vasiljević Tomić; Associate Professor Vladimir M. Lojanica; Associate Professor Dejan R. Miljković; Associate Professor Milan M. Vujović; Associate Professor Borislav A. Petrović; Associate Professor Dejan D. Miletić; Associate Professor Ivan V. Rašković; Assistant Professor Aleksandar Č. Videnović; Assistant Professor M.Sc. Ivan J. Kucina; Associate Professor Aleksandru J. Vuja; Associate Professor Milan A. Djurić; Assistant Professor Vladimir B. Milenković; Assistant Professor Ph.D. Ana Z. Nikezić; Assistant Professor Dragan B. Stamenović; Assistant Professor Ph.D. Djordje V. Stojanović; Assistant Professor Nebojša S. Fotirić; Assistant Professor Igor Ž. Rajković; Assistant Professor Ph.D. Milan D. Maksimović; Assistant Professor Vesna P. Cagić Milošević; Assistant Professor Miloš M. Nenadović; Assistant Professor M.Sc. Zoran R. Abadić; Assistant Professor Miloš M. Komlenić | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: | All previous exams in Master academic studies must be passed | | | |
| Objectives: | <p>The final part of the study programme of Master academic studies Architecture / Module A consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units.</p> <p>Master thesis is individual research on the highest and the most complex level of master studies, which includes research of a context and processing of all specific aspects of an assignment, establishment of programme structure and a design thesis, clear defining of design brief and topic on the basis of which a design can be developed with insight in newest trends in architecture, as well as critical relation towards local environment and the context in general.</p> | | | |
| Learning outcomes: | Preparation for work on the project, formulation of thesis for Master design and Master final project. | | | |
| Course brief: | <p>Methodology of scientific research, formulation and writing of a thesis. Research includes defining of a design brief, thesis and topic – a written thesis of a Master design and a Master final project.</p> <p>Work on necessary relevant and reference literature, research of contextual and historical facts, as well as modern analogous contents, functions, models and architectural artefacts.</p> | | | |
| Literature: | <p>Literature recommended by a mentor Literature proposed by students and accepted by a mentor Literature proposed by a professor in the theoretical course Scientific research methodology</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 2 | 4 | |
| Teaching methodology: | Preparatory classes in research methodology, lectures, students' research work, mentoring work and writing of a thesis. Oral public presentation/defence of a Master thesis before the Mentoring Committee. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Elaborate – Written thesis | 50 | |
| Practical classes | 30 | Oral presentation | 10 | |
| Colloquia | 10 | | | |
| Seminar-s | | | | |

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|---|--|----------------------------|------------------------|---------------|
| Study programme: | Master academic studies Architecture / Module A | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN A – 01-28 | | | |
| Teacher: | Professor Branislav B. Mitrović; Professor Milorad B. Ribar; Professor Mihailo B. Timotijević; Professor Miodrag M. Mirković; Professor Zoran M. Lazović; Associate Professor Ružica Dj. Božović Stamenović; Associate Professor Dragana M. Vasiljević Tomić; Associate Professor Vladimir M. Lojanica; Associate Professor Dejan R. Miljković; Associate Professor Milan M. Vujović; Associate Professor Borislav A. Petrović; Associate Professor Dejan D. Miletić; Associate Professor Ivan V. Rašković; Assistant Professor Aleksandar Č. Videnović; Assistant Professor M.Sc. Ivan J. Kucina; Associate Professor Aleksandru J. Vuja; Associate Professor Milan A. Djurić; Assistant Professor Vladimir B. Milenković; Assistant Professor Ph.D. Ana Z. Nikezić; Assistant Professor Dragan B. Stamenović; Assistant Professor Ph.D. Djordje V. Stojanović; Assistant Professor Nebojša S. Fotirić; Assistant Professor Igor Ž. Rajković; Assistant Professor Ph.D. Milan D. Maksimović; Assistant Professor Vesna P. Cagić Milošević; Assistant Professor Miloš M. Nenadović; Assistant Professor M.Sc. Zoran R. Abadić; Assistant Professor Miloš M. Komlenić | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: | All previous exams in Master academic studies must be passed. Selection of the Master Design course depends on whether the Master Thesis course has been selected. | | | |
| Objectives: | The final part of the study programme of Master academic studies Architecture / Module A consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units. Master design is work on the highest and the most complex level of master studies with clearly recognizable research component: research through defining of the main issues of research through design, research and development of design methods in line with the thesis as analytic and generic studies in space with public review of the concept. | | | |
| Learning outcomes: | The result of research by design – formulation of a concept in line with the Master thesis – preparation for development of the Master final project. | | | |
| Course brief: | Research by design, modelling, forming and structuring of the programme and concepts of the design. Work on the necessary and relevant literature and finding of analytic and generic research models. | | | |
| Literature: | Literature recommended by a mentor Literature proposed by students and accepted by a mentor Literature proposed by a professor in the theoretical course Scientific research methodology | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 4 | Studio research: 10 | / |
| Teaching methodology: Interactive teaching, students' research work and mentor's work. Oral public presentation/defence of the Master design. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Design elaborate | 50 | |
| Practical classes | 30 | Oral presentation | 10 | |
| Colloquia | 10 | | | |
| Seminar-s | | | | |

ELECTIVE COURSES

Module – Urbanism

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|---|---|-------------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module U | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 U – DESIGN PROJECT-01-04 | | |
| Teacher: | Professor Ph.D. Vladan A. Djokić; Professor Ph.D. Eva J. Vaništa Lazarević; Professor M.Sc. Rajko Lj. Korica; Associate Professor Ph.D. Aleksandra M. Djukić | | |
| Type of course: | Elective | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | Integration of theoretical and applicable knowledge in drafting and elaboration of complex architectural and urban interventions. | | |
| Learning outcomes: | Preparation of various research methods and techniques, linking of research and design work by formulating guidelines and design assignments, elaborations, presentations and explanation of complex urban and architectural designs. | | |
| Course brief: | <p>The classes are organized in two equal parts: research and design. The focus is on linking of research and design work.</p> <p><u>Theoretical education:</u></p> <p>Theoretical part includes two emphasized components: research and experiment, put in practice through conventional and also experimental methods. The focus of theoretical work is within the Studio seminar.</p> <p>The content of work within Studio M02-U Design is set as a complex design problem through which students individually develop a wider programme platform of reviewing of relations between the city and architecture. The scope of work includes multi-purpose urban unit which enable various interpretations and concepts of urban situations and phenomena.</p> <p>Through study of functional morphological, social and cultural structure of an urban unit, students are trained to develop architectural designs which met conceptual, functional and structural requirements to equal extent by application of modern architectural approaches and paradigms. The result of work is a conceptual architectural and urban solution that has its own clearly distinguished research and applicable component, which clearly shows elements of thematic fields and programme bases on which the design relies.</p> <p><u>Practical education:</u></p> <p>Practical work in the form of urban and architectural design: conceptual urban and architectural solution with elements of a conceptual design should provide a convincing concept of a design and practical training in urban and architectural design environment.</p> | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | Combination of various teaching forms, such as interactive teaching, case studies, individual or group projects, research, presentations, workshops, debates. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 60 | Written exam / Design project | 30 |
| Practical classes | | Oral exam | 10 |
| Colloquia | | | |
| Seminar-s | | | |

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|---|---|-------------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module U | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 U – DESIGN PROJECT-05: PARTICIPATORY URBAN DESIGN | | |
| | STUDIO M06 U – DESIGN PROJECT-05: PARTICIPATORY URBAN DESIGN | | |
| Teacher: | Assistant Professor Zoran N. Djukanović | | |
| Type of course: | Elective | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | Preparation and training of students to act in the field of participative urban design and their preparation and training for expert work on development of urban design for complex urban areas with active involvement of the public, local communities and other relevant stakeholders in in urban planning, design and implementation processes. | | |
| Learning outcomes: | Training in understanding of reasons, methods and processes of participative decision-making in planning, design and execution of urban designs. Acquiring of knowledge and skills of recognition, mobilizing and active participation of all relevant stakeholders and development of ability for their involvement in urban design activities. Critical understanding of specific possibilities and limitations of participative urban design in achievement of sustainable solutions for improvement of quality of urban living. | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p><u>Practical education:</u></p> <p>Research of development possibilities of complex urban areas, as well as of possibilities for their improvement through various participative methods and techniques. Research of possibilities and limitations in which urban design finds its adequate role in development processes of a city through application of various methods and techniques which, in those processes, provide participation of the most relevant stakeholders. For area of focus in question: a) general characteristics of a wide thematic field in spatial and functional, natural and environmental, social and cultural and also social and organizational sense; b) specific characteristics and qualities of the existing situation in problem subunits are defined; local stakeholders relevant for future urban development of an area are analysed and activated; adequate case studies in domestic and foreign practice are comparatively researched; new development programmes for improvement projects are identified and analysed; adequate methods and techniques for participative urban design are identified b) with active participation of selected stakeholders, potentials of selected-proposed development programmes are researched, while evaluating potential effects of execution of particular designs and researching possibilities of their territorial and/or thematic linking into networks.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Day C. with Parnell R. (2003) Consensus Design, Socially inclusive process; Oxford: Architectural Press – Jones P. B.; Petrescu D., Till J. (2005) Architecture and Participation; Spon Press; London, New York: Spon Press – Đukanović Z., Bobić A., Živković J., i drugi; Umetnost u javnom prostoru: ekspertska studija prostorne provere užeg gradskog jezgra Užica za potrebe umetničke produkcije u javnom prostoru; Academica – akademska grupa; Beograd; 2011. – Studija „Istraživanje potencijala javnih prostora Gradske opštine Stari Grad za Public Art“; Zoran Đukanović, Jelena Živković, Aleksandar Bobić, Mirjana Božidarević; Stevan Vuković; Arhitektonski fakultet Univerziteta u Beogradu, Public Art & Public Space; 2007. – Đukanović Z., Cherubini A.R., Živković J. (2008) Città, Fiumi, Margini fluviali – Roma – Belgrado; Beograd: Istituto Italiano di Cultura di Belgrado | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | Interactive teaching, studio research and other teaching forms. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam / Design project | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-------------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module U | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 U – SEMINAR -01-03 | | |
| Teacher: | Professor Ph.D. Vladan A. Djokić; Professor Ph.D. Eva J. Vaništa Lazarević; Associate Professor Ph.D. Aleksandra M. Djukić | | |
| Type of course: | Elective | | |
| ECTS: | 4 | | |
| Preconditions: | Selection of the Seminar within the Study Unit STUDIO M02 U (STUDIO 06 U) should be in relation to the topic of the design of the same study unit | | |
| Objectives: | Because of the need to provide to students a balanced offer of various and modern approaches to the matter of urban and architectural designing, the Seminar M02-u (06U) became an autonomous field of work in the Study that depends on the scope of work in a particular study unit. The objective is to provide to students necessary theoretical and professional knowledge directly linked with the assigned topic and thus to form an adequate research framework for work on the design. Within the Studio, the Seminar is set as research and theoretical work performed through various methods and approaches to analytics made before and during the work on development of urban and architectural design. | | |
| Learning outcomes: | Ability to understand the complexity of design assignments and how to critically evaluate them to ensure they are sustainable and in compliance with the location and the context; understanding of relevant philosophical approaches leading to discovery and understanding of theories in the cultural context. Ability to generate a solution quality evaluation model and to systematically review, analyse and evaluate design solutions and draw conclusions which clearly show relations with methodological assumptions and a theoretical basis. | | |
| Course brief: | <p><u>Theoretical education:</u> The content of the course Seminar M02-U (06U) within the Studio M02-U (06U) of Master academic studies (integrated undergraduate and master academic studies of architecture) is set as theoretical and methodological and scientifically and vocationally specific and autonomous and changeable course by its content. The content of the course includes modern changes in scientific and vocational achievements in the research field in question and changes of approaches to education of architects and is aimed at development of various interests and inclinations in students.</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Teaching must include combination of several various forms of work, such as ex-cathedra lectures, discussions, interactive teaching, case studies, presentations, workshops, debates. Conventional and experimental methods of work are materialized through elaborates, the outcome of which is determined by the character of work in the study unit. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam / Design project | |
| Practical classes | | Oral exam | |
| Colloquia | 30 | Seminar paper / study | 60 |
| Seminar-s | | | |

