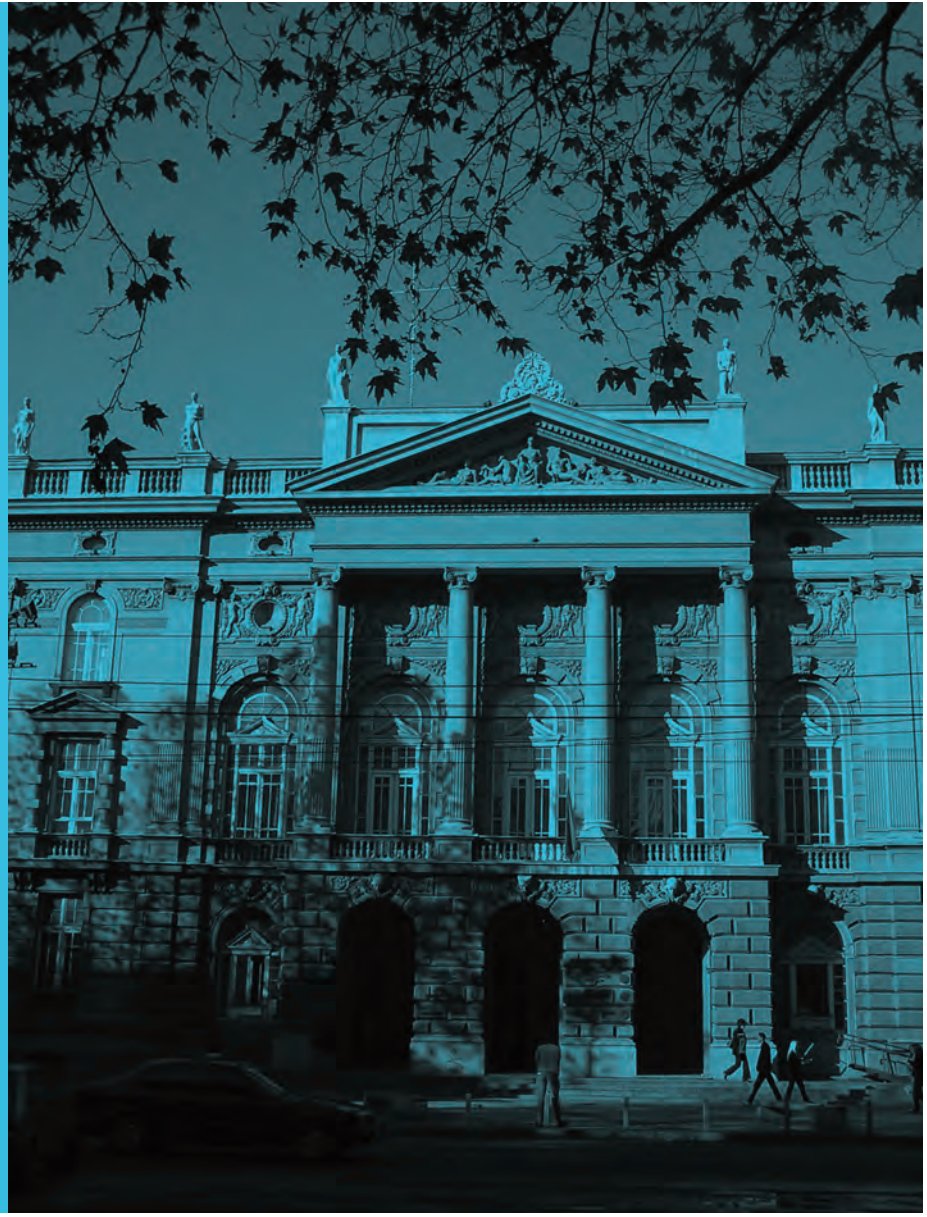
academic studies by european standards / module catalogue

the university of belgrade - faculty of architecture, 2006/2007



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STUDIES BY EUROPEAN STANDARDS / MODULE CATALOGUE

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GRAĐEVINSKA KNJIGA — BEOGRAD 1952

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PROFESSIONAL PRACTICE

professional practice, excursion or summer workshop

the structure of undergraduate studies consists of modules with informative and theoretical character and four studio projects with different focuses, not having a specific goal of specialization.

the main objective of studies is to inform students about cultural, historic, social and technical phenomena, and to enable creative development of each individual student.

the knowledge gained at the theoretical courses is applied to designs. the quality of design is the measurement of the knowledge.

the project in the sixth semester presents of synthesis of knowledge gained through undergraduate studies and has a character of the final project. *>> p. 81*

1
2

module 1

introduction to architecture / 6 ects

1

teaching aims: defining the architectural field of work from phenomenal and terminological aspects, knowledge of architectural and artistic ideas and their development through time, relevant to understanding contemporary logic of planning, designing and building.
necessary background: no necessary specific background required. certain interest in contemporary architecture and arts is expected.

courses:

about architecture	1 ects
architecture today	1 ects
arts today	1 ects
history of modern architecture and urbanism	2 ects
history of modern arts and design	1 ects

course 1.1

about architecture

/ 1. semester / 1 ects

teaching organization: 1 hour of lectures

examination: seminar work on topic from one chosen course /1.1, 1.2. or 1.3./

course contents: // what is architecture: technical, artistic and functional aspects // fields of research in architecture // what architecture is about and at what level // education in architecture // idea, concept, manifest // location, city, context, genius loci // how to design: process, approach, techniques // what keeps the house standing: elements of construction, structures // materialization in architecture: construction, materials, technology // visual communications in architecture and urban design// application of computers in architecture and urban design // theory of architecture // architecture today: who is who, what is what, literature // what is architecture: subjective view – visiting lectures // essay: presentation of subjective attitude in architecture //

course leader:

marko savić, march, ass. prof.

course 1.2

architecture today

/ 1. semester / 1 ects

teaching organization: 1 hour of lectures

examination: seminar work on topic from one chosen course /1.1, 1.2. or 1.3./

course contents: // heroic period of modern architecture // what is postmodernism? // architecture and engineering // architecture and deconstruction // architecture and new l landscape// architecture - designing - research - writing - reading // architektur denkform // architecture – way of thinking // about contemporary architecture // contemporary authors' position in architecture // contemporary architecture of belgrade // architecture of the city // pritzker prize for architecture // 9x5 – students' presentations // consultations on selection of literature //

course leader:

ljiljana blagojević, phd arch, assoc. prof.

course 1.3

arts today

/ 1. semester / 1 ects

teaching organization: 1 hour of lectures

examination: seminar work on topic from one chosen course /1.1, 1.2. or 1.3./

course contents: // about notion - arts today// visit to the museum of contemporary art // border, territory, ground... in arts / theme frame: beach // notionary 1: basic references of contemporary art // notionary 2: models and media in arts // system of arts // what is art today // screen, shelter, house . . . in arts / theme frame: shelter // notionary 3: arts and context // notionary 4: relevancy and contemporary times // notionary 5: theories and concepts in arts // exhibiting arts: contemporary gallery and museum practice // composition, decomposition . . . in arts / theme frame : annex // notionary 6: architecture as art // act of author – presentation of contemporary author // final lecture – preparation of themes for essay //

course leader:

milorad mladenović, m.art, ass. prof.

1

course 1.4

history of modern architecture and urbanism

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: seminar work /1st examination term/
or test /following examination terms/

course contents: // architecture and progress of technology // Social utopias and cultural reforms // period of great reconstructions of cities // organic architecture vs. classicism: chicago 1890-1910 // breaking with tradition and new art /+check: test 15 minutes/ // historic avant-gardes and search for new concept of space // great masters of modernism /1/ // great masters of modernism /2/ // great masters of modernism /3/ /+check: test 15 minutes/ // architecture for new society // architecture of the city in 20th century: realized and unrealized visions // architecture after 1945: domination of modernism // architecture of city renewal in europe after the second world war // period of architectural pluralism /+check: test 15 minutes/ // consultations for preparation for exam //

course leader:
ljiljana blagojević, phd arch, prof.

course 1.5

history of modern art and design

/ 2. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work

course contents: // introduction: arts, design and process of industrialization // cultural and aesthetic questions // occurrence of industrial design and integration of arts – notion and development of idea 'aesthetics of machine' // verkbund, bauhaus and avant-garde movements at the beginning of 20th century // design and technology in aesthetics of modern and international styles / european and american examples // neo-avant-garde movements in european design and art in the 50's, 60's and 70's // post-modern design and artistic styles - USA, europe, japan // design and art in the 80's and 90's // final consultations for seminar work //

course leader:
miško šuvaković, phd, prof.

module 2

introduction to architectural design / 28 ects

2

teaching aims: introducing to notions of architectural space and shape and principles of organizing and shaping space in architecture. student develops the ability to recognize complex shapes in space and to perceive their relation to context, learns basic methods of architectural and urban designing, is trained to analyze the content of architectural building and to develop his project from concept to the final design. associating with courses from visual communications, students are enabled to control basic art elements and ways of graphic presentation and develop spatial thinking in perspective that is necessary for working on the project. by applying different ways of graphic presentation and modeling /manual and computer/, besides developing basic skills of art expression, students learn how to apply those skills in the designing process.

necessary background: art talent, general culture, understanding space relations, working habits and willingness to learn. student cannot continue education in the summer semester unless his work in the winter semester is marked positively

courses:

shape and space	8 ects
art elements	3 ects
visual research	3 ects
elements of architectural design	8 ects
architectural graphics	3 ects
3d visual communications	3 ects

course 2.1
shape and space

/ 1. semester / 8 ects
teaching organization: 2 hours of lectures +
4 hours of studio work
examination: oral explanation of portfolio

course contents: // notions of space and shape // horizontal elements of space - ground // vertical elements of space - walls // covering space – roofs and eaves // space and surroundings // principles of composition // natural and social factors of influence // meanings of space // principles of dimensioning and proportion // organization of space // materialization of elements of space // point, line, area, volume // complex shape // spatial relations // analysis of selected examples of architecture in the world and in serbia //

course leader:
ivan kucina, march, ass. prof.

course 2.2
art elements

/ 1. semester / 3 ects
teaching organization: 2 hours of studio work
examination: oral explanation of portfolio

course contents: // introduction to art work – art techniques of drawings // sense of applicability of art work // introduction to composition - abstract composition / line // shape as art element // complex composition of lines and shapes // shade // relief, structure and materialization in composition // complex composition by drawing - examples // circle of colour / mono-chrome // abstract spatial art composition / analogy // exam-ples of contemporary art / complementarities // art concept and presentation /complex colour relations / art work //

course leader:
branko pavić, march, prof.

course 2.3
visual research

/ 1. semester / 3 ects
teaching organization: 2 hours of studio work
examination: oral explanation of portfolio

course contents: // basics of program and organization of teaching // geometric drawing of model plan composed of two textures // geometric drawing of model plan composed of lines with different thickness // geometric drawing of plan and look of eaves model // geometric drawing of plan, section and look of beach model, scale 1:100 // beginning of work at the second assignment – friend in need // simplified technical drawing of plan and section of model, scale 1:50 with final treatment of walls and floors // beginning of work at the third assignment – list of someone else's demands // 3D technical drawing of a model with chosen geometrical concept // technical drawing of plan and section of annex scale 1: 50, with walls' thickness and materials, without furniture// 3D technical drawing of an annex envelope model //

course leader:
dušan stanisavljević, assoc. prof.