| | | | |
|---|---|-------------------------------|------------------|
| Study programme: | Master academic studies Architecture / Module U | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 U – SEMINAR -04: URBAN INVESTMENTS | | |
| Teacher: | Professor M.Sc. Rajko Lj. Korica | | |
| Type of course: | Elective | | |
| ECTS: | 4 | | |
| Preconditions: | Selection of the Seminar within the Study Unit STUDIO M02 U (STUDIO 06 U) should be in relation to the topic of the design of the same study unit. | | |
| Objectives: | Perhaps the most important issue of modern planning is the issue of implementation of the envisaged plan document – i.e., who and how will invest in construction? The condition for an urban plan to be successful is that it is cost-effective, i.e. that investment in construction has profit. The objective of the course is teaching the planning process, methods and instruments and investment organization and control and understanding how investment can improve economic growth and development of cities in which investments are made. Students should evaluate how investments impact a city and what importance they can have for its development. | | |
| Learning outcomes: | The course teaches students the bases of the term investments in a city and the process, methods and instruments of planning and organization and control of investments in construction which can be executed in an urban environment. The most important financial terms will be presented: pre-investment studies, offer analysis, evaluation of possible sale, evaluation of the possibility of marketing etc. The course should develop awareness and knowledge in students that any form of construction is a form of investment. The course should introduce to students the concept of investment, explain specific features of investments in a city and provide examples of successful investments. | | |
| Course brief: | <p><u>Theoretical education:</u> Introduction of main concepts / Historical background / Who Invests and why? / Profit: Glossary / Investment in Political Framework / Positions of Profession / Business Plans – Part 1 / Business Plans – Part 2 / Institutions and Competences / Colloquia – Oral Exercises / Direct Investment / Concessions / Private-Public Partnerships / Colloquia – submission of works</p> <p><u>Practical education:</u> /</p> | | |
| Literature: | <ul style="list-style-type: none"> – Appraisal Institute (2001). The appraisal of real estate. Chicago: Appraisal Institute. – Baum, A. (2001). Freeman's guide to the property industry. London: Freeman Publishing. – Brett, M. (1990). Property and money. Avon: Bath Press – Brueggeman, W. B. and Fisher, J. D. (2001). Real estate finance and investments. New York: McGraw-Hill/Irwin. – Đuričin, D. (2003). Upravljanje (pomoću) projekata. Beograd: Ekonomski fakultet. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Teaching includes ex-cathedra lectures, discussions, meetings with experts, presentation of results of team researches and confrontation of opinions in debates. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Written exam / Design project | |
| Practical classes | | Oral exam | 60 |
| Colloquia | 40 | | |
| Seminar-s | | | |

| | | | | |
|---|--|-------------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 U – SEMINAR -05: PARTICIPATORY URBAN DESIGN | | | |
| | STUDIO M06 U – SEMINAR -05: PARTICIPATORY URBAN DESIGN | | | |
| Teacher: | Assistant Professor Zoran N. Djukanović | | | |
| Type of course: | Elective | | | |
| ECTS: | 4 | | | |
| Preconditions: | Selection of the Seminar within the Study Unit STUDIO M02 U (STUDIO 06 U) should be in relation to the topic of the design of the same study unit. | | | |
| Objectives: | Teaching and training of students in specific features of expert work in urban design with assistance and active participation of the public, local communities and other relevant stakeholders in the processes of decision-making, urban planning, design and implementation. | | | |
| Learning outcomes: | Training to understand reasons, methods and processes of participative decision-making in the field of planning, design and execution of urban designs. Acquiring of knowledge to recognize, mobilize and active involvement of all relevant stakeholders and knowledge of tools and techniques for their inclusion in urban design activities. Critical understanding of specific possibilities and limitations of participative urban design. | | | |
| Course brief: | <p><u>Theoretical education:</u> 1) Participation in urban design: roles and definitions; city and democracy; participation and sustainability; stakeholders; participation of the public; levels of participation; participative techniques; possibilities and limitations of participative urban design; 2) Forms of participation: formal and informal; legal and legitimate; 3) Tools: analysis of stakeholders; negotiations; conflict management; 4) Case studies</p> <p><u>Practical education:</u> /</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Day C. with Parnell R. (2003) Consensus Design, Socially inclusive process; Oxford: Architectural Press – Đukanović Z., Bobić A., Živković J., i drugi; Umetnost u javnom prostoru: ekspertska studija prostorne provere užeg gradskog jezgra Užica za potrebe umetničke produkcije u javnom prostoru; Academica – akademska grupa; Beograd; 2011. – Jones P. B.; Petrescu D., Till J. (2005) Arcitecture and Participation; Spon Press; London, New York: Spon Press – Bull C.; Boontharm D. and others; editors (2007) Cross-Cultural Urban design; London: Routledge – Čolić R. (2006) Participativno planiranje; Beograd: Zadužbina Andrejević | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Interactive teaching | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam / Design project | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

| | | | | |
|---|--|-------------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 U – WORKSHOP-01-04 | | | |
| Teacher: | Professor Ph.D. Vladan A. Djokić; Professor Ph.D. Eva J. Vaništa Lazarević; Professor M.Sc. Rajko Lj. Korica; Associate Professor Ph.D. Aleksandra M. Djukić | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | Selection of the Workshop course within the Study Unit STUDIO M02U (06U) depends on whether the Design course has been selected within the same Study Unit. | | | |
| Objectives: | The main objective is to develop gaining of practical experiences and to develop creativity. The experience of concentrated design workshops as a form of professional internship provides an opportunity for students to develop the skill of fast and efficient making of design decisions. The workshop programme also contributes to acquiring of additional knowledge on practical procedures, to the extent that they impact the quality of an architectural design. | | | |
| Learning outcomes: | Upon completion of the course, students are expected to be able to apply environmental principles and measures creatively and adjusted to the context in research and modelling of urban space. Ability to work as a part of a team. Ability to use imagination, to think creatively and innovatively and to provide design leadership; ability to collect information, define problems, apply analyses and critical evaluation and to formulate action strategies. | | | |
| Course brief: | <p><u>Theoretical education:</u> /</p> <p><u>Practical education:</u> Individual application of theoretical and expert knowledge acquired within Studio M02 U – Design and Seminar</p> | | | |
| Literature: | Literature will be specified according the given design brief out of the tables 10.3 and 10.4 and other sources. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | 1 |
| / | / | / | / | |
| Teaching methodology: | Individual students' work through combination of previously acquired various methods of work. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam / Design project | | |
| Practical classes | 70 | Oral exam | | |
| Colloquia | | Seminar paper / study | 30 | |
| Seminar-s | | | | |

| | | | | |
|---|--|-------------------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 U – WORKSHOP-05: PARTICIPATORY URBAN DESIGN | | | |
| | STUDIO M06 U – WORKSHOP-05: PARTICIPATORY URBAN DESIGN | | | |
| Teacher: | Assistant Professor Zoran N. Djukanović | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | Selection of the Workshop course within the Study Unit STUDIO M02U (06U) depends on whether the Design course has been selected within the same Study Unit. | | | |
| Objectives: | The main objective is to develop gaining of practical experiences and to develop creativity. The experience of concentrated design workshops as a form of professional internship provides an opportunity for students to develop the skill of fast and efficient making of design decisions. The workshop programme also contributes to acquiring of additional knowledge on practical procedures, to the extent that they impact the quality of an architectural design. | | | |
| Learning outcomes: | Training to understand reasons, methods and processes of participative decision-making in the field of planning, design and execution of urban designs. Acquiring of knowledge to recognize, mobilize and active involvement of all relevant stakeholders and knowledge of tools and techniques for their inclusion in urban design activities. Critical understanding of specific possibilities and limitations of participative urban design. | | | |
| Course brief: | <p><u>Theoretical education:</u> /</p> <p><u>Practical education:</u> Individual application of theoretical and expert knowledge acquired within Studio M02 U – Design and Seminar</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Day C. with Parnell R. (2003) Consensus Design, Socially inclusive process; Oxford: Architectural Press – Đukanović Z., Bobić A., Živković J., i drugi; Umetnost u javnom prostoru: ekspertna studija prostorne provere užeg gradskog jezgra Užica za potrebe umetničke produkcije u javnom prostoru; Academica – akademska grupa; Beograd; 2011. – Jones P. B.; Petrescu D., Till J. (2005) Architecture and Participation; Spon Press; London, New York: Spon Press – Bull C.; Boontharm D. and others; editors (2007) Cross-Cultural Urban design; London: Routledge – Čolić R. (2006) Participativno planiranje; Beograd: Zadužbina Andrejević | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | 1 |
| / | / | / | / | |
| Teaching methodology: | Individual students' work through combination of previously acquired various methods of work. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam / Design project | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

| | | | | |
|---|---|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS U – 01-14 | | | |
| Teacher: | Professor M.Sc. Petar M. Arsić; Professor M.Sc. Dragana M. Bazik; Professor Ph.D. Eva J. Vaništa Lazarević; Professor Ph.D. Vladan A. Djokić; Professor M.Sc. Rajko Lj. Korica; Professor Ph.D. Miodrag B. Ralević; Associate Professor Ph.D. Aleksandra M. Djukić; Associate Professor Ph.D. Aleksandra B. Stupar; Assistant Professor Zoran N. Djukanović; Assistant Professor M.Sc. Jelena A. Živković; Assistant Professor Ph.D. Ksenija Ž. Lalović; Assistant Professor Ph.D. Marija L. Maruna; Assistant Professor M.Sc. Biserka Č. Mitrović; Assistant Professor M.Sc. Uroš B. Radosavljević | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: | All previous exams in Master academic studies must be passed | | | |
| Objectives: | <p>The objective of preparation of a master thesis is to make a synthesis of previously acquired knowledge and skills and to apply them in research work and a selected focus field for a selected problem processed within the final project. In work, students should show a high level of independence in work at all stages of preparation of a thesis, from defining of a topic to final defence.</p> <p>The final part of the study programme of Master academic studies Architecture / Module A consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units.</p> <p>Master thesis is individual research on the highest and the most complex level of master studies, which includes research of a context and processing of all specific aspects of an assignment, establishment of programme structure and a design thesis, clear defining of design brief and topic on the basis of which a design can be developed with insight in newest trends in architecture, as well as critical relation towards local environment and the context in general.</p> | | | |
| Learning outcomes: | <ul style="list-style-type: none"> – Training of students for individual research work – application of acquired knowledge in preparation and implementation of research in the field of urban design and planning. – Training of students for application of theoretical knowledge and assumptions of the methodic construction of research in implementation of a specific assignment (strategy/design) in the field of urban design. – Training of students for individual preparation for work in a design and formation of a thesis, main conceptual assumption of the design and design assignment. | | | |
| Course brief: | <p><u>Theoretical education:</u> Topics of the master thesis are research topics and require application of a wide spectrum of previously acquired knowledge, skills and competences. The work includes individual research work in a selected focus field of urban design and application of various research methods in understanding of problem structure of a specific spatial and social and economic context.</p> <p><u>Practical education:</u> Methodology of scientific research, formulation and writing of a thesis. Research includes defining of a design brief, thesis and topic – a written thesis of a Master design and a Master final project. Work on necessary relevant and reference literature, research of contextual and historical facts, as well as modern analogous contents, functions, models and architectural artefacts.</p> | | | |
| Literature: | Literature recommended by a mentor Literature proposed by students and accepted by a mentor Literature proposed by a professor in the theoretical course Scientific research methodology | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 2 | Studio research: 4 | |
| Teaching methodology: | Master thesis is developed through mentor-guided and individual students' research work and includes: preparatory classes in research methodology, lectures, students' research work, mentor's work and writing of a thesis, as well as oral public defence of a master thesis before the Mentoring Committee. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Elaborate – Written thesis | 50 | |
| Practical classes | 30 | Oral presentation | 10 | |
| Colloquia | 10 | | | |
| Seminar-s | | | | |