2

course 2.4

elements of architectural design

/ 2. semester / 3 ects
teaching organization: 2 hours of lectures
+ 4 hours of studio work
examination: oral explanation of portfolio

course contents: // space and shape in architectural design // event and motion in space // analysis of dimension of working space // zoning space // organization of space, context and spatial frame // establishing relations of internal and external space // levelling spatial frame // contours, shape and transparency of space // architectural structure // architectural building // architectural envelope // materialization of architectural building // contemporary architecture in the world /analysis of selected examples/ // contemporary architecture in serbia and montenegro /initiation and development/

course leader:
milan rakočević, phd arch, prof.

course 2.5

architectural graphics

/ 2. semester / 3 ects
teaching organization: 2 hours of studio work
examination: oral explanation of portfolio

course contents: //synchronized with course elements of architectural design //

course leader:
dušan stanisavljević, prof.

course 2.6

3D visual communications

/ 2. semester / 3 ects
teaching organization: 2 hours of studio work
examination: oral explanation of portfolio

course contents: // students choose one of four disciplines offered: geometry of shape / art forms / architectural graphics / CAAD // teaching follows theme units of course elements of architectural design //

course leaders:
djordje djordjević, march, ass. prof.
branko pavić, mart, prof.
dušan stanisavljević, assoc. prof.
mirjana devetaković-radojević, march, teach. ass.

module 3

introduction to urbanism / 6 ects

3

teaching aims: introduction to the phenomena of built environment and basic elements of its shaping in contemporary conditions.
necessary background: no necessary specific background required.

courses:

built environment	3 ects
shaping the urban space	3 ects

course 3.1

built environment

/ 1. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: seminar work

course contents: // basic entries of phenomena of built environment // physical entries of built environment // functional entries of built environment // natural-ecological and technological dimension of built environment // socio-cultural and technological dimension of built environment // human settlements /notion, genesis, development, transformation/ // process of urbanization and structure of settlements // typology of built environment, principles of analysis // house and lot – analysis, typology // public space /street/ – analysis, typology // structure, urban block - analysis, typology // image of the city // human needs, values, goals and programs // regulative and built environment // cultural and physical structure of settlements //

course leader:
zoran nikezić, phd arch, assoc. prof.

course 3. 2

shaping the urban space

/ 2. semester / 3 ects
teaching organization: 3 hours of lectures
examination: seminar work

course contents: // basic characteristics and qualities of urban tissue // utilitarian potential of urban space – traffic in motion and stationary // microclimate and ecological conditions // research of potentials of urban tissues, internal classroom: street / modalities of use of city space – creative variations of possibilities of improvement, internal classroom: park // form potential of city space – spatial frame, topography and surfaces // wealth of city space – outfitting and stresses // shape of public space and shape in the public space // check 1 - test // composition of nature and nature of composition // historic epoch and development of composition // space, human, motion and development of composition // experience in space and time // comparative analysis of historic concepts, internal classroom: square // comparative analysis of contemporary concepts, internal classroom: riverbank // urban patterns // unity and continuity of shape and space // final lecture – debate

course leader:
dragana bazik, march, assoc. prof.

module 4

architectural constructions and materials / 6 ects

4

teaching aims: introduction to basic terminology, principles and elements of materialization of buildings and physical phenomena that they are exposed to. course offers basic information about building materials and leads the students into the field of architectural constructions of buildings. through teaching, students adopt logic of constructions design, massive system of building, and also traditional and contemporary systems of constructing and covering wooden roofs.
necessary background: no necessary specific background required.

courses:

architectural constructions	5 ects
materials in architecture 1	1 ects

course 4.1

architectural constructions 1

/ 1. and 2. semester / 5 ects
teaching organization: 1 hour of lectures + 2 hours of exercises
examination: written exam

course contents: // characteristic parts of buildings: terminology, classifications, functions / primary construction – principles of leaning // foundations and laying foundations / moisture and water isolation // vertical elements of construction // horizontal elements of construction // flat roofs // openings in walls // doors // windows - kinds, classification, dimensioning // staircases // classic wooden slanted roof constructions // contemporary wooden slanted roof constructions // materialization of lofts and covering slanted roofs // wooden houses, construction // wooden houses, facade walls and external coverings // wooden houses, partition walls and internal coverings // wooden houses, case study //

course leaders:
milica jovanović-popović, phd arch, prof.
branislav žegarac, phd arch, assoc. prof.

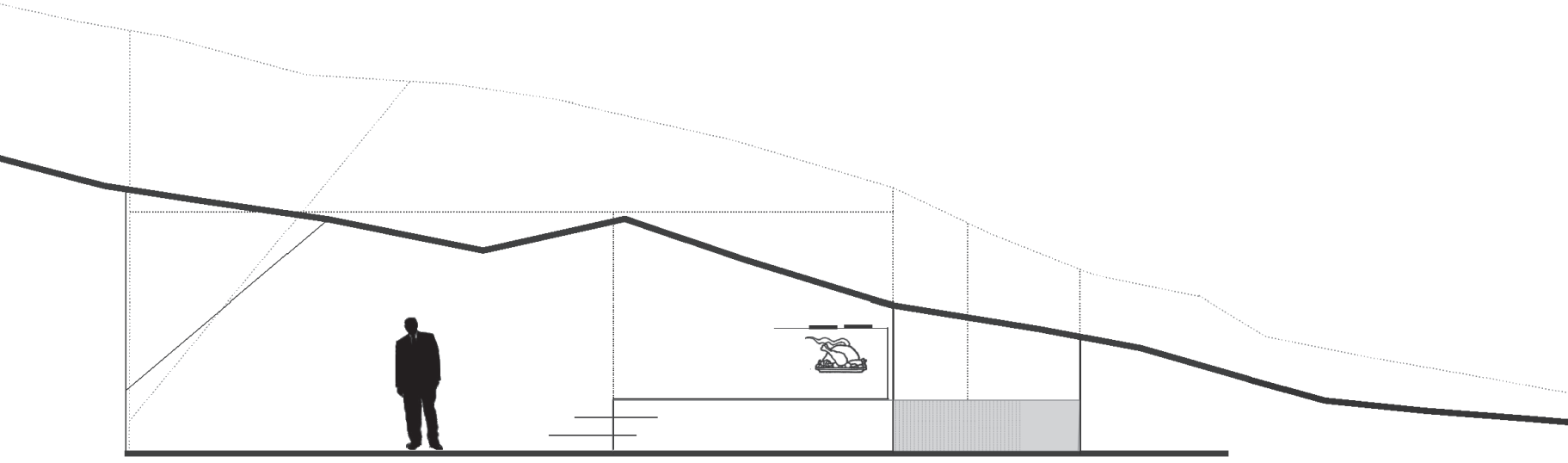
course 4.2

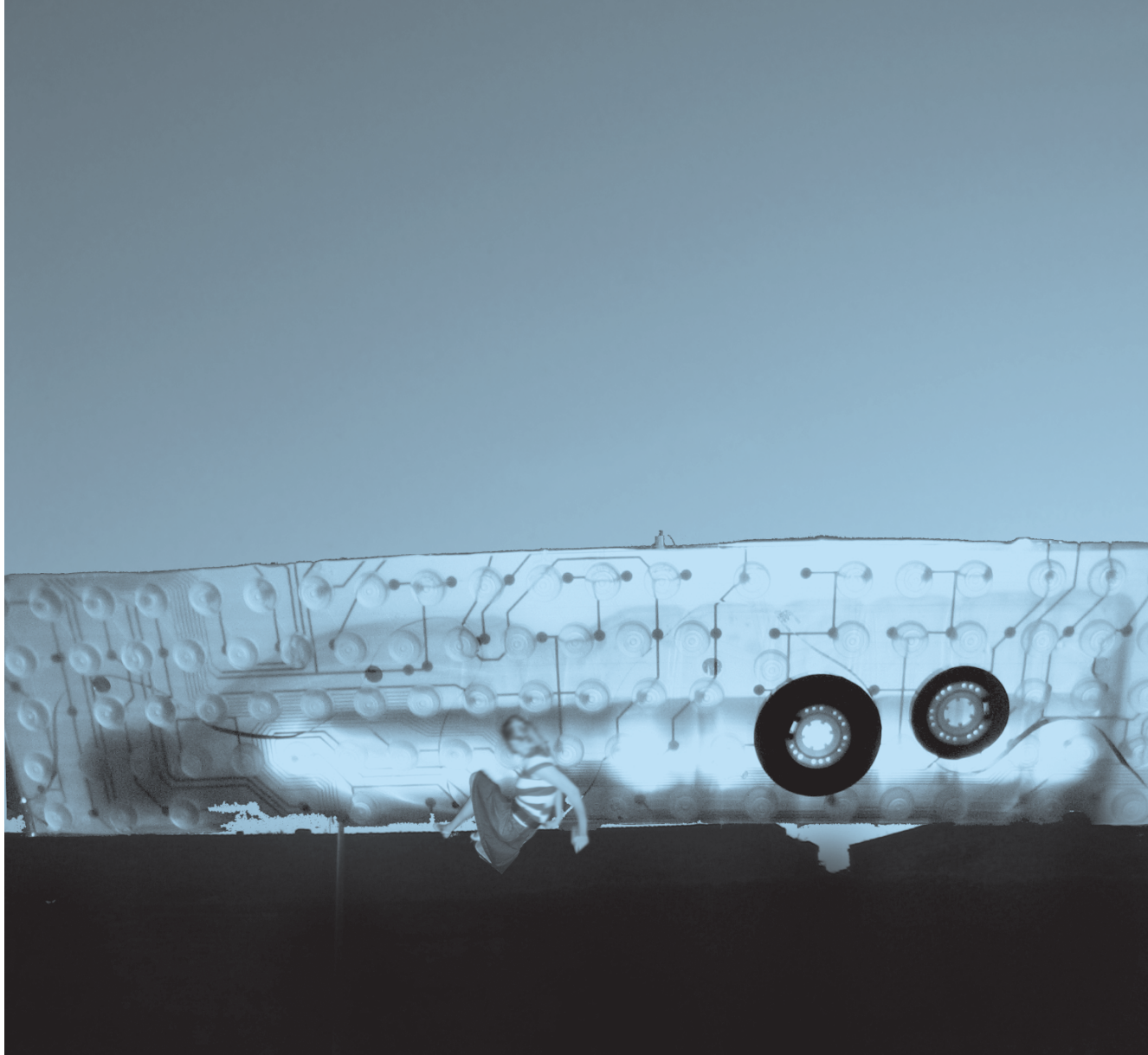
materials in architecture

/ 1. semester / 1 ects
teaching organization: 1 hour of lectures
examination: written exam

course contents: // introduction – mutual relations of surroundings, buildings and materials / classification and nature of materials // stone // brick // connective tissues, mortar and concrete // wood and wood products; metals // glass and polycarbonates / protection materials //

course leader:
ana radivojević, phd arch, ass. prof.





module 5

statics of constructions 1 / 6 ects

5

teaching aims: teaching in the field of mechanics and strength of materials gives basic knowledge in defining elements of constructive structures of architectural buildings, distribution and size of forces that resist outside load and deforming of elements, which is the precondition of creating stable and technically accurate constructions

necessary background: basic high school knowledge of mathematics and physics.

courses:

mechanics and strength of materials	3 ects
construction principles of architectural buildings	3 ects

course 5.1

mechanics and strength of materials

/ 1. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: written exam

course contents: // material systems / statics of particles // statics of free rigid body - slab // structure and classification of linear girders, definition and calculation of internal forces // simple beam girder, cantilever and polygonal girder, gerber girder // truss girders: forces in bars, methods of knots and sections// geometric characteristics of sections / static momentum and momentum of inertia // change of momentum of inertia during translation or rotation of coordinate system / main momentum of inertia // notion and definition of tension: types of stressing, axial stressing, deformation analysis // modulus of elasticity / thermal stressing / allowable stresses / dimensioning and control of tension // pure strait bending: hypothesis of plain sections, dimensioning // straight bending by forces: distribution of shear stresses, pure shear // girder deformation on bending: deformations // asymmetrical bending: pure and by transversal forces/ stresses and deformation: position of neutral axes, girder dimensioning // eccentric compression or tension: normal stress, neutral axes, middle third of a section // stability of compressed bars: basic concepts, critical stress, dimensioning //
course leaders: djordje blagojević, phd arch. ass. prof.

course 5.2

construction principles of architectural buildings

/ 2. semester / 3 ects
teaching organization: 1 hour of lectures + 2 hours of exercises
examination: written exam

course contents: // basic physical and constructive characteristics of construction materials – brick, concrete, metal and wood // analysis of static characteristics and principles of support of construction elements: beams, pillars, lattice and wall // basic assumptions and conditions of creating statically determined and statically undetermined girders, flat or spatial // analysis of load of construction from gravity forces, wind and seismic influences / principles and modes of providing stability of buildings from horizontal influences // systems of construction from brick and blocks // reinforced concrete ceilings: system of slabs and ribbed constructions, constructed at site or prefabricated // reinforced concrete beams, pillars and wall // frame constructions // foundations of architectural buildings / conditions for foundations, types of foundations // steel girders and truss girders // floors and girder and slab steel structures // columns and systems for acceptance of horizontal forces / straps of steel elements of construction // wooden roofs and ceilings and pillars // constructions from laminated wood // straps of wooden elements of construction //

course leaders: milan glišić, phd arch. prof.

1
2

module 6

geometry of architectural form / 8 ects

6

teaching aims: introducing diversity of geometry shapes applied in practice and their geometrical-constructive and analytic interpretation to the students; developing the ability of reconstructing geometry characteristics of architectural and urban spaces, from the surroundings or shown on photographs; introducing basic postulates of analytic geometry and principles of caad /computer aided architectural design/ to the students.
necessary background: operational basic geometry knowledge gained through high school education in the field of mathematics. basic computer literacy

courses:

geometry of shape 1	3 ects
geometry of shape 2	2 ects
mathematics in architecture 1	1 ects
mathematics in architecture 2	1 ects
principles of caad	1 ects

course 6.1

geometry of shape 1

/ 1. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: written exam

course contents: // architectural and urban space // point and line architectural elements of buildings // surface architectural elements of buildings: geometric bodies and surfaces used in shaping of architectural and urban space: geometric bodies and surfaces// geometric bodies and surfaces and characteristic sections // compositions of geometric bodies and surfaces in architectural and urban space// compositions of geometric bodies and surfaces // establishing relations of building and ground: embankments, notches, drainage channels//

course leaders:
djordje djordjević, march, teach. ass.
gordana vujić, march, teach. ass.

course 6.1

geometry of shape 2

/ 2. semester / 2 ects
teaching organization: 1 hour of lectures + 1 hour of exercises
examination: written exam

course contents: // basics of constructing perspective images /central projection/ according to demands of cad technology // basics of restitution of geometry of shape from photographs // restitutions of camera motion route based on series of photographs // basics of central and parallel lighting according to demands of cad technology // restitutions of position of light source // impact of lighting on geometry characteristics of space and visual impression//

course leaders:
djordje djordjević, march, teach. ass.
gordana vujić, march, teach. ass.

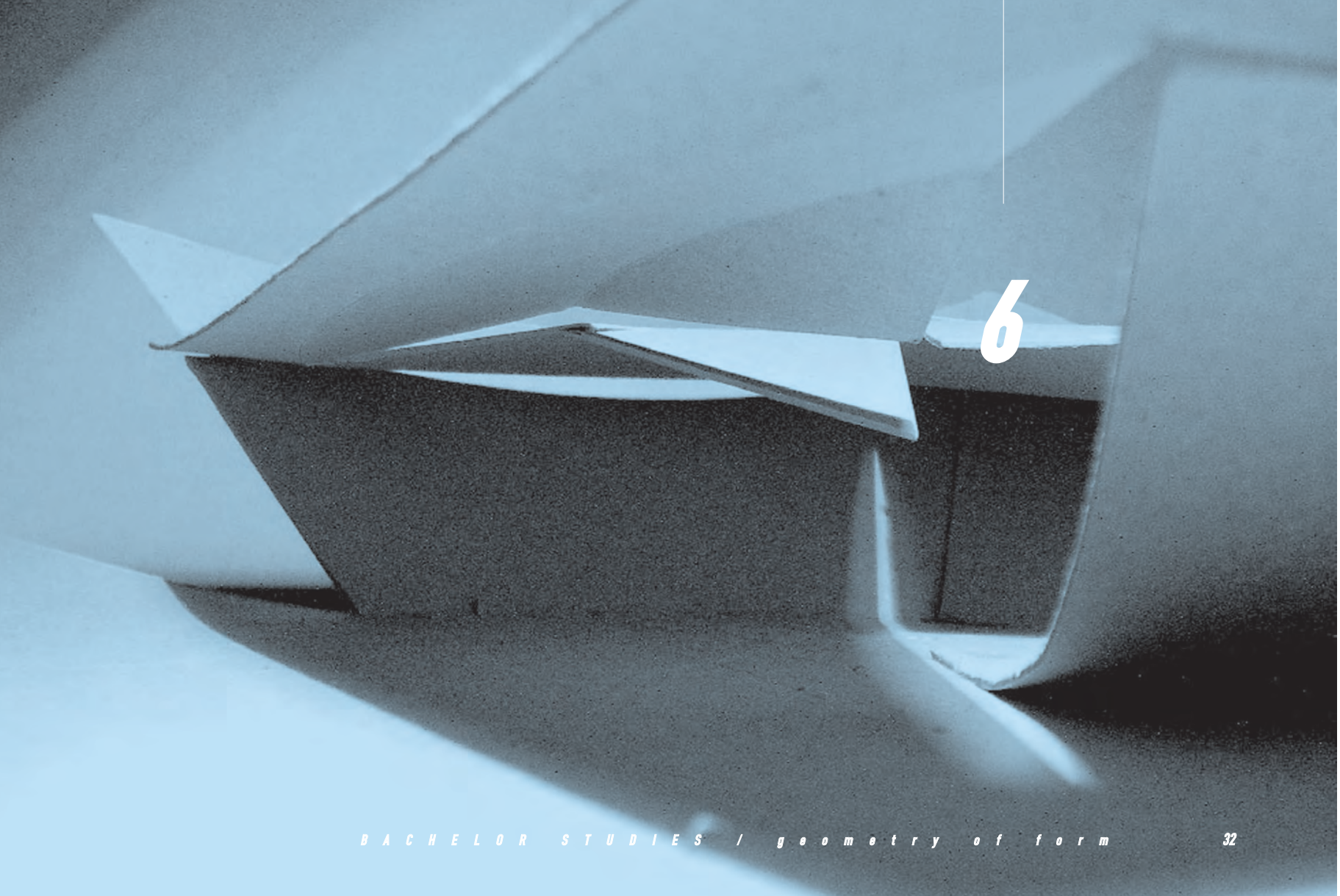
course 6.3

mathematics in architecture 1

/ 1. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work

course contents: // fractals. fractal geometry. introduction // fractals. selfresemblance examples // recurrent formulas iterative processes // geometry of transformations in plane and space // accidental iterative processes, geometric interpretation / iterative progressions of complex numbers. mandelbrots set. julija sets // fractals in nature // dimension of fractals // fractals and architecture, visual perception and rang of fractals. topology, information // dimension of fractals in architecture// symmetry of fractals, symmetry in architecture, proportions, golden section// fractal characteristics in history of architecture // fractals and fine arts, fractals and urbanism, introduction, historic review // cities and fractal geometry, contemporary network planning of the city // natural development, forms, structures and hierarchy, model of development of city. urban limits //

course leader:
ljiljana petruševski, phd arch, assoc. prof.



6

course 6.4

mathematics in architecture 2

/ 2. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work on topic from one chosen course /6.4. or 6.5./

course contents: // coordinate system at surface / point and line at surface // line and segments of straight and curved lines / drawing lines // polygons / plans / maps / union / section / distinction /composition // 2d geometric transformations // coordinate system in space / point, line and surface in space // surface in space /polygons and other flat figures in space / local and global coordinate system // line and segments of straight lines in space /curved line in space // drawing straight and curved lines in space // orthogonal, slanted and central projection// 3d geometric transformations of flat figures // bodies in space / polyhedrons / union / section / distinction / modeling // 3d geometric transformations of bodies / body sets / constructive geometric representation // surfaces in space / conical, cylindrical, rotational, rectilinear // rendering / view / effect / details of surfaces and textures //

course leader:
ljiljana petruševski, phd arch, assoc. prof.

course 6.5

principles of caad

/ 2. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work on topic from one chosen course /6.4. or 6.5./

course contents: // //synchronized with course mathematics in architecture 2 //

course leader:
mirjana devetaković-radojević, march, teach. ass.

3
4

module 7

history of architecture and arts / 6 ects

7

teaching aims: gaining advanced knowledge on general historic flows of development of architecture, built environment and arts in the world, so that students can establish a critical attitude towards contemporary ideas and processes in architectural and artistic creativity work, their outcomes and accomplished ranges.
necessary background: attended teaching and positive mark of module 1

courses:

history of architecture and settlements 1	2 ects
history of architecture and settlements 2	2 ects
history of arts 1	1 ects
history of arts 2	1 ects

course 7.1

history of architecture and settlements 1

/ 3. semester / 2 ects
teaching organization: 2 hours of lectures
examination: written exam

course contents: // architecture, time, history // spatial definition of relation of humans and their needs // psychological experience of space – differences through history // archetype and typology of buildings // materials, techniques of building and systems of construction // aesthetic experience and notion of beauty, rules of creating buildings // coaction of architecture and other arts // notion of settling – orientation and identification, selection of location // genesis of city – relation of city to civilization // understanding architecture through reading theory texts // singularity of "classic" and plurality of "modern" language of architecture // comparative analysis of examples of classic and modern language of architecture // introduction to analysis of process of creating architectural space // discussion on topic of seminar work – basic notions in methodology of scientific research //

course leader: nađa kurtović-folić, phd arch, prof.

course 7.2

history of architecture and settlements 2

/ 4. semester / 2 ects
teaching organization: 2 hours of lectures
examination: written exam

course contents: // introduction, prehistoric art // mesopotamian art // egyptian art // aegean art, greek archaic art // greek classic, V-IV century b.c. // hellenism // etrurian and illyrian art // late antique – introduction to christianity // early christian art // byzantium / preromanic, romanic // gothic, pre-renaissance // renaissance: italy // netherlands, germany // mannerism, baroque: italy //

course leader: nađa kurtović-folić, phd arch, prof.