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|---|--|----------------------------|------------------------|--------|
| Study programme: | Master academic studies Architecture / Module U | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN U – 01-13 | | | |
| Teacher: | Professor M.Sc. Petar M. Arsić; Professor M.Sc. Dragana M. Bazik; Professor Ph.D. Eva J. Vaništa Lazarević; Professor Ph.D. Vladan A. Djokić; Professor M.Sc. Rajko Lj. Korica; Professor Ph.D. Miodrag B. Ralević; Associate Professor Ph.D. Aleksandra M. Djukić; Associate Professor Ph.D. Aleksandra B. Stupar; Assistant Professor Zoran N. Djukanović; Assistant Professor M.Sc. Jelena A. Živković; Assistant Professor Ph.D. Ksenija Ž. Lalović; Assistant Professor Ph.D. Marija L. Maruna; Assistant Professor M.Sc. Biserka Č. Mitrović | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: | All previous exams in Master academic studies must be passed. Selection of the Master Design course depends on whether the Master Thesis course has been selected. | | | |
| Objectives: | <p>The objective of preparation of a master design is to make a synthesis of previously acquired knowledge and skills and to apply them in practical work and a selected focus field of urban design/planning for a selected problem processed within the final project. In work, students should show a high level of independence in work at all stages of preparation of a design, from defining of a topic to final defence.</p> <p>The final part of the study programme of Master academic studies Architecture / Module A consists of three units: Master thesis, Master design and Master final project. By work on a thesis, a design and a final project, through the process of formulation, outlining and development of a design, students individually link all acquired knowledge and skills and master the processes of research, conceptualization, design and materialisation of complex architectural and urban units.</p> <p>Master design is work on the highest and the most complex level of master studies with clearly recognizable research component: research through defining of the main issues of research through design, research and development of design methods in line with the thesis as analytic and generic studies in space with public review of the concept.</p> | | | |
| Learning outcomes: | <p>Training of students for individual research work – application of acquired knowledge in preparation and implementation of research in the field of urban design and planning.</p> <p>Training of students for application of expert applicative knowledge and generation of design solutions in execution of a specific assignment (strategy/design) in the field of urban design.</p> <p>The result of research by design – formulation of a concept in line with the Master thesis – preparation for development of the Master final project.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> Work on the necessary and relevant literature and finding of analytic and generic research models.</p> <p><u>Practical education:</u> The work includes individual design work in a selected area of focus and application of various design methods necessary for generation of sustainable urban and architectural solutions and includes research through design, modelling, forming and structuring of design programme and concepts.</p> | | | |
| Literature: | <p>Literature recommended by a mentor Literature proposed by students and accepted by a mentor Design by research methodology</p> | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 4 | Studio research: 10 | |
| Teaching methodology: | Master thesis is developed through mentor-guided and individual students' research work. Master thesis shall be presented/defended before the Mentoring Committee. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Design elaborate | 50 | |
| Practical classes | 30 | Oral presentation | 10 | |
| Colloquia | 10 | | | |
| Seminar-s | | | | |

ELECTIVE COURSES

Module – Architectural technologies

| | | | | |
|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AT – DESIGN PROJECT-01: GREEN ARCHITECTURE: Design of buildings of social status | | | |
| Teacher: | Assistant Professor Dušan M. Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 15 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>Learning about various stages in the process of design, from defining and spatial review of a design programme, through research of research of spatial possibilities of a location to design of a specific building with elaboration of details.</p> <p>Teaching students about the need and possibilities of using of natural potentials of a location.</p> <p>A specific objective of the assignment is to emphasize respect of natural environment and the nature in general – from a specific location and its potentials and limitations to careful selection of constructions and materials.</p> <p>Through the design, students learn about bioclimate principles and systems (passive and active).</p> | | | |
| Learning outcomes: | <p>A design assignment stimulates understanding and interpretation of relations between individuals (owners and users) and space, as well as understanding and interpretation of relations between architectural and urban building and its surroundings. The aim is also to build abilities of architectural and urban organisation and forming of space that meets aesthetic, functional and technical requirements.</p> <p>Students develop abilities of integrated design from regulatory plan and space typology to technical models of construction of buildings.</p> | | | |
| Course brief: | <p>Practical education:</p> <p>Development of a conceptual architectural and urban solution with elements of a conceptual design of a building of social status.</p> <p>The first part of the design (7 weeks) is dedicated to analysis of a location and defining of programme objectives with the aim of forming a design strategy and a conceptual design of a building. At this stage, capacities of a location and its potential, both created and natural, are researched.</p> <p>At the second part of a semester (7 weeks), each student individually develops a conceptual solution taking into account modern aspirations for minimization of energy consumption. The design is prepared as a conceptual design with elements of a master design in terms of elaboration of details and applied bioclimate systems.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Course reader with selected texts and list of reference literature – Bioklimatska arhitektura, M. Pucar, IAUS 2006. – Green Architecture, J. Wines, Taschen 2000 – Solar Energy in Architecture and Urban Planning, T. Herzog (ed.), Prestel 1996. – Solar architecture: Strategies, Visions, Concepts, C. Shittich (ed.), Birkhauser 2003. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 10 | / | |
| Teaching methodology: | <p>Teaching must include combination of several various forms of work: group work, individual work on case studies, discussions, preparation of presentations, design.</p> <p>Students simulate the design development process, from forming of concepts to elaboration of details.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|--|-------------------------|--|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M01 AT – DESIGN PROJECT-02 | | |
| Teacher: | | Assistant professor M.Sc. Budimir S. Sudimac | | |
| Type of course: | | Elective | | |
| ECTS: | | 15 | | |
| Preconditions: / | | | | |
| Objectives: The objective of the course is to link and improve knowledge and skills acquired during undergraduate academic studies, both at the level of research and generalization and at the level of design and execution. Students develop abilities of integrated design, typology of space to technical models of construction of buildings. The objective of the course is to introduce students to expert and scientific matter and methodology of architectural design of architectural objects, with application of the main energy efficiency principles. The design assignment serves as a programme framework for adequate introduction of students to elements of architectural and urban design, development of ability to collect information and modern possibilities of construction of buildings with correlation between technology and architecture and with review of urban problems in a selected location. Through analysis and case studies, students learn about internal and external factors influencing stay in a specific architectural space, with optimization of the energy efficiency system of a building. The objective of the course is to systematically research these requirements, to identify resources necessary for their implementation and impact on the architectural solution. | | | | |
| Learning outcomes: Ability to develop architectural designs that will meet both aesthetic and technical requirements; knowledge of the impact of visual arts on the quality of architectural design; adequate knowledge of urban design, planning and other skills included in the design process; understanding of relations between people and buildings, between buildings and their surroundings, as well as the need to link buildings and space between them with human needs and dimension; understanding of architects' profession and architects' role in the society, particularly in preparation of design assignments that deal with social impacts; adequate knowledge of problems in physics and technologies, as well as the function of buildings with the aim to ensure internal comfort and protection against unfavourable weather conditions; necessary design abilities that will be able to meet users' needs, regardless of financial and regulatory limitations | | | | |
| Course brief: <u>Practical education:</u> Teaching (lectures and exercises) must include a combination of various forms of work, such as ex-cathedra lectures, interactive teaching, case studies, individual and group projects, research projects, presentations, essays, term papers. | | | | |
| Literature: – Ibelings Hans, 2007, Supermodernism - Architecture in the Age of Globalization – Bill Dunster, Craig Simmons, Bobbz Gilbert, 2009, The ZEDbook, Taylor&Francis Group, New York – Georg Albert, 2010, Energieeffiziente Architektur in Deutschland, Wustenrot Stiftung, Zurich – Ibelings Hans, 2007, Supermodernism - Architecture in the Age of Globalization – Wüstenrot Stiftung. Beiträge von Inge Beckel, Claes Caldenby, Gert Kähler, Roland Kötz, Nikolaus Kohler, Arno Lederer, Hugh – Pearman, Ariane Wilson, 2004, Schulen in Deutschland, Karl Krämer, Stuttgart | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 10 | Studio research: / | |
| Teaching methodology: Lectures and interactive teaching. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 15+15 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M01 AT – SEMINAR 1 -01: WOOD IN CONTEMPORARY ARCHITECTURE | | |
| Teacher: | Associate Professor Ph.D. Jelana A. Ivanović Šekularac | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The course objective is to introduce students to the principles of application of wood elements as primary and secondary structures of architectural objects, introduction to the logic of design, structures and construction of facilities by using wood and wood-based products and the acquisition of new knowledge and the principles of design and construction of the envelope with wood trim elements, application of contemporary technical and technological solutions. The aim of the course is to improve the existing knowledge in the field of architectural structures, with the introduction of contemporary principles and systems of construction, as part of the necessary knowledge to successfully surmount the curriculum in master studies.</p> | | |
| Learning outcomes: | <p>Knowledge gained in this course is part of the necessary knowledge to successfully surmount the curriculum in master studies and is relevant to the buildings' materialization.</p> | | |
| Course brief: | <p><u>Theoretical education:</u> The issue of the application of wood and wood products in a contemporary architectural facility is treated from the point of materialization, architectural design and detail, as well as the application of knowledge in practice – in the process of implementation, operation and maintenance of architectural structures.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Herzog, Natterer, etc, 2004., Timber Construction Manual, Birkhäuser, Basel – Natterer, Herzog, Volz, 1991., Holzbau Atlas, Rudolf Müller, Köln – Hugues T., Steiger L., Weber J., 2004., DETAIL PRAXIS, TIMBER CONSTRUCTION, Birkhäuser, Basel – Ivanović Šekularac Jelena, 2010., Funkcionalni i oblikovni potencijali drveta kao elementa obloge arhitektonskih objekata, doktorska disertacija, Arhitektonski fakultet Univerziteta u Beogradu, Beograd | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active discussions, seminar papers and graphical enclosures (individually or in 2 member-groups).</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 40 |
| Practical classes | | Oral exam | 20 |
| Colloquia | 20 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AT – SEMINAR 1 -02: EVALUATION OF THE ENVIRONMENTAL CHARACTERISTICS OF BUILDINGS | | | |
| Teacher: | Assistant Professor M.Sc. Nataša D. Ćuković Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | The main objective of the course is give an introduction in the basic principles and parameters used in the assessment of the ecological characteristics of architectural structures in different designing phases, as well as in the assesment of existing buildings. | | | |
| Learning outcomes: | Knowledge gained in this course theoretical education is part of the necessary knowledge to successfully surmount the curriculum in master studies and is relevan to the buildings' materialization. | | | |
| Course brief: | <p><u>Theoretical education:</u> Environmental issues in the context of contemporary architectural theory and practice. Assessment of the ecological characteristics of architectural structures: basics and principles, criteria, parametres, indicators. Model for the assessment of the ecological characteristics of individual housing in the Belgrade area. Interactive teaching – development of a model for the assessment of the ecological characteristics of individual housing in the Belgrade area (during lecturing terms). Case studeis (homework, presentations in lecturing terms)</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Skripta (distribuirana se studentima tokom semestra) – Zbornik tekstova i izvoda iz relevantne regulative (distribuirana se studentima tokom semestra) – Ekološki ispravne zgrade – uvod u planiranje i projektovanje, S. Kosanović, Zad. Andrejević, 2009. – Green Building Certification Systems, T. Ebert et al, Detail Green Books, 2011. – A Life Cycle Approach to Buildings, H. Koning et al., Detail Green Books, 2010. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Combination of various teaching forms, such as ex cathedra lectures, interactive teaching, case studies, short research assignments, presentations, seminar papers, etc. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | 25 | Oral exam | | |
| Colloquia | 25 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | URBAN OASIS | | |
| Teacher: | Assistant professor M.Sc. Budimir S. Sudimac | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The elective course is the secondary theoretical course in master studies, with the aim to gain certain theoretical knowledge a supplement or deepening of a subject matter. The course content includes analysis and designing of architectural elements that contribute to the reduction of extreme natural and manmade influences on the comfort and zone of cosiness for people in different climatic environments. Throughout the teaching process, there would be examining ways of protection, shaping and technological potential of certain types of protection as a response to challenges of the sustainable world. The course aims to introduce students, through theoretical lectures, case studies and guest lectures, with contemporary systems of protection, basic principles of designing of protective elements and possible ways of integration within urban structure. Elements of protection shall be treated as part of the overall energy optimization of architectural object or space within which technological development enables the use of present and future natural resources. Students will, through practical work on the seminar paper acquire knowledge about complex aspects of the space designing for pleasant stay of people.</p> | | |
| Learning outcomes: | <p>Knowledge gained in this course theoretical education is part of the necessary knowledge to successfully surmount the curriculum in master studies and is relevant to the buildings' materialization.</p> <p>Elective course is part of the secondary theoretical module in master studies. The aim of the course is to acquire primarily theoretical knowledge. Classes are held through a combination of various teaching forms – lectures, literature study and review and analysis of cases studies from domestic and foreign practice. Students' direct participation in the teaching process through the analysis and presentation of case studies is expected.</p> | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The basis of work within the course is to introduce students with the phenomena and trends affecting the comfort zone, and which besides functional have shaping, environmental and energy character. The focus of the seminar is on analysis of different tendencies in conception and designing of protective elements of architectural structures and open spaces in different climatic environments. Through the analysis of various concepts, the potential of creating of integrated systems as a part of the building structure is investigated. In addition, the seminar investigates systems that allow easy parsing for the purpose of reuse and recycling.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Klaus Daniels, TECHNOLOGIE DES ÖKOLOGISCHEN BAUENS, Birkhauser, 1999. – Behling Sophia and Behling Stefan, SOLAR POWER the evolution of sustainable architecture, New York, Prestel, 2000. – Herzog Thomas (ed.), SOLAR ENERGY IN ARCHITECTURE AND URBAN PLANING, London, Prestel, 1996. – Kemp Wiliam H. SMART POWER: AN URBAN GUIDE TO RENEWABLE ENERGY AND EFFICIENCY, Tamworth, Aztext Press, 2004. – Gerhard Hausladen, CLIMA SKIN, Callwey, 2006. | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Lectures and interactive teaching. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 70 |
| Practical classes | | Oral exam | |
| Colloquia | 10+10 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AT – SEMINAR 2 -01: GLASS IN CONTEMPORARY ARCHITECTURE | | | |
| Teacher: | Assistant professor Ph.D. Jasna Lj. Čikić – Tovarović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>Significant changes in contemporary architecture are the result of the application of materials of advanced characteristics, new technologies and new approach to the building' structures. The course objective is the introduction with the formative (openness, transparency, communication) and constructive potential of the glass in contemporary architecture and the identification of opportunities and disadvantages. On the other hand, the interactive performances of digital media and integrated communication technologies within the architecture create new conditions of urban perception and the perception of architectural work; thereby it is important to study the phenomenon of media-architecture and media-facades with special emphasis on the role of the glass as a material. What is perceived is a large variety of available systems and the possibility of flexible adjustment and quality integration according to the needs of individual design.</p> | | | |
| Learning outcomes: | <p>Knowledge gained in this course theoretical education is complemented and improved knowledge from Architectural structures 4, as well as completely knowledge in the field of media-facades, which represents the basis for development of critical view on the importance and application of the latest technologies and materials in architecture. Additionally, gained knowledge can be applied in the proces of designing innovative structures and buildings.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> During the classes, numerous possibilities of glass as a material will be systematically exposed – through an overview of structural elements and assemblies made of glass. In addition, the course will explore the phenomenon of media-architecture, interactive, flexible architecture and media facades, and then analyse and systematize a significant number of new technologies along with the overview of their technical and other characteristics.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Schittich, Staib, Balkow, Schuler, Sobek: Glass Construction Manual, Birkhauser, Berlin, 1999. – Wurm, J: Glass Structures, Birkhauser, Basel, 2007. – Čikić J. „Staklo i konstruktivna primena u arhitekturi”, Građevinska knjiga, Beograd, 2007. – Haeusler, H. Media facade, Avedition, Ludwigsburg, 2009. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | <p>Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active discuccions, seminar papers and graphical enclosures (individually or in 2 member-group).</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 20 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AT – WORKSHOP-01: GREEN ARCHITECTURE – Quattro stagioni / Four seasons | | | |
| Teacher: | Assistant Professor Dušan M. Ignjatović | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of the course is to review possibilities of transformation of architectural solutions in accordance with annual and daily climate change. The course includes research of modalities, systems, technology and shaped repercussions that include a concept of adaptability of buildings to changes in annual dynamics in their concept and materialization. Various conditions and processes are simulated through graphic methods (analysis of shadows, natural lighting in certain spaces etc.), computer simulations (sunlight, heat gains, illumination, air flow..) or through review of a physical model.</p> | | | |
| Learning outcomes: | <p>Students' ability to identify potentials and limitations of buildings due to the annual dynamics and appropriate functioning of buildings taking into account the need to achieve adequate comfort. Students are trained to include the principle of adaptability in the design process as one of the main initial methods.</p> | | | |
| Course brief: | <p>Practical education: Development of a design for a segment of a building structure. Research and presentation of functioning in all four conditions through graphic (sketch, model) and theoretical work (essay, presentation)</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Solar Energy in Architecture and Urban Planning, T. Herzog (ed.), – Green Architecture, J. Wines, Taschen 2000. – Solar architecture: Strategies, Visions, Concepts, C. Shittich (ed.), Birkhauser 2003. – Rider sa odabranim relevantnim tekstovima i spiskom literature u skladu sa projektnim zadatkom | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | 1 | |
| Teaching methodology: | <p>Teaching is individual through research work (analysis of an example), discussions, presentations and preparation of design for a segment of a building structure materialized in line with the developed theoretic assumptions .</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | points |
| Activity during lecturing | | Written exam | | 60 |
| Practical classes | 40 | Oral exam | | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M01 AT – WORKSHOP-02: | | | |
| Teacher: | Assistant professor M.Sc. Budimir S. Sudimac | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective is to develop creativity and lateral relation towards the design process. Experience in concentrated design workshops provides a possibility to students to develop ability of fast and efficient making of design decisions. Architectural and structural expression of innovative mechanic and digital facades. Development of students' ability to design, formulate and interpret modern facade elements.</p> | | | |
| Learning outcomes: | <p>Understanding of design assignments and how to critically evaluate them to ensure they are in compliance with the location and context, for reasons such as sustainability and budget; understanding of relevant philosophical approaches leading to discovery and understanding of theories in the cultural context. Ability to generate and systematically review, analyse and evaluate design solutions and draw conclusions which clearly show relations with methodological and theoretical rules. Ability to collect information, define problems, apply analysis and critical evaluation and formulate action strategies; ability to think three-dimensionally in research of a design solution. Architectural design of a facade element. The work must be presented in both digital form and in hard copy together with a model of the facade element.</p> | | | |
| Course brief: | <p><u>Practical education:</u> Teaching includes combination of several various forms of work, such as interactive teaching, case studies, individual projects, research projects, presentations.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Ibelings Hans, 2007, Supermodernism - Architecture in the Age of Globalization – Bill Dunster, Craig Simmons, Bobbz Gilbert, 2009, The ZEDbook, Taylor&Francis Group, New York – Georg Albert, 2010, Energieeffiziente Architektur in Deutschland, Wustenrot Stiftung, Zurich – Ibelings Hans, 2007, Supermodernism - Architecture in the Age of Globalization – Wüstenrot Stiftung. Beiträge von Inge Beckel, Claes Caldenby, Gert Kähler, Roland Kötz, Nikolaus Kohler, Arno Lederer, Hugh – Pearman, Ariane Wilson, 2004, Schulen in Deutschland, Karl Krämer, Stuttgart | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | 1 | |
| Teaching methodology: | Lectures and interactive teaching. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 15+15 | | | |
| Seminar-s | | | | |