7

course 7.3

history of arts 1

/ 3. semester / 1 ects
teaching organization: 1 hour of lectures
examination: oral exam

course contents: // megaliths – pile of rocks with a message // imhotep – name of first known architect // notion of classic architecture // world wonders of ancient world – relation of construction and envelope // early christian architecture – taking over and adjustment of architectural space // byzantine church architecture – type and different solutions // romanic and gothic – massive and frame // different experience of god // vitruvius - alberti - order, disposition, strength, grace // paladio – eternal architecture // renaissance city – theory, utopia and everyday life // how do the ideas spread? renaissance in europe // juxtaposition - defining baroque // competitive relation of builders - bernini and boromini / baroque city – urbanism of greatest influence // consultations for preparation of exam //

course leader:
vladimir mako, phd arch, prof.

course 7.4

history of arts 2

/ 4. semester / 1 ects
teaching organization: 1 hour of lectures
examination: oral exam

course content: // mannerism, baroque: spain, flandreau // holland, XVII-XVIII century, france // england, rococo // classicism, romanticism // realism, symbolism, art nouveau // impressionism, expressionism // introduction to modern, avant-garde // cubism, futurism // fauvism, abstract art // dadaism, constructivism // surrealism, abstract expressionism // lyric abstraction, enformel // minimal, conceptual // land art, kinetic art // consultations for preparation of exam //

course leader:
vladimir mako, phd arch, prof.

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module 8

design studio – project 1: architecture / 12 ects

8

teaching aims: introducing the students to methods of association of basic architectural elements into simple functional and logical structures harmonized with the elements of surroundings. gaining experiences in application of theory knowledge on elements of architecture, urbanism and architectural constructions in solving practical assignments through process of designing. developing the skill to design small multifunctional architectural buildings with housing, business and service contents at the given location in the build environment, from concept to final project

necessary background: a: knowledge of spatial, functional and art characteristics of architectural structure elements and the ability of graphic and three-dimensional presentation of architectural elements, structure and exterior /passed module 2: introduction to architectural design/

u: understanding the context – spatial, functional, socio-cultural characteristics of location, analysis of elements of location, parceling out, urban structure, basic principles of exterior design /passed module 3: introduction to urbanism/

ac: positioning and approximate dimensioning of small range constructions elements, knowledge of standard materials and utilities corridors of architectural buildings /passed module 4: architectural constructions 1 and module 5: static of constructions 1

courses:

urbanism 1	1 ects
architecture 9	9 ects
architectural constructions	1 ects
static of constructions	1 ects

course 8

design studio – project 1 : architecture

/ 3. semester / 12 ects
teaching organization: 8 hours of work in studio
examination: oral explanation of portfolio

course contents: // project assignment and visit of location // spatial analysis of location // program analysis of building // architectural – urbanistic concept // evaluation of concept // preliminary design // colloquium: visualization of preliminary design // preliminary design of building construction // preliminary design of utilities and building materialization // preliminary project // further work on preliminary project // colloquium: visualization of preliminary project // graphic presentation // production of building model // explanation of design //

course leader: department of architecture

m o d u l e 9

design studio – project 2 : architectural constructions/ 12 ects

9

teaching aims: introducing the students to designing as a whole process: from preliminary to main design, content of technical documentation in all fazes of designing, elements of static˙ calculations, plan of plumbing and sewerage system, and the relevant regulative from the field. main goal is for the students to work on a project minding the aspect of constructions and materialization as the focus of designing approach.
necessary background: positive marked modules: 2. introduction to architectural design,
4. architectural constructions and materials, 5. static of constructions 1,
8. studio project 1 – architecture

courses:

architecture	1,5 ects
architectural constructions	4,5 ects
static of constructions	3 ects
utilities	3 ects

course 9

design studio – project 2 :
architectural constructions

/ 4. semester / 12 ects
teaching organization: 8 hours of work in studio
examination: oral explanation of portfolio

course contents: // introducing program of a project and visit to location // preliminary design: spatial analysis of location and program analysis of building, architectural constructive concept, discussion and comparison of solutions for further processing within group // elements of work on project with elements of materialization, constructions and utilities // check point – control of preliminary design, selection of solution for further processing within group // architectural – construction design, plumbing and sewer design, positioning and static calculation // production of model //

course leader: department of architectural constructions

module 10

space organization / 6 ects

10

teaching aims: studying organization of space and principles of designing housing, business, trade and service, industrial, agriculture, sport and traffic architectural buildings. taught matter corresponds directly to programs of project assignments at module studio project.
necessary background: positive marked at module 2 – introduction to architectural design

courses:

buildings typology 1	3 ects
buildings typology 2	3 ects

course 10.1

buildings typology 1

/ 3. semester / 3 ects
teaching organization: 2 hours of lectures
examination: seminar work

course contents: // housing environment // houses and housing buildings – model presentation // principles and methodology of designing housing buildings, analysis of context and factors of influence // houses and housing buildings: comparative typological analysis // principles of organization of houses and housing buildings units // motives of organization and shaping housing structures /from urban structure to housing unit/ // contemporary tendencies in designing housing architecture: analysis of examples // housing in rural regions: principles of designing , housing with work // contemporary tendencies in designing and reconstructing housing in rural regions // administrative buildings: designing administrative buildings, development and principles of designing // types and principles of organization of administrative buildings // contemporary tendencies in designing administrative buildings // services: designing, development and principles of designing // types and principles of organization of trade and service buildings // contemporary tendencies in designing trade and service buildings //

course leader: vladimir lojanica, ass. prof.

course 10.2

buildings typology 2

/ 4. semester / 3 ects
teaching organization: 2 hours of lectures
examination: seminar work

course contents: // industrial complexes, city industrial zones: zoning, system of composition, technological process and traffic // working place in industry / shaping production spaces / types of halls // warehouses and energetic buildings in industry: equipment and treatment // agricultural complexes: locating, zoning, system of composition, technological process // warehouses of agricultural products: refrigerated warehouses, elevators // building for products processing // sport – recreational complexes: locating, dimensioning, shaping// external and internal sport – recreational spaces: shaping, construction characteristics // characteristics of recreational spaces next to buildings of other type // development of traffic // parking and garages: locating, elements // bus terminals: elements, stops, relation to city public transportation // railway stations: types, characteristics, relation to gp // airports: types, elements // water traffic: piers, composition, elements // metro: when and why? / study for belgrade // communication towers and bridges: classification // covered public spaces of the city: elements of covering, classification //

course leader: aleksandar videnović, march, ass. prof.

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module 11

urban structure and functions / 6 ects

11

teaching aims: introducing to basic principles of producing the structure of contemporary city and training for understanding and professional work in the field of managing urban development.
necessary background: knowledge on phenomena of built environment and elements of its' shaping in contemporary conditions, history of architecture and settlements and elements of architectural design /positive marked modules 1 – introduction to architecture, 2 – introduction to architectural design and 3 – introduction to urbanism

courses:

urban structure	3 ects
urban functions	3 ects

course 11.1

urban structure

/ 3. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: seminar work

course contents: // production of built space. theoretic frame of research of urban structure: ideal models, theories, concepts // city as product and process. forces that influence inner structure of contemporary city; actors in production of built environment, private and public // manner of use of city land: market and public intervention // models and patterns of urban structure, values and valuations // urban changes: problems in development // decision making: private, public // managing urban development: strategies, visions, goals, politics, projects // criteria and indicators of quality of urban structure // urban activities: type, character, patterns // criteria for locating activities. integration and segregation. // conflicts in development of urban structure: private, public // global/local ... // conflict management // "optimal development" of urban structure. models and patterns. // transformation of city structure: contemporary patterns of intervention // forms of professional influence in improvement of urban structure. new concepts: human rights, ecology, energy, globalization, identity...//

course leader: nada lazarević - bajec, phd arch, prof.

course 11.2

urban functions

/ 4. semester / 3 ects
teaching organization: 3 hours of lectures
examination: written exam

course contents: // notion of urban function, theory base, types, basic classifications // housing, theoretic empirical initial points, types and models of urban housing communities, central functions, main characteristics, classification, activities and spaces / urban recreation - needs, activities and spaces / theoretic bases of planning and programming of urban infrastructure; test // structure and factors of development of urban functions: typological bases and structures of city housing / structure of centers, factors and characteristics of development, contemporary trends, activities and spaces / functional and spatial organization of spaces for recreation / elements of planning and programming infrastructure / test // processes and actions of design and shaping space: process of modeling of urban housing structure / spatial organization and forming centers, factors and criteria of choice of location / organization and forming spaces for recreation in the city /organization of traffic surfaces and systems of infrastructure / test //

course leaders: miodrag ralević, phd arch, prof.
rajko korica, march, assoc. prof.

m o d u l e 1 2

architectural constructions, physics and utilities / 6 ects

12

teaching aims: introducing process of designing basic concepts, structures and components of materialization of architectural buildings with reinforced concrete and steel constructions. introducing the logic of designing and different possibilities of facade materialization depending on type of material and technique of building. introducing to content of technical documentation. research on physics of building, demand for heating, acoustic and lighting comfort. introducing the students to contemporary utility networks and devices in architectural buildings.
necessary background: knowledge from study field architectural constructions

courses:

architectural constructions 2	3 ects
architectural physics	1 ects
utilities	2 ects

course 12.1

architectural constructions 2

/ 3. semester / 3 ects

teaching organization: 2 hours of lectures + 1 hour of exercises

examination: written exam

course contents: // notion and types of comfort // heat comfort – physiological grounds, parameters, and limits of heat comfort / heat comfort – measures of providing // heat comfort – diffusion and condensation of steam // air comfort – quality of air// air comfort - measures of providing air comfort // air comfort – chimneys and ventilation // sound comfort – physical grounds of phenomena of sound // sound comfort – demands and limits of sound comfort / sound comfort - noise: notion, sources and measures of protection // sound comfort – acoustic characteristics of materials// light comfort - physical phenomena of light // light comfort – demands on light comfort // light comfort – parameters of light comfort and measures of providing // light comfort – optical characteristics of materials //

course leader:

aleksandra krstić -furundžić, phd arch, prof.

course 12.2

utilities

/ 4. semester / 1 ects

teaching organization: 1 hour of lectures

examination: seminar work

course contents: // content and influence of utilities on comfort and price of building, sanitary facilities: function, purpose, materials, hygienic and aesthetic conditions // sewer /fecal, atmospheric/, development and types, elements of network and rules of installation, designing, technical documentation, maintenance // plumbing /cold and hot/, development, types, elements of network, regulations, maintenance, designing, calculations, technical documentation // heating and ventilation, factors of influence, network, devices, space, purpose and savings // electro system, strong and weak current network, devices, space, intelligent houses // elevators and escalators, purpose, capacity, space // garbage, devices, space, rules // gas system - network, armature, space // solar system - network, devices, space, integration and coordination of utility networks and devices in buildings //

course leader:

gordana ćosić, phd arch, prof.

course 12.3

architectural physics

/ 4. semester / 2 ects

teaching organization: 2 hours of lectures + 1 hour of exercises

examination: seminar work

course contents: // concept of materialization and functional characteristics of buildings // reinforced concrete frame and massive buildings, constructed at the site, terminology, concept of construction, plans // types of reinforced concrete ceilings, principles of constructing // primary frame metal construction // types of foundation of reinforced concrete frame buildings // content and presentation of main design // facade treatments // curtain walls // roof constructions, principles of constructing, details // partition walls// lowered ceilings// vertical communications//

course leader:

ana radivojević, phd arch, assoc. prof.

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m o d u l e 1 3

statics of constructions 2 / 6 ects

teaching aims: introduction to development and new structural systems with a goal of rational application in architectural designing. goal of teaching is to introduce the students to elements of designing, constructing and dimensioning reinforced concrete, steel and wooden structures. coordination of architectural and structural creation of building in order to invent and optimal solution.
exposed matter enables the students to perceive possibilities of reinforced concrete, steel and wooden structures in creating different architectural shapes in a process of designing space.
necessary background: passed module 5 – static of constructions 1

courses:

structural system	3 ects
constructive characteristics of applied materials	3 ects

13

course 13.1

structural systems

/ 4. semester / 3 ects
teaching organization: 1 hour of lectures + 2 hours of exercises
examination: seminar work /1st examination period/
or oral exam /following examination periods/

course contents: // development of structural systems / classification, principles of construction, method of selection of system // beam systems: shaping / full, lattice, wall, frame and prestressed systems // grill beams: orthogonal and non orthogonal networks, strutting and suspending // arch systems: arches of variable sections, arches of prefabricated elements // frame systems: prestressed and non-prestressed frames with diaphragm walls // 3d systems: bars systems in 2, 3 and 4 directions, knots connections, geodesy domes // shells: membrane stress state, shell // shell shapes: rotational, cylindrical, hyperbolic-paraboloid, konoide and combined // folds: simple and tent folds, fold elbows, polygonal vault in fold form, combined folds // suspended structures: pre-stressed and non-prestressed cable structures and contours // suspended structures on circle and polygonal contours, opened and closed nets and tents // tensegrity structures: shapes depended on contour / prestressed structures // pneumatic structures with suction pressure in useful space, pillow structures.

course leader: miodrag nestorović, phd arch, prof.

course 13.2

constructive characteristics of applied materials

/ 4. semester / 3 ects
teaching organization: 1 hour of lectures + 2 hours of exercises
examination: written exam

course contents: // basics of theory of calculation of reinforced concrete constructions // dimensioning sections bending moment stress / dimensioning pillars // dim. sections in small eccentricity phase with compression and tension forces // dim. sections in large eccentricity phase with compression and tension forces // stress states of major unsymmetrical tensioned stresses and torsion // foundations. dim. shallow foundations. dimensioning deep foundations // basic of dimensioning of steel elements / control of exertion of steel elements // straps of steel elements. basics of welding and calculation of welded straps. straps with screws // constructive elements of high building / calculation of char. elements // constructive elements of industrial buildings / lattice and spatial support // basics of dimensioning wooden elements of construction // control of exertion of wooden elements /rafters, rafter girders, roof beam, pillar // straps of wooden elements / basics of dimensioning straps /nails, screws, thorns/ // basics of dimensioning elements from laminated wood // elements of security for global spatial stability of wooden constructions //
course leaders: milan glišić, phd arch, prof. / žikica tekić, phd arch, ass. prof. / dragoslav tošić, march, teach. ass.

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module 14

art forms / 6 ects

14

teaching aims: goal of teaching at the module art forms is to train the students to understand completely, practice and apply fine arts in the field of architecture. through teaching with exercises students should practice different shapes and methods of art work so that they gain practical experience and knowledge necessary for future practicing in architecture.
teaching at the module has a general educational character and a tendency to introduce the students to artistic practice complementary to architecture. together with architectural shaping they should create a universal strategy of dealing with space and human surroundings. besides, the goal of teaching is to introduce students to different forms of fine arts and their contemporary forms and interpretations, which enables professional approach to art expression and work.
necessary background: gained knowledge in the study field introduction to architectural design in the first and second semester, and completely surmounted program at the course art elements. attending the course 3d visual communications/art elements is significant for studies at the module.

courses:

art presentation in architecture	3 ects
colour and art concept	3 ects

course 14.1

art presentation in architecture

/ 3. semester / 3 ects
teaching organization: 4 hours of work in studio
examination: oral explanation of portfolio

course contents: // natural surroundings and art work // introduction to anatomy and anthropological measures // body in space and architecture // art study of interior // art study of architecture // art communications in architecture – art drawing in process of designing // urban surroundings and ambient // examples of contemporary art // art transposition of semester project // art concept and presentation //

course leader:
vladan ljubinković, mart, assoc. prof.

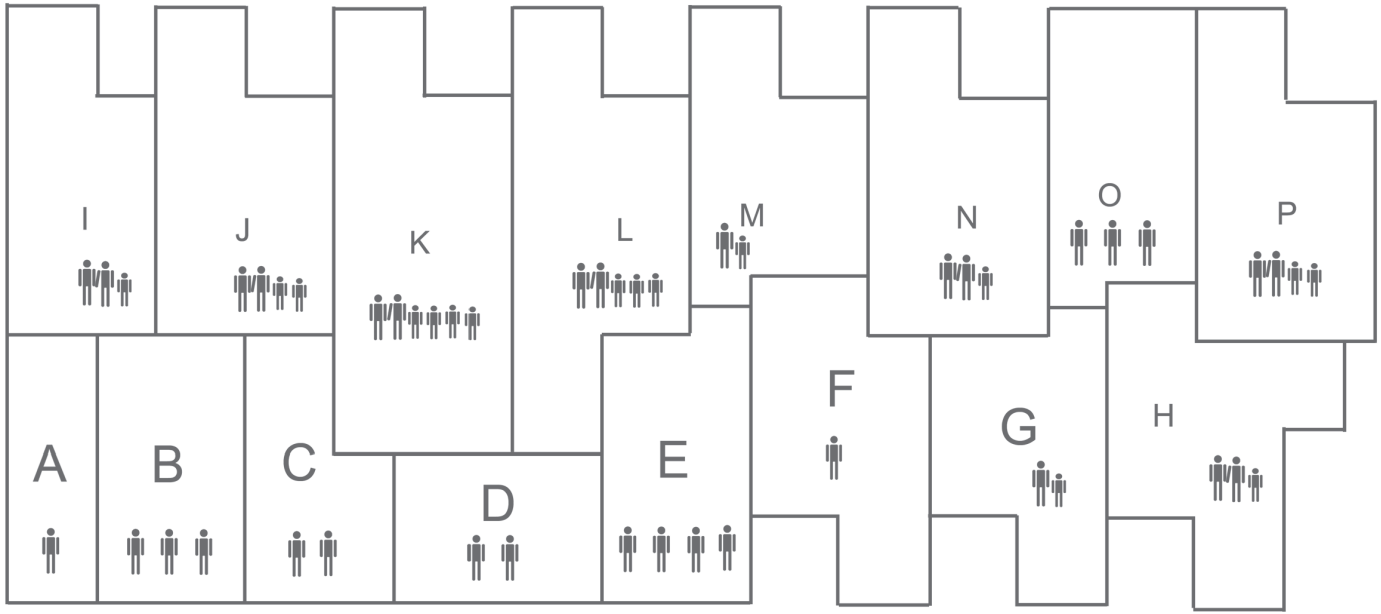
course 14.2

colour and art concept

/ 4. semester / 3 ects
teaching organization: 4 hours of work in studio
examination: oral explanation of portfolio

course contents: // introduction to art application of colour in architecture – psycho-physiological effect of colour // spatial effect of colour // colour variations and ambient// art concept of colour and shape in space and architecture // graphic // modeling // multimedia // examples of contemporary art // art concept and presentation //

course leader:
vladan ljubinković, mart, assoc. prof.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module 15

study and renewal of building heritage / 3 ects

15

teaching aims: gaining advanced knowledge on general historic flows and main characteristics of architecture and build environment in serbia and montenegro in the past, and therefore the main goals, principles and approaches of contemporary integrative renewal of building heritage, in the country and world.

necessary background: attended teaching and positive mark of module 1 and module 7.

courses:

history of architecture and settlements in serbia 2 ects

integrative protection of building heritage 1 ects

course 15.1

history of architecture and settlements in serbia

/ 5. semester / 2 ects
teaching organization: 2 hours of lectures
examination: joint seminar work /15.1. and 15.2./ with oral explanation

course contents: // importance of studying architecture of the past in serbia and montenegro / historic sources and methodology // prehistoric and antique building // preromanic architecture // rashka style group// byzantine style group/ test // moravska style group// monasteries: spatial concept and architecture of buildings // characteristics of roman, gothic and renaissance architecture in montenegro: sacral, profane and housing buildings // architecture of churches and monasteries in the turkish period // development, types and characteristics of settlements in serbia and montenegro / test // traditional housing architecture / spatial development of types of housing in rural regions // main types of village houses: log cabins, callus houses and stone houses // spatial development of types of housing in cities // main types of city houses of oriental character // main types of city houses of medieval and coastal character / test //

course leader: mirjana roter, phd arch, ass. prof.

course 15.2

integrative protection of building heritage

/ 5. semester / 1 ects
teaching organization: 1 hour of lectures
examination: joint seminar work /15.1. and 15.2./ with oral explanation

course contents: // goals and significance of protection of cultural heritage and integrative renewal of built heritage // attitude to cultural goods and preservation of built heritage through history // international charters and recommendations on preservation of cultural goods / law on cultural goods // monument character and values of individual monuments and spatial entities // evaluation of monuments and their classification according to the value / test // basic principles of protection of build heritage // possibilities of protection of individual types of build heritage // methods of technical protection of built heritage // revitalization of cultural monuments – goals and principles // possibilities of revitalization of built heritage / test // integrative protection and revitalization of historic urban entities // methodology of protection and revitalization of historic urban entities // examples of protection and renewal of historic urban entities // problems of contemporary constructing in historic urban entities from the aspect of protection / test //
course leader: mirjana roter, phd arch, ass. prof.

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module 16

architecture, urbanism and society / 3 ects

16

teaching aims: teaching goal is to educate students in the field of socio-humanistic sciences, in order to gain practical knowledge on social flows, laws and regulative and economic rules of influence in processes related to architecture and urbanism.
necessary background: no formal obligations. theoretic and practical knowledge from the first and second year of studies.

courses:

sociology	1 ects
economics of designing and constructing	1 ects
regulative	1 ects

course 16.1
sociology

/ 6. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work on topic from one chosen course /6.1., 16.2. or 16.3./

course contents: // analysis of notions: citizen, civil society, democratic values, democratic institutions // analysis of notions: legal state, civil and political rights, economic, social and cultural rights // state with social care. functions of state in social development // social and urbanistic standard. notions urbanity and urban character // city as public good. interest in use of city space. legitimate and non-legitimate interests // causes and marks of illegal constructing. usurpation of city space and goods // jurisdiction of local management in contemporary democratic societies // position of citizens and local communities in process of reconstruction of city zones // notion of quality of living and indicators of that quality // definition, classification and role of public services in achieving social and cultural rights of citizens // housing as human right // poverty – notion, dimensions, causes, programs fro reduce of poverty // poor city areas and programs of reclamation // condition of living in rural regions and programs of upgrade of quality of living // recapitulation //
course leader: ksenija petovar, phd, prof

course 16.2
facility management

/ 6. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work on topic from one chosen course /16.1., 16.2. or 16.3./

course contents: // building as an investment / initial cost / financing sources, role of bank, investment documentation for loans // pre investment analysis / investment studies, analysis and estimates / location analysis // triangle of project goals: quality, time, expenses. approximate methods of calculating prize of building / factors of influence // economic financial analysis of project / sensitivity analysis / feasibility study//

course leader:
goran milićević, phd, prof.

course 16.3
law

/ 6. semester / 1 ects
teaching organization: 1 hour of lectures
examination: seminar work on topic from one chosen course /16.1., 16.2. or 16.3./

course contents: // classification and hierarchy of law regulative / regulative and regulations in the field of urbanism, with visiting lecture and examples from practice // regulative and regulations in the field of designing, with visiting lecture and examples from practice // regulative and regulations in the field of constructing, with visiting lecture and examples from practice // standardization of project documentation, selection of topic for seminar work //

course leaders:
dušanka djordjević, phd arch, prof.
milica pejanović, march, ass.