| | | | |
|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 AT – DESIGN PROJECT-02: GREEN AND ENERGY-EFFICIENT RESIDENTIAL ARCHITECTURE | | |
| Teacher: | Professor Ph.D. Milica Dj. Jovanović Popović | | |
| Type of course: | Elective | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>Green and energy-efficient architecture as an approach in design and construction of residential buildings is a duty Serbia acquired both in adopted regulations and laws and because Serbia's resources are limited. In this context, the objective of the course is defined as follows: introduction to the principles of design and construction of green and energy-efficient architecture.</p> <p>In that context, the importance is given to development and elaboration of architectural details of facades and roofs and preparation of models at various levels of the design, using adequate software. The objective is to introduce students to the process of design of concepts and technical solutions for envelopes – facades and roofs serving the purpose of energy gains (generation of heat and electricity), control of day illumination and direct sunlight and ensuring of natural air flow and cooling and using of renewable energy sources, with the aim of reducing energy needs of buildings and thus also pollution of the environment.</p> | | |
| Learning outcomes: | Acquiring of necessary knowledge of the principles of design and construction of buildings characterized by reduced energy consumption, green concept, from the level of urban design to the level of specific details specific for such approach in architecture. | | |
| Course brief: | <p><u>Theoretical education:</u> Two seminars, seminar 1 – “Environmental and Energy-Efficient Architecture” and seminar 2 – students’ free choice.</p> <p><u>Practical education:</u> Practical classes and other teaching forms. Design of residential buildings in a selected location, with introduction of the principle of adaptation of buildings to micro-climate conditions of the location, heat zoning of the building, selection of materials according to the concept of evaluation of their life-cycle, introduction of the concept of use of renewable energy sources and recycling of wastewater, certification according to one of the existing certification systems, preparation of passports for energy-efficient buildings.</p> | | |
| Literature: | | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | <p>Teaching includes exercises in the studio, work at home and in the field.</p> <p>Lectures, discussions and analyses of examples from the practice are occasionally held in the studio. Where necessary, teaching can include experts in various fields with the aim to evaluate a topic from the aspect of various professions and specific problems. Teaching is individual at the stage of development of conceptual solutions, while elaboration of designs can be individual or selected designs can be elaborated in groups. Practical work is supported by two seminars, seminar 1 – “Modern Facades and Roofs” and seminar 2 – students’ free choice.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 60 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 AT – DESIGN PROJECT-01: ENERGY-EFFICIENT BUILDING IN URBAN SETTING | | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić | | | |
| Type of course: | Elective | | | |
| ECTS: | 15 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of the course is to introduce students to and to enable them to research the concept of energy and ecologically sustainable buildings through the design process. The focus is on functional solutions for buildings and on materialization of envelopes of buildings with low energy consumption, with stimulation of creativity in research of functional and shaped performances and technical solutions of energy-efficient structures that result in avant-garde solutions. In that context, the importance is given to development and elaboration of architectural details of facades and roofs and preparation of models at various levels of the design, using adequate software. The objective is to introduce students to the process of design of concepts and technical solutions for envelopes– facades and roofs serving the purpose of energy gains (generation of heat and electricity), control of day illumination and direct sunlight and ensuring of natural air flow and cooling and using of renewable energy sources, with the aim of reducing energy needs of buildings and thus also pollution of the environment.</p> | | | |
| Learning outcomes: | <p>Acquiring of specific knowledge and skills in design of energy-efficient buildings which, in case of an urban zone, includes skills of introduction of representative architectural solutions, not only by their content but also in terms of techniques for their materialization, particularly envelope, the materialization of which as an energy-efficient structure results in achievement of a high comfort of stay in a building and reduction of pollution of the urban environment. Students design energy and environmentally sustainable building for conditions in Belgrade. Students develop skills of critical and complex approach both in theoretical and research and in practical field of architectural and urban design. Acquiring of ability to act with innovative, technical competences in application of construction techniques and understanding of their development contributes to the overall students' competences.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u> Two seminars, seminar 1 – “Modern Facades and Roofs” and seminar 2 – students’ free choice.</p> <p><u>Practical education:</u> Practical classes and other teaching forms. Design of a building in an urban zone that initiates introduction of representative architectural solutions, not only by their content but also in terms of techniques for their materialization, particularly envelope, the materialization of which as an energy-efficient structure is in addition to achievement of high comfort during stay in a building is also aimed at reduction of pollution of an urban zone, which shows the importance of construction of such buildings in the urban tissue. Students design energy and environmentally sustainable hotel for conditions in Belgrade.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Krstić-Furundžić, A., Multifunkcionalne krovne strukture energetske efikasne zgrade, časopis Arhitektura i urbanizam, broj 18/19, IAUS, Beograd, 2006, str. 34-47. Hercog, T., Krippner, P., Lang, W., Facade Construction Manual, Birkhauser Edition Detail, Basel, 2004. – Torben Dahl, Climate and Architecture, Routledge, UK, 2009. Prasad, D., Snow, M., Ed., Designing with Solar Power, The Images Publishing Group, 2005. – Krstić-Furundžić, A., Kosić, T., Terzović, J., Architectural Aspect of Structural Design of Glass facades/Glass Skin Applications, in Challenging Glass 3, Proceedings of the Conference on Architectural and Structural Applications of Glass, Editors: Bos, Louter, Nijssen, Veer, Faculty of Civil Engineering and Geosciences, Delft University of Technology, IOS Press BV, The Netherlands, June 2012, str. 891-900 | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 10 | / | |
| Teaching methodology: | ----- | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 AT – SEMINAR 1-01: CONTEMPORARY FACADES AND ROOFS | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić (course leader), Associate Professor Ph.D. Jelana A. Ivanović Šekularac, Assistant professor M.Sc. Budimir S. Sudimac, Assistant professor Ph.D. Jasna Lj. Čikić – Tovarović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | <p>The aim of the course is to introduce students with the principles of design and performance of the building envelope with low energy consumption, and energy-efficient buildings, concepts and technical solutions for facades and roofs as a function of energy gain (heat and electricity), control brightness and daily intrusion of sunlight and achieve natural ventilation, and the use of renewable energy, and to reduce the building's energy needs and thereby the environmental pollution.</p> <p>Students get an overview of the application of energy renewable resource to the concept, design of materialization and details and yet the construction of architectural structures' envelopes, as well as the pollution reduction. The aim is the introduction with technically innovative systems of façade and roof coverings.</p> | | |
| Learning outcomes: | <p>The student develops skills in critical and complex approach to the theoretical research and practical field of architectural and urban design. The outcome is knowledge of concepts and materialization techniques of energy efficient architectural structures' envelopes. Learn about the potentials of new technologies of materialization-covering and glass-placement of architectural structures, from the concepts to details and the effect of the material. Acquiring the ability to act with innovative, technical competence in the application of construction techniques and understanding their development that contributes to the overall competence of the student.</p> | | |
| Course brief: | <p><i>Theoretical education:</i> Basic thematic areas included in the seminar are architectural and structural design and details, while it also includes following topics innovative covering techniques for facades and roofs; features of energy efficient envelopes and multidisciplinary of approach; concepts / principles of design and construction of energy efficient envelopes; concepts and technical solutions for facades and roofs as a function of energy savings and gains-production of heating (solar energy) and electrical energy (photovoltaic modules), double facades; concepts and technical solutions for facades and roofs as a function of natural brightness control and sun's rays intrusion, and natural ventilation and cooling. Regarding the previously mentioned, students should get acquainted with the influence of location, natural and manmade conditions, the concept of the structure-envelope, and especially the materialization of it. Analysis of case studies is part of theoretical education.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Krstić-Furundžić, A., PV Integration in Design of New and Refurbishment of Existing Buildings: Educational Aspect, A., članak u časopisu JAAUBAS- Journal of the Association of Arab Universities for Basic and Applied Sciences, Volume 4 (Supplement), University of Bahrain, 2007, str. 135-146 – Hercog, T., Krippner, P., Lang, W., Facade Construction Manual, Birkhauser Edition Detail,, Basel, 2004. Krstić-Furundžić, A., Kosorić, V., Golić, K., Potential for reduction of CO2 emissions by integration of solar water heating systems on student dormitories through building refurbishment, članak u časopisu Sustainable Cities and Society, Editor: Prof. Saffa Riffat, Volume 2, Issue 1, February 2012, Elsevier, str. 50-62. – Prasad, D., Snow, M., Ed., Designing with Solar Power, The Images Publishing Group, 2005. Krstić-Furundžić, A., Kosić, T., Terzović, J., Architectural Aspect of Structural Design of Glass facades/Glass Skin Applications, in Challenging Glass 3, Proceedings of the Conference on Architectural and Structural Applications of Glass, Editors: Bos, Louter, Nijse, Veer, Faculty of Civil Engineering and Geosciences, Delft University of Technology, IOS Press BV, The Netherlands, June 2012, str. 891-900 | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | <p>Combination of various teaching forms, such as ex cathedra lectures, case studies, interactive teaching, active discussions, seminar papers and graphical enclosures (individually or in 2 member-group).</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 20 | Written exam | 50 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 AT – SEMINAR 1-02: SMART RECYCLING – Houses of recycled materials | | | |
| Teacher: | Assistant professor M.Sc. Budimir S. Sudimac | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective of the seminar is to introduce students to contemporary trends of design and implementation of architectural objects from recycled materials. Recycling is an energy intensive process that affects the reduction of the amount of energy in the life cycle of the building. The seminar aims to introduce students, through theoretical lessons, case studies and guest lectures, with recycling systems, usage of recycled materials and basic design principles. Recycled materials and design requirements shall be treated as part of the complete process of energy optimization of architectural structure within which technological development and awareness of the necessity to use recycled materials allows the use of the potential of the materials obtained in this way. Students will, through practical work on a design from recycled materials gain appropriate theoretical and practical knowledge about the complex aspects of the design of buildings while using recycled materials.</p> | | | |
| Learning outcomes: | <p>Knowledge gained in this course theoretical education is part of the necessary knowledge to successfully surmount the curriculum in master studies and is relevant to the buildings' materialization.</p> <p>Elective course is part of the secondary theoretical module in master studies. The aim of the course is to acquire primarily theoretical knowledge. Classes are held through a combination of various teaching forms – lectures, literature study and review and analysis of cases studies from domestic and foreign practice. Students' direct participation in the teaching process through the analysis and presentation of case studies is expected.</p> | | | |
| Course brief: | <p><u>Theoretical education:</u></p> <p>The basis of the work of the seminar is to familiarize students with the design of buildings that contribute to the maintenance of the natural environment and ecological balance, preserving the planet and its natural systems and resources. The uses of recycled materials other than economic feasibility establish an ecological balance with other living beings on earth. The focus of the seminar is to analyse different tendencies in the conception and design of objects from recycled materials in different climatic environments. Through the analysis of various concepts the possibility of using recycled materials in the design of the physical structure and systems that allow for easy parsing for the purpose of reuse and recycling is explored.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Klaus Daniels, TECHNOLOGIE DES ÖKOLOGISCHEN BAUENS, Birkhauser, 1999. – Kemp William H. SMART POWER:AN URBAN GUIDE TO RENEWABLE ENERGY AND EFFICIENCY,Tamworth, Aztext Press, 2004. – Herzog Thomas (ed.), SOLAR ENERGY IN ARCHITECTURE AND URBAN PLANING, London,Prestel, 1996. – Christian Schittich, SOLARES BAUEN-strategien.vision.koncepte, Birkhauser, 2003. – Gerhard Hausladen, CLIMA SKIN, Callwey, 2006. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Lectures and interactive teaching. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 70 | |
| Practical classes | | Oral exam | | |
| Colloquia | 10+10 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 AT – SEMINAR 2-02: ARCHITECTURE: Design – building -detail | | | |
| Teacher: | Assistant Professor Dragan N. Marčetić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Introduction to terminology, principles, elements of materialization and problem situations in design and execution of an architectural work. Introduction to analysis, evaluation and drawing of conclusions on the basis of aesthetic and technological requirements and characteristics of an architectural work. Establishment of connections between a design, a building and details. | | | |
| Learning outcomes: | Students are informed, able to evaluate and ready in practical sense to improve their architectural design through the next curriculum system, both through aesthetic and design aspects and technological and execution aspects of development of an architectural work. Establishment and analysis of links between a design, a building and details. | | | |
| Course brief: | <p><u>Theoretical education:</u> ARCHITECTURE BETWEEN THEORY AND PRACTICE, ART AND TECHNIQUE Theory and practice / architecture and art / architecture and technique DESIGN Investor / architect - designer Spatial levels of presentation Sketch, conceptual solution, master design, executive design, as-built design BUILDING Contractor Compliance between a design and a building Factors that impact construction of a facility Assessment and evaluation of a building DETAIL Structure - substructure Insulation - protection Facade - materials Openings - blinds Staircases - fences Case studies – domestic and foreign practice</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Dragan Marčetić, ARHITEKTURA: projekat-objekat-detalj, Arhitektonski fakultet Univerziteta u Beogradu, 2012 – Kaltenbach, Frank, ed. Translucent Materials. Munich: Birkhauser, Edition Detail, 2004. – Le Cuyer, Annette. Steel and beyond, New Strategies for Metals in Architecture. Basel: Birkhauser, Publishers for Architecture, 2003. – Pawley, Martin. Theory and Design in the Second Machine Age. Oxford: Basil Blackwell, Inc. 1990. – Vollers, Karel. Twist & Build creating non-orthogonal architecture. Rotterdam: 010 Publishers, 2001. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Ex cathedra lectures. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | 50 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 AT – SEMINAR 2-01: ENERGY EFFICIENT AND ECOLOGICAL ARCHITECTURAL | | | |
| Teacher: | Professor Ph.D. Milica Dj. Jovanović Popović | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>In several previous decades, relation towards constructed environment changed significantly due to numerous energy and economies crises, environmental pollution and acceptance of the impact of human actions on climate change. As a response, in the field of architecture permanent changes occurred in relation towards the principles of design and construction of architectural objects. It can be concluded that this process is ongoing and changes the focus of approach from application of renewable energy sources, adjustment to weather conditions of a location and energy saving to development of the environmental approach and application of the principles of evaluation of the life-cycle of a building. The objective of the course is to introduce students to these approaches in design and construction of architectural objects</p> | | | |
| Learning outcomes: | The outcome of the course is acquiring of knowledge and techniques that enable design and construction of energy-efficient architecture and green architecture. | | | |
| Course brief: | <p><u>Theoretical education:</u> Energy and economic crises in Serbia and in the world, the concept of EEE, response of architecture, development and changes of principles, solar architecture, bioclimatic architecture, application of renewable energy sources, energy-efficient architecture, green concepts, environmental architecture, concept of evaluation of the life cycle of buildings, certification systems.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Milica Jovanović Popović, Zdravo stanovanje, Arhitektonski fakultet, Beograd, – Laura Yeihner, The ecology of architecture, Whitney Library of Design. 2006. – James Wines, Green architecture, Taschen, 2000. – Richarz, Scuhly, Yeitler> Energy-efficiency upgrades, edition Detail, Birkhauser, 2007. – Klaus Danijels: Tehnologija ekološkog građenja, Jasen, Beograd 2009. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 1 | 1 | / | / | |
| Teaching methodology: | Theoretical education via lectures, various forms of active instruction, analysis and presentations of practical examples through discussions. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 50 | |
| Practical classes | | Oral exam | | |
| Colloquia | | | | |
| Seminar-s | 40 | | | |

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|---|---|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M02 AT – WORKSHOP-01 | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić | | |
| Type of course: | Elective | | |
| ECTS: | 1 | | |
| Preconditions: | / | | |
| Objectives: | <p>The objective of the workshop is to develop abilities of critical review and evaluation of conditions, problems and requirements in the process of design of solar radiation protection elements on facades of buildings, as well as assessment of efficiency of a solution based on science. The main objective is to develop creativity and lateral relation towards the design process.</p> | | |
| Learning outcomes: | <p>The expected outcome of the workshop is a synthesis presentation of a draft solution and efficiency of solar radiation protection elements on facades of buildings in the assigned location in Belgrade (sketches, study of efficiency of the shading system during various seasons and periods of the day – graphic presentation in three projections, basis, cross-section and appearance of facade at the level of one standardized floor).</p> | | |
| Course brief: | <p>Practical education: According to the assigned conditions within the Studio, for South, South-East or South-West oriented facade explore exposure to sunlight of the facade, a solution and solar radiation protection elements. The study includes research of efficiency of the shading system during various seasons and periods of the day for the location in Belgrade.</p> | | |
| Literature: | | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | / | 1 |
| Teaching methodology: | Forming of variant design solutions within the assigned frameworks is expected through qualitative urban and architecture analysis. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Written exam | 60 |
| Practical classes | 30 | Oral exam | 10 |
| Colloquia | | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M02 AT – WORKSHOP-02 | | | |
| Teacher: | Professor Ph.D. Milica Dj. Jovanović Popović | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of the course is to review possibilities for transformation of urban solutions in accordance with seasons and daily weather changes in in local weather conditions. The aim is to improve environmental and energy characteristics.</p> <p>The course includes research of modalities, systems, technology and shaped repercussions that include a concept of adaptability of buildings to changes in annual dynamics in their concept and materialization. Various conditions and processes are simulated through graphic methods (analysis of shadows, natural lighting in certain spaces etc.), computer simulations (sunlight, heat gains, illumination, air flow..) or through review of a physical model (mock-up).</p> | | | |
| Learning outcomes: | Students' ability to identify potentials and limitations of local situation and weather conditions for a building and its surroundings, enabling at the same time functional improvement of characteristics of the building | | | |
| Course brief: | Development of a design for a segment, architectural or urban unit, analysis of interrelations and correlations between model everyday life and the structure of a building/city. | | | |
| Literature: | <ul style="list-style-type: none"> – Solar Energy in Architecture and Urban Planning, T. Herzog (ed.), – Green Architecture, J. Wines, Taschen 2000. – Solar architecture: Strategies, Visions, Concepts, C. Shittich (ed.), Birkhauser 2003. – Rider sa odabranim relevantnim tekstovima i spiskom literature u skladu sa projektnim zadatkom | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | 1 | |
| Teaching methodology: | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | 30 | Oral exam | 10 | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 AT – DESIGN PROJECT-01: DESIGN AND IMPLEMENTATION OF RESIDENTIAL AND OFFICE BUILDINGS | | |
| Teacher: | Professor Ph.D. Branislav D. Žegarac | | |
| Type of course: | Elective | | |
| ECTS: | 15 | | |
| Preconditions: | / | | |
| Objectives: | <p>Design and execution of residential and business buildings intended for the market is a very popular theme in the modern domestic practice today, particularly during the past ten years.</p> <p>The assignment includes research of spatial, location, construction and economic parameters of design of a building for the market, with an emphasis on avoidance of routine solutions and finding of new, creative approaches to functional, aesthetic and constructive sense. A special part of the assignment includes research of application of modern materials, constructive solutions and impact of an architectural detail on shaped and functional characteristics of a building.</p> <p>The assignment will be performed in a selected location – in Belgrade city centre and will include preparation of a conceptual design containing elements of a master design for a residential building with shops on the ground floor.</p> | | |
| Learning outcomes: | Knowledge and skills in design and execution of residential buildings and a design of a residential and business building in the existing urban tissue. | | |
| Course brief: | <p>Through work on the assignment, students learn about modern approaches in design, materialization and construction of residential and business buildings in central parts of Belgrade.</p> <p>In addition to design, students study the applicable urban and legal regulations, market laws and problems in construction of buildings in the existing urban tissue (interpolations).</p> <p>A special part of the course is dedicated to analysis of selected examples (case study) of buildings in urban tissue the construction of which is underway with the aim of introducing students to modern structures, materials and specific problems in construction of buildings such as securing of surrounding buildings, foundation pits, foundation, research works, as well as procedures in obtaining building permits, connection of buildings to infrastructure etc.</p> <p><u>Practical education:</u></p> <p>Preparation of a conceptual architecture and urban design (with elements of a master design) and other documents for construction of a multi-floored residential and business building with shops on the ground floor, residential apartments on other floors and underground garage in Belgrade city centre. The design is prepared in scale from 1:500 to 1:50 and details in scale of 1:10.</p> <p>In accordance with urban parameters and on the basis of an excerpt from the urban plan, design basis (geodesic basis, geomechanical elaborate...), students define capacities of a location such as surface area of a building, structure and number of apartments, number of parking spaces in the garage etc..</p> <p>The conceptual design will be assessed from several aspects: functionality of solutions, cost-effectiveness, compliance with regulations, constructive solution, materialization, quality and selection of materials in solutions of architectural details...</p> <p>Through simulation of work in practice, students prepare a conceptual design and other documents necessary to obtain a building permit, reporting of works and construction of a building.</p> | | |
| Literature: | <ul style="list-style-type: none"> – Kronenburg Robert: Flexible – Architecture that Responds to Change, Laurence King Publishing Ltd, London, 2007. – Mostaedi Arian: Nuovi edifici residenziali collettivi, Logos, Barsezona, 2000. – Schittich Christian: Housing for People of All Ages, Detail – Institut für internationale Architektur – Dokumentation GmbH, München, 2007. – Reiners Holger: Die besten Einfamilienhäuser, Georg D.W. Callwey GmbH&Co., München, 1999/2000. – Broto Carles: Innovative Public Housing, Mostaedi Arian, Barsezona, 2005. | | |
| Active training classes no.: | Other: | | |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | 10 | / |
| Teaching methodology: | <p>Teaching includes consultations in exercises in the studio, work at home and work in the field – visit to a construction site.</p> <p>Lectures, discussions and analyses of examples from practice will occasionally be held in the studio. Teaching will include experts in various fields with the aim of evaluating the topic from the aspects of various professions and specific problems.</p> <p>In addition to work in the studio, teaching also includes attending of three seminars in design and materialization.</p> <p>Students will work individually.</p> | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 45 |
| Practical classes | 10 | Oral exam | 5 |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 AT – DESIGN PROJECT-02 | | | |
| Teacher: | Assistant Professor Ph.D. Miloš P. Gašić | | | |
| Type of course: | Elective | | | |
| ECTS: | 15 | | | |
| Preconditions: | / | | | |
| Objectives: | Development of knowledge and skills in architectural design with elaborations in the elements of a master design. | | | |
| Learning outcomes: | Students are trained for architectural design and its multidisciplinary aspects. Development of a conceptual solution into a design with higher definition, elaborated functions, shaping, concretised structures, materialization and spatial solutions that enable using of modern installation systems. | | | |
| Course brief: | <p><u>Practical education:</u> Design of a mixed-purpose building in a specific location. Programme research, development of a concept and formation of a conceptual architectural solution. Elaboration of a conceptual solution into the elements of a master design. \Introduction to the design process. Preparation of a special assignment in the field of design management.</p> | | | |
| Literature: | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 10 | / | |
| Teaching methodology: | Teaching includes consultations in exercises in the studio, work at home and work in the field. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|-------------------------|--|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M03 AT – SEMINAR 1 -01: LEED AND ENVIRONMENTAL ASPECTS OF ARCHITECTURAL PRACTICE | | |
| Teacher: | | Assistant Professor M.Sc. Nataša D. Ćuković Ignjatović | | |
| Type of course: | | Elective | | |
| ECTS: | | 2 | | |
| Preconditions: / | | | | |
| Objectives: The main objective of the course is to introduce students to the systems for environmental certification of buildings and trends in the contemporary architectural practice in cause-and-effect relationship with them. | | | | |
| Learning outcomes: Knowledge of the principles and structure of certification systems for evaluation of environmental characteristics of architectural objects. Students who successfully complete the course are entitled to take examination to be recognized as LEED GA (LEED Green Associate). | | | | |
| Course brief: <u>Theoretical education:</u> The issues of environmental protection in the context of contemporary architectural theory and practice. Evaluation of environmental characteristics of architectural objects: main bases and principles. The structure and principles of the most frequent certification systems. LEED – main concepts, criteria, credits, certificates. <u>Practical education:</u> Interactive teaching - LEED scorecard (during lectures). Research work through critical analysis of students' own designs prepared in I, II and III semesters of MAS (work at home, presentations during lectures). | | | | |
| Literature: – Skripta (distribuirana se studentima tokom semestra) – Zbornik tekstova i izvoda iz relevantne regulative (distribuirana se studentima tokom semestra) – LEED Reference Guide for Building Design and Construction (LEED v4), USGBC 2013 – LEED Core Concepts Guide, USGBC 2010 – LEED GA Study Guide, USGBC 2011 | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Combination of various teaching forms, such as ex cathedra lectures, interactive teaching, case studies, short research assignments, presentations, seminar papers, etc. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 40 | |
| Practical classes | 25 | Oral exam | | |
| Colloquia | 25 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 AT – SEMINAR 1 -02: BILL OF QUANTITIES | | | |
| Teacher: | Assistant Professor Ph.D. Miloš P. Gašić | | | |
| Type of course: | Elective | | | |
| ECTS: | 2 | | | |
| Preconditions: | / | | | |
| Objectives: | Theoretical support to preparation of a design in the Studio design. Elaboration of selected aspects of an architectural design. | | | |
| Learning outcomes: | St Acquired knowledge and skills in preparation of a bill of quantities and preliminary cost estimate je drugo of works, applied to a specific study design. | | | |
| Course brief: | <p><u>Practical education:</u> Preparation of a bill of quantities and preliminary cost estimate for the selected groups of works or parts of the design in the Studio Design, with analysis of prices. Introduction of students to possibilities of preparation of a bill of quantities and preliminary cost estimate at the level of a conceptual design, using separation of buildings to systems and elements. Contrastive analysis of the bill of quantities and preliminary cost estimate of works by construction crafts and elements of a building. Analysis of variant solutions.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Dušanka Đorđević, "Izvođenje radova u visokogradnji", Izgradnja, Beograd, 2004. – Tatjana Jurenić, "Model klasifikacije elemenata arhitektonskih objekata u tehničkoj dokumentaciji - formiranje i primena", doktorska disertacija, Arhitektonski fakultet u Beogradu, 2013. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| 2 | / | / | / | |
| Teaching methodology: | Teaching includes lectures, practical exercises, research of literature, work at home. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | | Oral exam | | |
| Colloquia | 40 | | | |
| Seminar-s | | | | |