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module 17

elective module / 6 ects

17

teaching aims: elective module in the first part of studies enables the students to supplement basic knowledge with certain elective fields. new list of elective courses is offered every year. it is possible to attend some of the elective courses at the different advanced education institution, with the appropriate certificate of fulfilled obligations, and prior approval of vice dean for teaching.

necessary background: no necessary background required, but relevant interest in expending basic knowledge is important.

courses:

elective course 1	3 ects
elective course 2	3 ects

course 17.1

elective course 1

/ 5. semester / 1 ects

teaching organization: 3 hours

examination: seminar work

course 17.2

elective course 2

6. semester / 1 ects

teaching organization: 3 hours

examination: seminar work

current list of proposed elective courses:

english for architects 1

english for architects 2

graphic signalization in urban space

graphic identification

modeling

portfolio

computer graphics

geometry of shape 3

geometry of shape 4

multidisciplinary and art forms

architecture of temples

special designing problems

rebuilding, adaptation and reconstruction of architectural buildings

mathematic instruments in systems of constructions

PAPS

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module 18

design studio – project 3 : urbanism / 12 ects

18

teaching aims: training the students for practical application of theoretic knowledge gained in the field of urban planning and design, through simulation of planning-designing process where the urban aspect of assignment is primary. gaining knowledge and skills in identification and learning main problem aspects of urban planning and designing /multifunctional/ location. training for exploring possibilities of upgrading urban structure and identification of goals and effects of development. learning methods and techniques of process or urban planning, application of learnt methodology of process of designing to the level of preliminary and main design.

necessary background: u: understanding the structure of built environment and factors of urban changes and processes of development, knowledge on primary urban functions and activities, knowledge of principles of shaping and organization of /public/ city spaces /module introduction to urbanism and module urban structure and functions/.

the rest:

a: principles and skills of designing architectural multifunctional buildings /module introduction to architectural design and module organization of space/

ai: principles and skills of designing complex structures /module architectural constructions 1 and module static of constructions 2/

courses:

urbanism	8 ects
architecture	4 ects

course 18

design studio – project 3 : urbanism

/ 5. semester / 12 ects

teaching organization: 8 hours of work in studio

examination: portfolio defence

course contents: // initial concept: defining initial points, ideas, visions, goals // identifying problems, context, values, activities // concept: crating network of relation with a context, sustainability of a concept, criteria, indicators // workshop: estimate of quality of proposed concept, choice of segment for further work // creating urbanistic – architectural structure: spatial – functional structures // structure of public spaces, networks of motion // sustainability of a solution: criteria, indicators // feasibility study // workshop: estimate of quality of proposed urban structure, choice of segment for further work // urbanistic – architectural solution: creating a program for the selected spatial segment // traffic // defining urban form and functional structure // defining public space: elements of regulation and levelling // architectural solution, control of construction and concept of materialization // control of satisfaction of set goals // workshop: estimate of quality of proposed solution //

course leader: department of urbanism

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6

module 19

design studio – project 4 : synthesis / 6 ects

19

teaching aims: introducing to methodology principles of associating gained knowledge and skills about arts, architectural and urban design, designing constructions and utilities, calculations and realization of buildings in the procedure of designing and exercising of designing complex architectural-urban entities.
necessary background: visual communications /principles of shaping space/, architectural project /shaping architectural structures with housing, business, service, industrial, recreational and traffic contents/, project of constructions /positioning and approximate dimensioning constructive elements of small range, standard elements of materialization and utilities of buildings from foundation to roof, designing details, calculations,.../ and urban project /regulation plan, parceling, urban elements of location, urban composition/ formal: modules 2,3,8,9,10,18.
student gains a maximum of 70 points based on the results through semester, and a maximum of 30 points based on oral defence of the project. because of it character, this course can be taken only in the first following examination period.

courses:

urbanism	1-9 ects
architecture	1-9 ects
architectural constructions	1-9 ects
static of constructions	1-9 ects

course 19

design studio – project 4 : syntheses

/ 6. semester / 12 ects
teaching organization: 8 hours of work in studio
examination: oral explanation of portfolio

course contents: // project assignment and visit of location // spatial analysis of location // program analysis of building // architectural – urbanistic concept // evaluation of concept // preliminary design // colloquium: visualization of preliminary design // preliminary design of building construction // preliminary design of utilities and building materials // preliminary project // further work on preliminary project // colloquium: visualization of preliminary project // graphic presentation // production of building model // technical description and explanation of design //

course leader: department of architecture

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module 20

theory of design / 6 ects

20

teaching aims: gaining ability of perception and analyzing structures of designed space in the relation to designing process – understanding of assemblies, elements and their connections significant to designing process and rising awareness on particularities of creative work in the field of architectural design, characteristics and phases of work at the project.
necessary background: modules: 2. introduction to architectural design; 8. studio project 1 – architecture; 9. studio project 2 – architectural constructions; 10. organization of space

courses:

design methodology	3 ects
designing process	3 ects

course 20.1

design methodology

/ 5. semester / 3 ects
teaching organization: 2 hours of lectures
examination: seminar work

course contents: // introduction to methodology of a project // relation of structure of project and typology // notional and appearance aspect of architecture in a project // program elements – project assignment // spatial-program structure of a project // elements and structures: architecture of regions / accesses and entrances // elements and structures: served and service spaces / internal space // elements and structures: transparency of space / light and volume // multifuncionality and dynamic of space // technology and materials: realization of idea and form // model and computer 3d model: abstraction and simulation // 10x10: ten books /literature overview/ // "le corbusier" – visiting lecture // 10x10: ten projects /top examples // form and content of a project //

course leaders:
vladimir milenković, march, ass. prof.
aleksandru vuja, ass. prof.

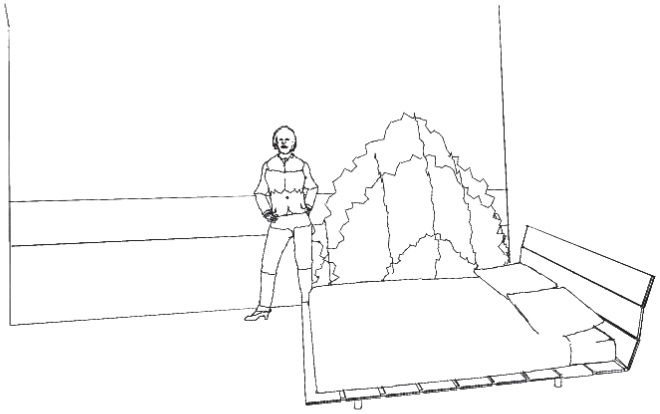
course 20.2

designing process

/ 6. semester / 3 ects
teaching organization: 2 hours of lectures
examination: seminar work

course contents: // goals, approaches, theme entities // creativity as phenomena, characteristics of architectural design // structure of creative process, relations // history of creativity, epochs, development of ideas // phases of designing process, approach, methodological concepts // first phase - assimilation, influences, generalizations, digressions // second phase – concepts, normative, creative, rational, heuristic approach // third phase - determination, development, valuation – selection, examples // iterative method, cycles and decision making // visual language, architecture as communication // levels of communication, perceptive and syntax // levels of communication, semantic and semiotic // theme, motive, context – defining architectural form, expression // layers of aesthetic influence of architectural form // realization of architectural work – examining meaning of notions //

course leaders:
borislav petrović, ass. prof.
ivan rašković, ass. prof.



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module 21

planning and renewal of cities / 6 ects

21

goal of teaching: introducing to the basics of planning and city renewal in contemporary conditions and training for participation in professional activities of urban planning and design
necessary background: knowledge of main principles of producing structure of contemporary city and ability to understand professional actions in the field of urban development management /study field 11/, knowledge of typology of buildings /study field 10/ and history of architecture and settlements in the surroundings /study field 7/.

courses:

introduction to urban planning	3 ects
urban renewal and cities of serbia	3 ects

course 21.1

introduction to urban planning

/ 5. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: written exam

course contents: // creating urban space: notion of planning and relation to architecture, different types of planning and plans / role of planer // city location: allocation of spatial resources and functioning of city, "who is whom" in the process of determining purpose and constructing at urban locations // city location: role of profession / how to reconcile creativity of architects and regulatory of planning? critical analysis of our practice / what can we learn from others? // assignment 1: identification and reading plans / connection to urban problems // urban plans: types of plans / goals of production, content, application / relations of plans // urban plans: new directions in planning / principles of sustainability // assignment 2: defining urban location for given purpose / identification of relation purpose – location / actors, interests and values // sustainable development and planning: "sustainable" and "unsustainable" urban surroundings // sustainable development and planning: how do we plan sustainable development and sustainable building of city? // sustainable development and planning: new connection with architecture. // assignment 3: "sustainable" urban surroundings / elements / relations / structures//
course leader: milica bajić-brković, phd arch, prof.

course 21.2

urban renewal and cities of serbia

/ 6. semester / 3 ects
teaching organization: 3 hours of lectures
examination: seminar work

course contents: // goals of urban renewal, socio economic context // methods of urban renewal of cities // new in old, preservation and renewal // examples of urban renewal // directives or urban renewal // eco city and urban renewal// economic context of urban renewal // management in the context of urban renewal // composing and remodeling // urban design in the function of urban renewal // historic and cultural /dis/ continuity of building of cities in serbia // morphology of cities in serbia and processes of contemporary physical transformation // patterns of world urban trends in form of local cities// urban transition in serbia and market conditions // perspective of local cities in european network: directions and criteria of serbian urban evolution in 21st century //

course leaders:
vladan djokić, phd arch, prof.
vladimir milić, phd arch, ass. prof.