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|---|-------------------------|--|-----------------------|--------|
| Study programme: | | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | | Master academic studies | | |
| Course: | | STUDIO M03 AT – SEMINAR 2 -01: IMPLEMENTATION OF ARCHITECTURAL DESIGNS: ACTUAL PROBLEMS, APPLICATION OF NEWEST TECHNOLOGY AND BUILDING MATERIALS | | |
| Teacher: | | Professor Ph.D. Branislav D. Žegarac | | |
| Type of course: | | Elective | | |
| ECTS: | | 2 | | |
| Preconditions: / | | | | |
| Objectives: The objective of the course is to introduce students to the current problems in construction of buildings with reinforced-concrete and steel supporting structure, as well as with finishing works, modern construction materials and products applied in construction of high-rise buildings. Knowledge acquired in this course should enable students to act in practice in construction and supervision of buildings (expert and design supervision). | | | | |
| Learning outcomes: Skills and knowledge in materialization and construction of residential facilities. | | | | |
| Course brief: <u>Theoretical education:</u> Main thematic fields are materialization and architectural structures and include application of acquire knowledge in practice – in construction of architectural objects. | | | | |
| Literature: – Chris Abel, 2004. Architecture, Technology and Process, Oxford, Architectural Press – Gyula Sebestyen, 2003. New Architecture and Technology, Oxford, Architectural Press – Burkhard Fröhlich, Sonja Schulenburg (eds.), 2003, Metal Architecture Design and Construction, Basel, Switzerland, Birkhäuser - Publishers for Architecture – Teodor Hugues, Klaus Greilich, Christine Peter, 2004. Building with Large Clay Blocks, Munich, Germany, Institut für Internationale Architektur - Dokumentation GmbH&Co. KG – Alexander Reichel, Anette Hochberg, Christine Köpke, 2004. Plaster, Render, Paint and Coatings, Details Products Case studies, Munich, Germany | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: 2 | Practical classes: / | Other teaching forms: / | Studio research: / | |
| Teaching methodology: Combination of various teaching forms, such as ex cathedra lectures, interactive teaching, case studies, visits to construction sites, design offices, products and equipment manufacturers' presentations, preparation of seminar paper. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 20 | Written exam | 20 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 50 | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 AT – SEMINAR 2 -02: TECHNOLOGIES OF BUILDINGS REHABILITATION | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić (course leader), Associate Professor Ph.D. Jelena A. Ivanović Šekularac, Assistant Professor M.Sc. Budimir S. Sudimac, Assistant Professor Ph.D. Jasna Lj. Čikić Tovarović | | |
| Type of course: | Elective | | |
| ECTS: | 2 | | |
| Preconditions: | / | | |
| Objectives: | Main thematic fields are materialization and architectural structures and include application of acquire knowledge in practice – in construction of architectural objects. | | |
| Learning outcomes: | Students develop skills of critical and complex approach both in theoretical and research and in practical field of architectural and urban design. The outcome is knowledge in concepts and techniques of materialization of energy-efficient architectural objects. Students learn about the potential of new architectural object materialization technologies, from concepts to details and impact of applied materials. Acquiring of ability to act with innovative, technical competences in application of construction techniques and understanding of their development contributes to students' overall competence. | | |
| Course brief: | <p><i>Theoretical education:</i></p> <p>The main thematic units are architectural design and architectural structures and details, with emphasis on functional flexibility, measures and techniques of refurbishment of buildings with the aim of improving spatial, formative and energy performances. Theoretical classes include the following topics: building refurbishment methodology; classification and overview of building refurbishment – functional, technical, energy, environmental and formative aspects (for different purposes of buildings and characteristics of environment); improvement of spatial comfort – concepts and technical solutions; improvement of technical performances of envelopes and formative characteristics of buildings-transformation of envelope in energy efficient structures; functional and environmental aspects of selection of materials in building refurbishment; refurbishment of buildings in brownfield locations; analysis of examples from practice.</p> | | |
| Literature: | <p>– Krstić-Furundžić, A., Đukić, A., Improvement of the suburban housing; Case Study:Karaburma, Belgrade, Serbia, poglavlje u međunarodnoj monografiji "Improving the Quality of Suburban Building Stock", Volume 2, edited by Roberto Di Giulio, Università di Ferrara, Dipartimento di Architettura, COST Action TU0701, Unife Press, Italy, 2012, str. 205-213.</p> <p>– Krstić-Furundžić, A., Unapređenje termičkih performansi fasadnih zidova, poglavlje u monografiji "Stanovanje ka III milenijumu", Edicija ARHITEKTONIKA, monografija 11, Arhitektonski fakultet Univerziteta u Beogradu, 2001., Beograd, str. 303-315. Krstić-Furundžić, A., Kosić, T., Grujić, M., Economic analysis of Improvement of Energy Performances of Dwelling Housing in Belgrade, Eleventh World Renewable Energy Congress and Exhibition - WREC 2010, United Arab Emirates, Abu Dhabi, 2010, str. 591-596.</p> <p>– Krstić-Furundžić, A., Sudimac, B., Improvement of Energy Efficiency of Office Building in Belgrade by Application of PV Modules, Zbornik 2nd International Conference - Advanced Construction, Litvanija, Kaunas, 2010.god., str. 248-254.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| 2 | / | / | / |
| Teaching methodology: | Combination of various teaching forms – ex cathedra lectures, study of literature, presentation and analysis of practical cases of domestic and international practice (case studies). Active students' participation in instruction through presentation and analysis of practical cases. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | 10 | Written exam | 60 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | STUDIO M03 AT – WORKSHOP -01 | | | |
| Teacher: | Professor Ph.D. Branislav D. Žegarac | | | |
| Type of course: | Elective | | | |
| ECTS: | 1 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The main objective is to develop creativity and lateral relation towards the design process. Experience in concentrated design workshops provides a possibility to students to develop ability of fast and efficient making of design decisions. The workshop programme contributes to acquiring of additional knowledge on “fine” and “applied” arts to the extent that they impact the quality of an architectural work.</p> <p>Development of creativity and introduction of students to modern materials in interior.</p> | | | |
| Learning outcomes: | <p>Materialization design, structure of interior elements and details. The design contains the basis, cross-sections and appearances of all walls and the ceiling i a 3D model of a room. Define materials, colours, details, furniture, sanitation facilities and lighting.</p> | | | |
| Course brief: | <p>Practical education:</p> <p>Design workshops are fast, meaningful and time-limited creative exercises in architecture or other techniques and arts directed towards architecture. These designs take place during the 15th week of the semester and the entire university school is dedicated to these events. It is also possible to invite guest workshop managers, which would ensure fresh ideas and approaches for the university school. These designs are developed with minimum corrections and consultations and the results achieved are publicly presented.</p> <p>The design of materialization of a space unit within the design prepared in the studio design M4.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Hegger, Auch-Schwelk, Construction Materials Manual, Birkhauser, Basel, Boston, Berlin, 2006 – Herzog, Krippner, Lang, Fasade Construction Manual, Birkhauser, Basel, Boston, Berlin, 2004 – Jean Gorman, Detailing Light, Whitney Library of Design, New York, 1995 – Kiel Moe, Integrated Design in Contemporary Architecture, Princeton architectural press, New York, 2008 – David Keuning..., Skins for buildings, Bis publishers, Amsterdam, 2004 | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | / | 1 | |
| Teaching methodology: | Design work in studio, consulatattions, visits to construction sites. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 50 | |
| Practical classes | 30 | Oral exam | 20 | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------|------------------|
| Study programme: | Master academic studies Architecture / Module AT | | |
| Type and level of studies: | Master academic studies | | |
| Course: | STUDIO M03 AT – WORKSHOP -02 | | |
| Teacher: | Assistant Professor Ph.D. Miloš P. Gašić | | |
| Type of course: | Elective | | |
| ECTS: | 1 | | |
| Preconditions: | / | | |
| Objectives: | Elaboration of elements of the design in the Studio Design. Comparative analysis of variant solutions, from the aspect of economy and cost-effectiveness of design decisions. | | |
| Learning outcomes: | Acquired knowledge and skills in preparation of a bill of quantities and preliminary cost estimate at the conceptual stage of a design, using separation of buildings into systems and elements, applied to a specific study design. | | |
| Course brief: | <p><i>Practical education:</i> Introduction of students to possibilities of preparation of a bill of quantities and preliminary cost estimate at the level of the conceptual design, using separation of buildings to systems and elements. Preparation of the bill of quantities and preliminary cost estimate of works for a part of the building in the Studio design, according to the separation to systems and elements, with preliminary technical description.</p> | | |
| Literature: | <p>– Tatjana Jurenić, "Model klasifikacije elemenata arhitektonskih objekata u tehničkoj dokumentaciji - formiranje i primena", doktorska disertacija, Arhitektonski fakultet u Beogradu, 2013. – Dušanka Đorđević, "Izvođenje radova u visokogradnji", Izgradnja, Beograd, 2004.</p> | | |
| Active training classes no.: | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: |
| / | / | / | 1 |
| Teaching methodology: | Design work in studio, consultations, visits to construction sites. | | |
| Knowledge evaluation (maximum 100 points) | | | |
| Pre-exam requirements | points | Final exam | points |
| Activity during lecturing | | Written exam | 70 |
| Practical classes | | Oral exam | |
| Colloquia | 30 | | |
| Seminar-s | | | |

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|---|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS AT – 01-14 | | | |
| Teacher: | Professor Ph.D. Aleksandra D. Krstić-Furundžić; Professor Ph.D. Branislav D. Žegarac; Professor Ph.D. Lidija S. Djokić; Professor Ph.D. Milica Dj. Jovanović Popović; Associate Professor Ph.D. Jelena A. Ivanović Šekularac; Assistant Professor Ph.D. Miloš P. Gašić; Assistant Professor Dušan M. Ignjatović; Assistant Professor Ph.D. Milan A. Radojević; Assistant Professor Ph.D. Aleksandar N. Rajčić; Assistant Professor Zoran M. Stepanović; Assistant Professor M.Sc. Budimir S. Sudimac; Assistant Professor M.Sc. Nataša D. Čuković Ignjatović; Assistant Professor Ph.D. Jasna Lj. Čikić Tovarović; Assistant Professor Dragan N. Marčetić | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the Master thesis to explore new concepts of design in programme and formative sense and possibilities for application of new materials and technologies on the basis of highly open thematic and spatial framework. This includes overall (holistic) approach to architectural design in order to meet new needs of the modern society and accept the need for sustainability in energy and technological contexts. Analysis of relevant impacts, understanding and study of a location, functions and technologies of the assigned building should enable establishing and reflection of modern solutions through spatial and functional and formative and constructive concepts of a building and its communication with its environment. Synthesis and application of all acquired knowledge is expected. The result should provide a basis for development of the design assignment for a master design. | | | |
| Learning outcomes: | Written thesis showing the ability to link and apply all acquired knowledge, particularly new materials and technologies. | | | |
| Course brief: | <p><u>Practical education:</u></p> <ul style="list-style-type: none"> – Research of relevant designs and plans, establishing of the methodological approach for programme defining; – Graphic and spatial presentation of analysis of a location, function and technology; – Defining of a design assignment for the Master design; – Oral defence of the Master thesis. | | | |
| Literature: | Depends on the type and function of a building, as well as on a location. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 2 | 4 | |
| Teaching methodology: | Lectures and presentations, Analysis and discussions. | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AT | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN AT – 02-13 | | | |
| Teacher: | Professor Ph.D. Branislav D. Žegarac; Professor Ph.D. Lidija S. Djokić; Professor Ph.D. Milica Dj. Jovanović Popović; Associate Professor Ph.D. Jelena A. Ivanović Šekularac; Assistant Professor Ph.D. Miloš P. Gašić; Assistant Professor Dušan M. Ignjatović; Assistant Professor Ph.D. Milan A. Radojević; Assistant Professor Ph.D. Aleksandar N. Rajčić; Assistant Professor Zoran M Stepanović; Assistant Professor M.Sc. Budimir S. Sudimac; Assistant Professor M.Sc. Nataša D. Čuković Ignjatović; Assistant Professor Ph.D. Jasna Lj. Čikić Tovarović | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: | / | | | |
| Objectives: | <p>The objective of the course is to introduce students to the complex and multidisciplinary process of architectural and urban design. For architectural design of a building, the objective is to ensure the bases: variability of the content and communication with environment, which impacts the level of variability of the physical structure, and environmental sustainability, reflected through selection of materials and energy efficiency of buildings and the concept of materialization of buildings. A narrow spatial framework can be interpolation in the urban tissue, refurbishment of the existing urban zones and buildings or creation of new structures and public areas.</p> <p>The structure of thematic units which will be studied within the assignment includes: urban design, architectural design and potential of new technologies of materialization of architectural object.</p> <p>Analysis of relevant impacts, understanding and a solution for the assigned building in a specific location with research of possibilities to connect external and internal space and to reduce energy needs of a building and thus also environmental pollution. Synthesis and application of all acquired knowledge is expected. The result should be one unit with the clear role in the context of immediate and wider environment.</p> | | | |
| Learning outcomes: | <p>Ability to link and implement both general and specific acquired knowledge and skills in design of representative architectural solutions, not only by the content but also in terms of techniques of their materialization, with emphasis on energy efficient structures, achievement of high comfort during stay and reduction of environmental pollution. Development of skill of critical and complex approach, both in theoretical and research and in practical field of architecture and urban design. Ability to act competently in application of construction techniques and understanding of their development, which contributes to students' overall competence.</p> | | | |
| Course brief: | <p>Practical education:</p> <ul style="list-style-type: none"> – Research: analysis of theoretical positions and possibilities of their application in a particular design; – Graphic and spatial presentation of urban-architectural solutions with the elements of preliminary design; – Oral presentation/defence of the Master design. | | | |
| Literature: | Depends on the type and function of a building, as well as on a location. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 4 | 10 | |
| Teaching methodology: | <p>Presentations, Analysis and discussions, Comprehensive (integral) approach to the architectural design aligned with the concept of sustainability.</p> | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | | Oral exam | 10 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