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m o d u l e 2 2

architectural constructions and building technology / 6 ects

22

teaching aims: introducing to the principles of industrialized and prefabricated building, building logic, and building of prefabricated houses. introducing in basic concepts, structures and components of the materialization of panel and frame reinforced concrete and wooden buildings. fire safety regulation procedures. introducing in basic terms about activities and obligations of the architect as participant in building process. legislative procedures in architecture, urban planning and building.
necessary background: formal obtained knowledge /positive marks/ of study fields architectural constructions and materials, architectural construction, physics and utilities, and design studio – project 2 : architectural constructions.

courses:

architectural constructions 3	3 ects
organization of building process and basic of management	3 ects

course 22.1

architectural constructions 3

/ 5. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: written exam

course contents: // basics of industrialized constructing / panel prefabricated structures / plans of installations // frame prefabricated structures / plans of installations // prefabricated and semi prefabricated ceilings // prefabricated facades // semi prefabricated facades // prefabricated staircases // combined structures of constructions // final treatment in external space // final treatment in internal space // internal partition walls // lowered ceilings // banked floors // content of technical documentation // analysis of examples //

course leaders:
aleksandra krstić-furundžić, phd arch, prof.
aleksandar rajčić, phd arch, ass. prof.

course 22.2

building technology and basics of management

/ 6. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: seminar work

course contents: // defining the participants in building process, phases and content of economical-technical documentation // earth and masonry works, mechanization // concrete and reinforcing works, mechanization // carpentry works, prefabricated formwork // insulation and roofing // metal plates // craft works execution // craft works and finishing // legislation, building quotas, cost analysis // planning and evidence, network planning // tender procedures, contracts // building site and enterprise, staff organization // building site organization, organization project // building documentation, quality control, building transfer

course leaders:
dušanka đorđević, phd arch. prof.
milica pejanović, march, teach. ass.

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m o d u l e 2 3

professional practice, excursion or summer workshop / 6 ects

23

teaching aims: gaining practical experiences

1. attending one summer workshop or performing one or more excursions organized by the faculty /total of 5 days/40 hours/; 2. independent student work, through school year or summer, in designing studio or contracting firm /total of 120 hours/

necessary background: essay on performed excursion or attended workshop 30%; defended seminar work on performed professional practice 70%

course 23

professional practice, excursion or summer workshop

/ according to special schedule / 3 ects

course leaders: dušanka djordjević, phd arch, prof.
milica pejanović, phd arch, ass. prof. vice dean for teaching

possibility 1: summer workshop or excursion

/ duration: maximum 5 days
examination: essay

course contents:

// summer workshop: workshop leader proposes program and goal of workshop. workshop is realized at the specific location and relates to the assignments that were processed theoretically during previous studies

// excursion: excursion leader proposes program and goal of excursion. excursion can be organized as a one-day event / during semester/ or several days event /after the end of semester/ with visits of cities and places that can present architecture in context

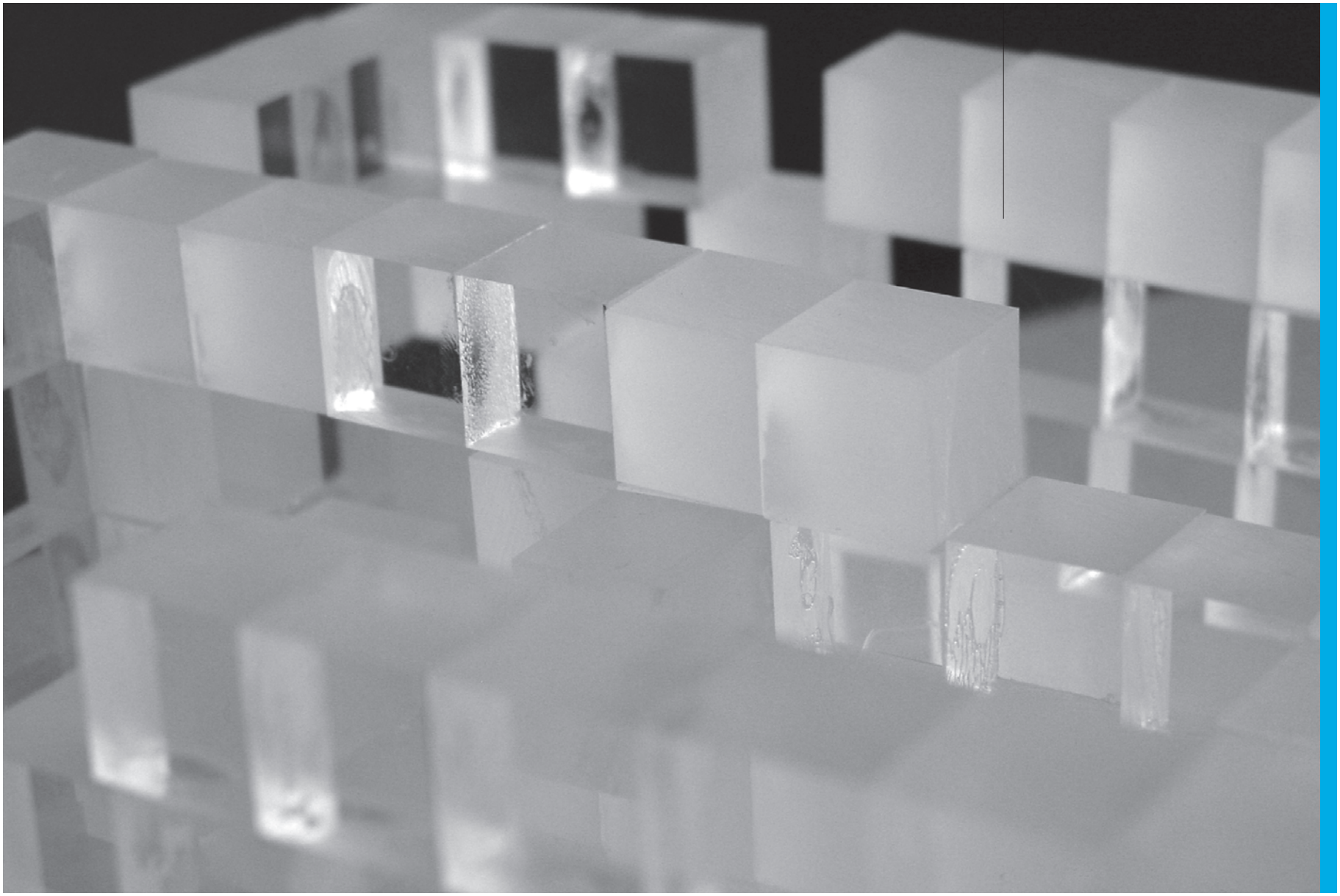
possibility 2: professional practice

/ duration: maximum 120 hours
examination: seminar work

course contents:

// atelier: student should learn about structure and organization of firm, participate in work on the current project and visit a location if possible. student should be introduced to all phases of work on project documentation, content and level of details, procedures for issuing conditions, approvals and permissions. if the firm is engaged in supervision of a building site, student should also participate in that activity
// building site: student should learn about structure and organization of firm, project documentation on the building site, follow the dynamic of work, and learn about technology, materials, equipment and resources, stuff and all participants in the process of realization.
// atelier and building site: /joins two previous assignments with 80 hours in atelier and 40 hours at the building site/
note: student chooses the firm for professional practice, during school year or summer break / minimal engagement is 4 hours, and maximum 8 hours per day.

30°C
10°C



graduate academic studies

modules M1,2,3 / 9 octs
GENERAL FIELDS

module M7 / 6
WORKSHOP

module M8 / 9 octs
ELECTIVE MODULE

1 history and theory of urbanism / 3

module M4 / 22 octs
DESIGN PROJECT 1
s t u d i o / 16 octs // seminar 1 / 2 octs // seminar 2 / 2 octs // seminar 3 / 2 octs

workshop 1 / 2

elective 1 / 3

2 history and theory of architecture / 3

module M5 / 22 octs
DESIGN PROJECT 1 – SPECIALIZATION 1
s t u d i o / 18 octs // seminar 1 / 2 octs // seminar 2 / 2 octs

workshop 2 / 2

elective 2 / 3

3 advanced technologies in design and building / 3

module M6 / 22 octs
DESIGN PROJECT 2 – SPECIALIZATION 2
s t u d i o / 18 octs // seminar 1 / 2 octs // seminar 2 / 2 octs

workshop 3 / 2

elective 3 / 3

4 module M9 / 30 octs
M A S T E R P R O J E C T thesis / 10 octs // project / 20 octs

>> p. 13

final project enables each student to apply for master studies or practice in architecture.

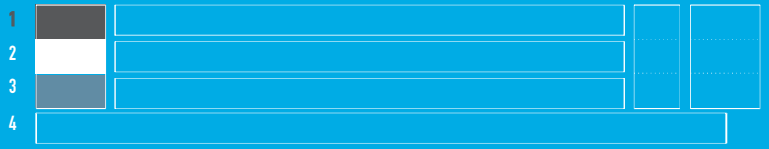
up to now, it was not possible to define transfer from the first to the second level of studies.

first level of studies is to be understood as qualification for potential practice or continuing studies at master courses at different universities.

faculty recommends professional practice with duration of 6 months minimum, in atelier, at the building site, etc, before continuing studies at the master course.

hopefully, with serbia becoming a member of the european union, advanced university students from the university of belgrade will be able to participate in the program of international students' exchange – erasmus.

prof. dipl. ing. vladimir nikolić



M123

modules M1, M2, M3

general teaching fields

/socio-humanistic sciences, arts, technical-technological sciences/

courses:

history and theory of urbanism	3 ects
history and theory of architecture	3 ects
contemporary technologies in designing and building	3 ects

course M 1.1

history and theory of urbanism

/ 1. semester / 3 ects
teaching organization: 2 hours of lectures
examination: seminar work

teaching aims: course enables understanding of disciplines of urban planning and design development. students will be introduced to the purpose of urban intervention, its different shapes, ways of determining public interest and relations of urban planners and designers with other participants in development of cities. beside lectures, work at the course includes presentations and students' discussions, tests and written research work //

course leader: nada lazarević-bajec, phd arch, prof.

course M 1.2

history and theory of architecture

/ 2. semester / 3 ects
teaching organization: 2 hours of lectures + 1 hour of exercises
examination: seminar work

teaching aims: teaching is organized through lectures and seminars, with a goal to present a wide range of main questions in the field of history and theory of architecture to the students. mutual focus of teaching is contemporary architecture. specific problems are percepted through several fields: aesthetics, cultural studies, relation of contemporary architecture and historic context, protection of contemporary architecture and theoretical discourses of contemporary architecture. knowledge check is realized through seminar work from one of the mentioned fields, by students' choice.

course leader: ljiljana blagojević, phd arch, assoc. prof.

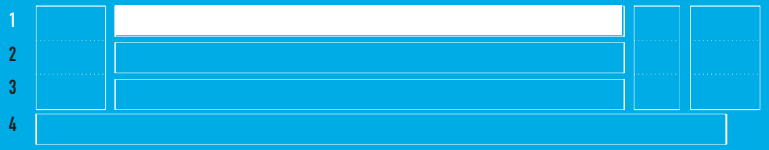
course M 1.3

contemporary technologies in designing and building

/ 3. semester / 3 ects
teaching organization: 2 hours of lectures
examination: seminar work

teaching aims: introducing to contemporary technologies in architecture that can be applied in designing and realization of constructing, with aspects of applying different materials and structural systems and integration of systems for saving and producing energy. teaching is not founded just on studying different technical aspects of contemporary technologies in architecture, but also on their analysis as integrative elements of function, construction, form and interpretation of ideas.

course leader: aleksandra krstić, phd arch, prof.