ELECTIVE COURSES

Module – Architectural engineering

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS AE | | | |
| Teacher: | Professor Ph.D. Milan T. Glišić | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is to introduce students to the process of analysis and selection of location, as well as preparation of a design assignment for design of a public purpose building. | | | |
| Learning outcomes: | Acquiring of necessary knowledge for analysis and selection of location, as well as preparation of a design assignment. | | | |
| Course brief: | <p><u>Theoretical education:</u> /</p> <p><u>Practical education:</u> Selection of a lot and a programme, analysis, volume and approach to buildings according to the assigned urban parameters. Selection and analysis of the necessary programme.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Technical standards in architectural design (standards and regulations). – Lectures in the course Structural principles of architectural buildings – Lectures in the course Design and calculation of architectural structures 1 – Regulations on concrete and reinforced concrete – Regulations on foundations of architectural structures, – Regulations for construction in seismic zones. – Arhitektonsko projektovanje, Nojfert, revised and updated 2002 edition. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 2 | 4 | |
| Teaching methodology: | Workshop, designs, lectures, discussions, critics, presentations, consultations Learning through work on designs, practical work on the mater design with one-on-one consultations, evaluation of students' own works in front of other students and professors | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | | Oral exam | 30 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS AE | | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is to introduce students to the process of analysis and selection of location, as well as preparation of a design assignment for design of a public purpose building. | | | |
| Learning outcomes: | Acquiring of necessary knowledge for analysis and selection of location, as well as preparation of a design assignment. | | | |
| Course brief: | <p><u>Theoretical education:</u> /</p> <p><u>Practical education:</u> Selection of a lot and a programme, analysis, volume and approach to buildings according to the assigned urban parameters. Selection and analysis of the necessary programme.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Technical standards in architectural design (standards and regulations). – Lectures in the course Structural principles of architectural buildings – Lectures in the course Design and calculation of architectural structures 1 – Regulations on concrete and reinforced concrete – Regulations on foundations of architectural structures, – Regulations for construction in seismic zones. – Arhitektonsko projektovanje, Nojfert, revised and updated 2002 edition. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 2 | 4 | |
| Teaching methodology: | Workshop, designs, lectures, discussions, critics, presentations, consultations Learning through work on designs, practical work on the mater design with one-on-one consultations, evaluation of students' own works in front of other students and professors | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | | Oral exam | 30 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|--|--|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS AE | | | |
| Teacher: | Professor Ph.D. Miodrag S. Nestorović | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: All previous exams in Master academic studies must be passed | | | | |
| Objectives: The objective of the course is to present methodological frameworks for research in design of construction systems and spatial structures and development of research skills necessary for preparation of a master thesis. Students apply methodological knowledge in the work on the master thesis: define the problem of research and hypothesis, present overview of relevant literature and sources, define adequate methodology, determine the manners of collection of data and their analysis, verification and presentation. | | | | |
| Learning outcomes: Students acquire the following general and course-specific knowledge: technical and technological knowledge of methods of design of construction systems and spatial structures; students are trained to understand design processes and procedures and to bring into compliance divergent factors in the process of creation architectural spaces and buildings that meet functional, aesthetic and technical requirements; ability to manipulate computer models and performances in design of spatial structures; students learn to solve specific problems using scientific methods and procedures and to integrate acquired knowledge in various fields with the aim of applying them in the context of architectural profession. | | | | |
| Course brief: <u>Theoretical education:</u> Students are introduced to the scientific research methodology (case study method, research through design, operative researches, simulation and experiment). <u>Practical education:</u> Work on a written master thesis includes: defining of the research topic, research problem(s), hypothesis/hypotheses, adequate methodologies, data collection, analysis and processing, defining of structure and writing of the work. | | | | |
| Literature: – Literature in the field of scientific research methodology and research by design, – Literature in the field of designing structural systems and spatial structures, – Literature in the field of analysis of structural systems and spatial structures, – Literature in the field of structural systems and spatial structures optimization, – Literature related to spatial and programme framework of a master design. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 2 | Studio research: 4 | |
| Teaching methodology: Learning through ex cathedra lectures about research methodology and thesis writing, lectures by experts from the responsible fields and mentoring work. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | | Oral exam | 30 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|--|----------------------------|-----------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER THESIS AE | | | |
| Teacher: | Assistant Professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Elective | | | |
| ECTS: | 6 | | | |
| Preconditions: All previous exams in Master academic studies must be passed | | | | |
| Objectives: The objective of the course is to present methodological frameworks for research in design of construction systems and spatial structures and development of research skills necessary for preparation of a master thesis. Students apply methodological knowledge in the work on the master thesis: define the problem of research and hypothesis, present overview of relevant literature and sources, define adequate methodology, determine the manners of collection of data and their analysis, verification and presentation. | | | | |
| Learning outcomes: Students acquire the following general and course-specific knowledge: technical and technological knowledge of methods of design of construction systems and spatial structures; students are trained to understand design processes and procedures and to bring into compliance divergent factors in the process of creation architectural spaces and buildings that meet functional, aesthetic and technical requirements; ability to manipulate computer models and performances in design of spatial structures; students learn to solve specific problems using scientific methods and procedures and to integrate acquired knowledge in various fields with the aim of applying them in the context of architectural profession. | | | | |
| Course brief: <u>Theoretical education:</u> Students are introduced to the scientific research methodology (case study method, research through design, operative researches, simulation and experiment). <u>Practical education:</u> Work on a written master thesis includes: defining of the research topic, research problem(s), hypothesis/hypotheses, adequate methodologies, data collection, analysis and processing, defining of structure and writing of the work. | | | | |
| Literature: – Literature in the field of scientific research methodology and research by design, – Literature in the field of designing structural systems and spatial structures, – Literature in the field of analysis of structural systems and spatial structures, – Literature in the field of structural systems and spatial structures optimization, – Literature related to spatial and programme framework of a master design. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 2 | Studio research: 4 | |
| Teaching methodology: Learning through ex cathedra lectures about research methodology and thesis writing, lectures by experts from the responsible fields and mentoring work. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | 30 | Oral exam | 10 | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|---|--|-----------------------------------|-------------------------------|---------------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN AE – METAMORPHOSIS OF SPACE | | | |
| Teacher: | Professor Ph.D. Miodrag S. Nestorović | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: All previous exams in Master academic studies must be passed | | | | |
| Objectives: Individual research through design. The objective of the course to explore various possibilities to improve a specific context by taking into account divergent influencing factors, their interrelations and inter-dependence, through preparation of conceptual design solutions with elements of a conceptual design, using innovative, model and diagnostic approach. The work process will include testing of assumptions defined by the thesis and principles and methods that enable shaping, construction and analysis of large scale spatial structures by implementation of nonstandard, rational, economically and physically feasible buildings with complex forms in limited conditions of the context in the process of development. The above objective will be achieved by students individually, by linking previously acquired knowledge, application of the principles of integrated design, by adoption of PBDC - Performance Based Design Concepts, PDDA - Performance Driven Design Approach and advanced digital technologies for the purpose of conceptualization, formal researches, simulation of various impacts, elaboration, structural analysis, materialization, exact communication of ideas, visualization and presentation of complex design solutions. | | | | |
| Learning outcomes: In their final projects, students show the level of acquired knowledge and the following general and course-specific skills, as a response to previously set thesis: technical and technological knowledge of methods of spatial structure design at the conceptual design stage of an architectural object; ability to creatively approach a problem in construction; ability to understand design procedures and bring into compliance divergent factors in the process of creation of architectural spaces and buildings that meet functional, aesthetic and technical requirements; ability to manipulate computer models and performances in spatial structure design; ability to solve specific problems using scientific methods and procedures and to integrate acquired knowledge in various fields with the aim of applying them in the context of architectural profession. | | | | |
| Course brief: Using of reference literature and adequate analytical and model research methods. Development of a conceptual design. Analyses of the context. Collecting, classification and processing of data on the location and influencing factors. Programme analyses. Detailed analyses of programme elements and primary functions, programme digression and illustrated and analogical generalizations through selection and presentation of reference designs. Programme structure model. Establishing and verification of the design assignment elements and primary functions through preparation of the programme organization model and chart. Spatial structure model. The study of formative aspects – implementation of geometric principles and methods on which architectural shaping is based, research of various teselations of modular networks, form transformations etc. Development of digital models and working models. Main typology of static systems and the importance of volume conditions in the creative design process. Development of a conceptual design. Development of a solution through combination of submodel/model of programme structure and spatial structure/ and simulation of spatial assemblies, variant solutions, evaluation of proposals. Working sketches, working models and working mock-up. Elaboration of a conceptual design. Dimensioning of elements of a construction assembly which ensures stability of the structure. Materialization – selection of materials and final processing, dealing with details. Development of type nodal connections, covering and structure construction technology – assembly. | | | | |
| Literature: – Literature in the field of designing structural systems and spatial structures, – Literature in the field of analysis of structural systems and spatial structures, – Literature in the field of structural systems and spatial structures optimization, Literature related to spatial and programme framework of a master design. | | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 4 | Studio research: 10 | |
| Teaching methodology: Mentoring work with a mentor and Committee members. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | 30 | Oral exam | 10 | |
| Colloquia | | | | |
| Seminar-s | | | | |

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|--|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN AE | | | |
| Teacher: | Professor Ph.D. Milan T. Glišić | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is to design a public purpose building within the assigned location, in compliance with urban conditions of the location and regulations for design of the assigned building. The design includes design of the building structure and calculation of the structure with preparation of important architectural and construction details. | | | |
| Learning outcomes: | First-hand experience of all stages of architectural and construction design and introduction to real requirements and the design process in practice. | | | |
| Course brief: | <p><u>Practical education:</u> Selection of a lot and a programme, sketching of regulatory lines, volume and approach to buildings according to the assigned urban parameters Selection and analysis of the necessary programme Conceptual urban solution: inclusion of drawings and models of other students' selected buildings and team work on the urban solution (1:2000, 1:1000) Conceptual architectural solution: Dimensioning of all elements of the architectural assembly and preparation of technical sketches of drawings (1:500, 1:200, 1:100) , preparation of a working model, a model and a mock-up Design of the structure: Analysis of burden, analysis of possible structure systems and selection of the adequate system for the building. Calculation of the selected structure. Preparation of structure and reinforcement details. Materialization: Preparation of details for materialization of the building (1:25, 1:20, 1:10, 1:5)</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Technical standards in architectural design (standards and regulations). – Lectures in the course Structural principles of architectural buildings – Lectures in the course Design and calculation of architectural structures 1 – Regulations on concrete and reinforced concrete – Regulations on foundations of architectural structures, – Regulations for construction in seismic zones. – Arhitektonsko projektovanje, Nojfert, revised and updated 2002 edition. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 4 | 10 | |
| Teaching methodology: | Workshop, designs, lectures, discussions, critics, presentations, consultations Learning through work on designs, practical work on the mater design with one-on-one consultations, evaluation of students' own works in front of other students and professors | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | | Oral exam | 3 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|--|--|-----------------------|------------------|--------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN AE | | | |
| Teacher: | Associate Professor Ph.D. Nenad D. Šekularac | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: | / | | | |
| Objectives: | The objective of the course is to design a public purpose building within the assigned location, in compliance with urban conditions of the location and regulations for design of the assigned building. The design includes design of the building structure and calculation of the structure with preparation of important architectural and construction details. | | | |
| Learning outcomes: | First-hand experience of all stages of architectural and construction design and introduction to real requirements and the design process in practice. | | | |
| Course brief: | <p><u>Practical education:</u> Selection of a lot and a programme, sketching of regulatory lines, volume and approach to buildings according to the assigned urban parameters Selection and analysis of the necessary programme Conceptual urban solution: inclusion of drawings and models of other students' selected buildings and team work on the urban solution (1:2000, 1:1000) Conceptual architectural solution: Dimensioning of all elements of the architectural assembly and preparation of technical sketches of drawings (1:500, 1:200, 1:100) , preparation of a working model, a model and a mock-up Design of the structure: Analysis of burden, analysis of possible structure systems and selection of the adequate system for the building. Calculation of the selected structure. Preparation of structure and reinforcement details. Materialization: Preparation of details for materialization of the building (1:25, 1:20, 1:10, 1:5)</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Technical standards in architectural design (standards and regulations). – Lectures in the course Structural principles of architectural buildings – Lectures in the course Design and calculation of architectural structures 1 – Regulations on concrete and reinforced concrete – Regulations on foundations of architectural structures, – Regulations for construction in seismic zones. – Arhitektonsko projektovanje, Nofjert, revised and updated 2002 edition. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: | Practical classes: | Other teaching forms: | Studio research: | |
| / | / | 4 | 10 | |
| Teaching methodology: | Workshop, designs, lectures, discussions, critics, presentations, consultations Learning through work on designs, practical work on the mater design with one-on-one consultations, evaluation of students' own works in front of other students and professors | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | 10 | Written exam | 30 | |
| Practical classes | | Oral exam | 3 | |
| Colloquia | 30 | | | |
| Seminar-s | | | | |

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|---|---|-----------------------------------|-------------------------------|---------------|
| Study programme: | Master academic studies Architecture / Module AE | | | |
| Type and level of studies: | Master academic studies | | | |
| Course: | MASTER DESIGN AE – METAMORPHOSIS OF SPACE | | | |
| Teacher: | Assistant Professor Ph.D. Žikica M. Tekić | | | |
| Type of course: | Elective | | | |
| ECTS: | 12 | | | |
| Preconditions: | All previous exams in Master academic studies must be passed | | | |
| Objectives: | <p>Individual research through design. The objective of the course to explore various possibilities to improve a specific context by taking into account divergent influencing factors, their interrelations and inter-dependence, through preparation of conceptual design solutions with elements of a conceptual design, using innovative, model and diagnostic approach. The work process will include testing of assumptions defined by the thesis and principles and methods that enable shaping, construction and analysis of large scale spatial structures by implementation of nonstandard, rational, economically and physically feasible buildings with complex forms in limited conditions of the context in the process of development. The above objective will be achieved by students individually, by linking previously acquired knowledge, application of the principles of integrated design, by adoption of PBDC - Performance Based Design Concepts, PDDA - Performance Driven Design Approach and advanced digital technologies for the purpose of conceptualization, formal researches, simulation of various impacts, elaboration, structural analysis, materialization, exact communication of ideas, visualization and presentation of complex design solutions.</p> | | | |
| Learning outcomes: | <p>In their final projects, students show the level of acquired knowledge and the following general and course-specific skills, as a response to previously set thesis: technical and technological knowledge of methods of spatial structure design at the conceptual design stage of an architectural object; ability to creatively approach a problem in construction; ability to understand design procedures and bring into compliance divergent factors in the process of creation of architectural spaces and buildings that meet functional, aesthetic and technical requirements; ability to manipulate computer models and performances in spatial structure design; ability to solve specific problems using scientific methods and procedures and to integrate acquired knowledge in various fields with the aim of applying them in the context of architectural profession.</p> | | | |
| Course brief: | <p>Using of reference literature and adequate analytical and model research methods. Development of a conceptual design. Analyses of the context. Collecting, classification and processing of data on the location and influencing factors. Programme analyses. Detailed analyses of programme elements and primary functions, programme digression and illustrated and analogical generalizations through selection and presentation of reference designs. Programme structure model. Establishing and verification of the design assignment elements and primary functions through preparation of the programme organization model and chart. Spatial structure model. The study of formative aspects – implementation of geometric principles and methods on which architectural shaping is based, research of various teselations of modular networks, form transformations etc. Development of digital models and working models. Main typology of static systems and the importance of voltage conditions in the creative design process. Development of a conceptual design. Development of a solution through combination of submodel/model of programme structure and spatial structure/ and simulation of spatial assemblies, variant solutions, evaluation of proposals. Working sketches, working models and working mock-up. Elaboration of a conceptual design. Dimensioning of elements of a construction assembly which ensures stability of the structure. Materialization – selection of materials and final processing, dealing with details. Development of type nodal connections, covering and structure construction technology – assembly.</p> | | | |
| Literature: | <ul style="list-style-type: none"> – Literature in the field of designing structural systems and spatial structures, – Literature in the field of analysis of structural systems and spatial structures, – Literature in the field of structural systems and spatial structures optimization, Literature related to spatial and programme framework of a master design. | | | |
| Active training classes no.: | | | | Other: |
| Lectures: / | Practical classes: / | Other teaching forms: 4 | Studio research: 10 | |
| Teaching methodology: Mentoring work with a mentor and Committee members. | | | | |
| Knowledge evaluation (maximum 100 points) | | | | |
| Pre-exam requirements | points | Final exam | points | |
| Activity during lecturing | | Written exam | 60 | |
| Practical classes | 30 | Oral exam | 10 | |
| Colloquia | | | | |
| Seminar-s | | | | |