M4

module M4

architectural – urban design / 22 ects

teaching aims: to associate and upgrade gained knowledge and skills, and apply them at the unique assignment. assignment includes problems of urban and architectural design, at the level of research and generalization, as well as the level of designing and realization. goal is to understand relation between people /users and observers/ and buildings, and buildings and their context. the goal is to gain the skill of architectural shaping that responds to aesthetic, functional and technical demands. students develop abilities of integral processing of city plan, typology of public spaces and appropriate models of constructing public and/or housing content. module m4, in the first semester of master studies, presents a project and project – related lectures with different content and methodological focuses, that are proposed based on special tendencies and qualification of each teacher – leader of the project. students are introduced to complex assignments in architecture and planning the city and surroundings, developing, through work in studio, skill of teamwork and relation to real professional surroundings. based on experiences at the project and present flow of studies, students choose the line of specialization.

necessary background: finished undergraduate academic studies or applicative studies with at least 60 ects realized through work at architectural and urban designs in studios.

courses:

studio	16 ects
seminar 1	2 ects
seminar 2	2 ects
seminar 3	2 ects

course M4.1
studio

/ 1. semester / 16 ects
teaching organization: 10 hours of lectures
examination: portfolio presentation

goal of teaching: students work on complex design problem of intervention at specific and demanding locations:
/inside solid built urban structure/ inside ambient defined (protected) urban tissue/ in city suburbs/ in natural – ecological environment, etc... themed frame of the assignment is given through suggested choice of three out of five seminars offered. original design assignment is defined through overlapping topics. teaching is realized in studios, and students have the opportunity for additional consultation with participants at the seminars. result of work is a whole project with a clearly recognizable research and applicative component, where elements of theme fields can be perceived easily.

course M4.2
seminar 1

/ 1. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

course M4.3
seminar 2

/ 1. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

course M4.4
seminar 3

/ 1. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: goal is to enable knowledge and skills gaining by choosing from range of themes spectre. each project includes three seminars from one out of five fields, that present theory base for research of design:

environment
main goal of teaching is to expose problems of environment in the context of planning, designing and constructing, and it is socio-cultural, economic and ecological sustainability. cultural-anthropological (social) and natural-ecological (physical) dimension are processed.
teaching researched phenomena, its actual manifestations and influences that problems of environment have on strategy of theory and practice of building.
goal of teaching is to introduce students to main principles and characteristics of designing buildings according to the principles of bio climatic architecture.
through studying elements of location and micro location students will be introduced to main preconditions of designing bio climatic buildings. through lectures about principles of designing bio climatic buildings and principles of use of solar systems and elements of energetic efficacy, they will be enabled to integrate all their knowledge into the process of designing.

housing
introducing to typology of housing buildings, and special building for accommodation and sojourn. studying principles of designing, constructing and materialization of buildings of the kind. gaining knowledge on technologies and standards of housing and accommodation buildings. >>

M4

>>

public spaces

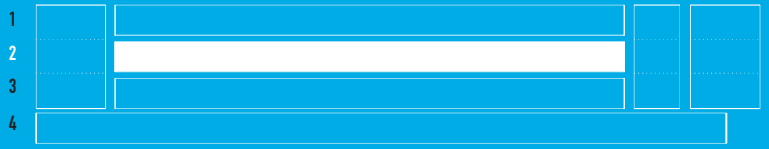
main goal of teaching at the course is introducing the phenomena of public spaces of the city, and training the students to perceive them in typological way, and introduction to process of creating directives for their further development.
most important morphological issues of public city spaces and their relation to functional characteristics and cultural context are considered. whole phenomena of public city spaces is observed as morph genetic, i.e. in the structure of historic continuity of its' genesis, development and changes through time.

renewal and reconstruction

main goal of teaching at the course is understanding and use of methods applied in renewal of parts of urban (and rural) settlements, from the most common such as interpolation and reclamation, to rehabilitation, regeneration, urban recycling and complete renewal at the level of cities or huge urban entities. topics like embedding of building heritage into active city life and application of existed building fund are treated with special attention. by using methods of active protection and based on comparison with similar examples, level or standard of ruined segments of urban and rural settlements is upgraded.
students are introduced to concepts, measures and technologies of building renewal that improves spatial, acoustic and temperature comfort, natural lightning and ventilation of space, i.e. energetic performances of buildings, as well as their visual characteristics.

technology and realization

goal of teaching is theoretic and practical foundation for efficient management in architectural practice with application of standard methodologies, techniques and tools for planning, monitoring and control in the phase of designing and constructing buildings. preparing students for financial monitoring of investments, such as cost estimate, and making calculations from the position of designer or constructor. field of management in architecture is also included. introducing the students to exploitation of buildings and procedures of renewal and maintenance, and the economic aspect of period of building usability. goal is to train the students for managing the procedures of maintenance (and other) during exploitation.



M5A

module M5A

design project 1 - specialization a / 22 ects

specialization A - architecture

teaching aims: first project of specialization a has the goal to develop some of the following skills of future architects: perceiving and suitable application of architectural concepts, principles and theories; abstraction and presentation of main elements and relations in defining architectural solutions; designing skills necessary for responding to needs of investors, users and law regulative. it is possible to realize project through both semesters of specialization (2. and 3.), within one of methodological frames according to the listed goals.
assignment includes problems of architectural, i.e. architectural-urban design, at the level of research and generalizations as well as at the level of designing and realization.

necessary background: passed module m4 – architectural-urban design

courses:

studio	18 ects
seminar 1	2 ects
seminar 2	2 ects

course M5A.1
studio

/ 2. semester / 18 ects
teaching organization: 12 hours of lectures
examination: portfolio presentation

teaching aims: students work on a complex designers problem and develop elements of assignment independently. by studying complexity of functional, morphologic and socio-cultural structure, students are trained to: create architectural solutions that equally respond to conceptual, functional and structural demands/ follow and apply contemporary architectural principles and paradigms. result of work is a whole project with a clearly recognizable research and applicative component, where elements of fields that it relies on can be perceived easily.

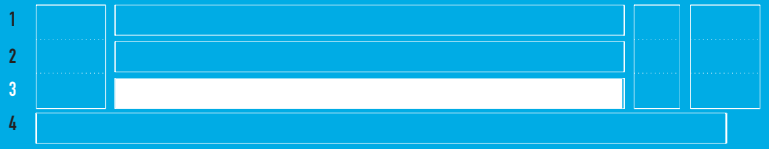
course M5A.2
seminar 1

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

course M5A.3
seminar 2

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: none

teaching aims: within module 5 leaders of project suggest and organize realization of two seminars that provide a theoretic frame for work on the project. topics can be various, from theoretic-philosophic and conceptual to practical and pragmatic. topics are suggested based on special tendencies and qualifications of professors – leaders of the projects.



M6A

module M6A

design project 2 - specialization A / 22 ects

teaching organization: first and second project of specialization a have similar goals. through contact with different teachers, student is trained to perceive and define his own principles, methods and procedures of designing. student develops consciousness on necessity of continual professional development. if the project is organized through both semesters of specialization (2. and 3.), it is necessary for the planned designing procedure – method to correspond to the given frame, for example: supposition, repetition and variation / idea, deepening and development / research and project. these procedures develop students' ability of quick, creative and flexible response to challenges and changes expressed in reality of professional practice.

necessary background: passed module M4 – architectural-urban design

course:

studio	18 ects
seminar 1	2 ects
seminar 2	2 ects

course M6A.1
studio

/ 2. semester / 18 ects
teaching organization: 2 hours of lectures
examination: portfolio presentation

teaching aims: each realized project presents a new experience that develops and architect as a professional.
students work on a complex designers problem and develop elements of assignment independently. by studying complexity of functional, morphologic and socio-cultural structure, students are trained to: create architectural solutions that equally respond to conceptual, functional and structural demands/ follow and apply contemporary architectural principles and paradigms. result of work is a whole project with a clearly recognizable research and applicative component, where elements of fields that it relies on can be perceived easily.

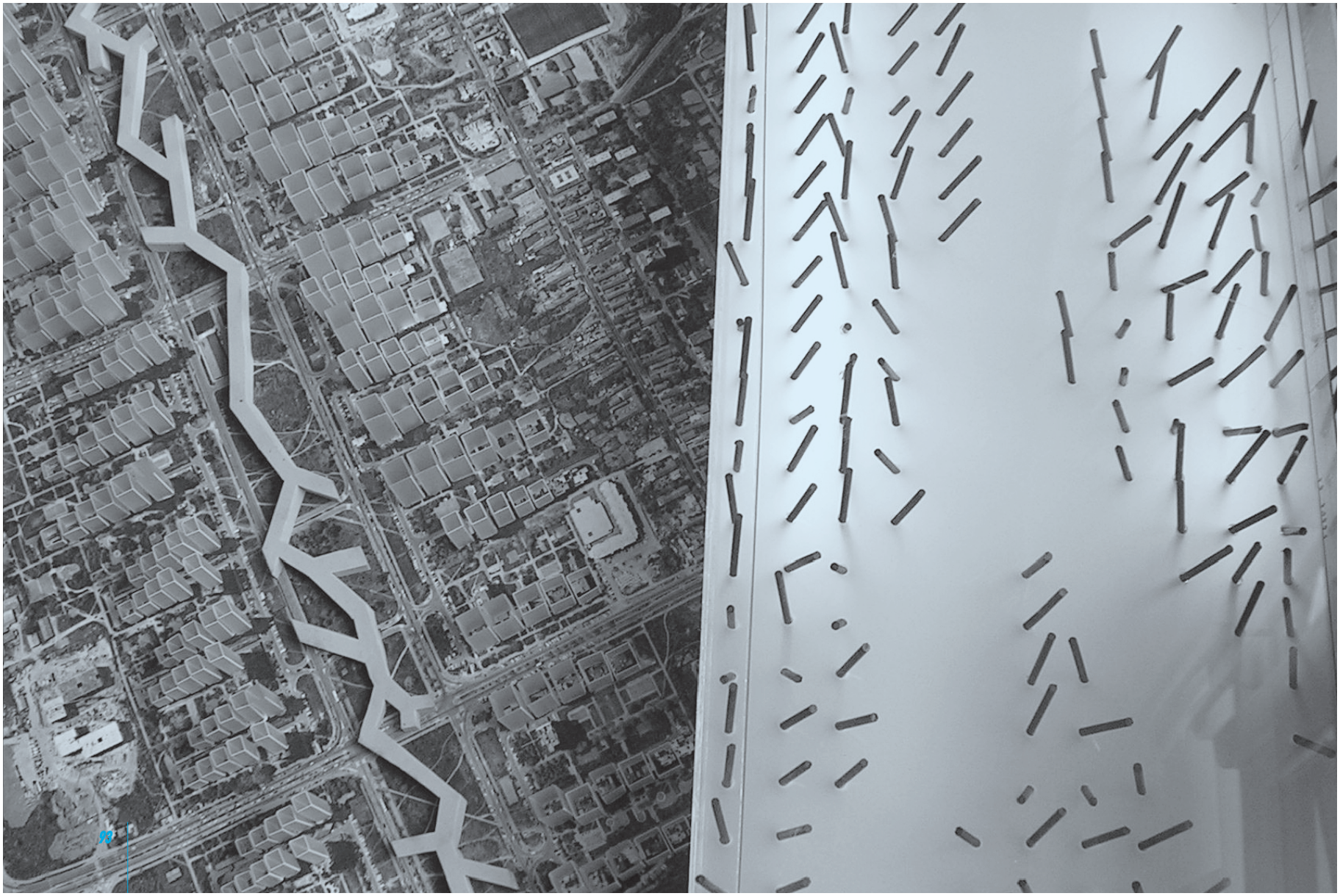
course M6A.2
seminar 1

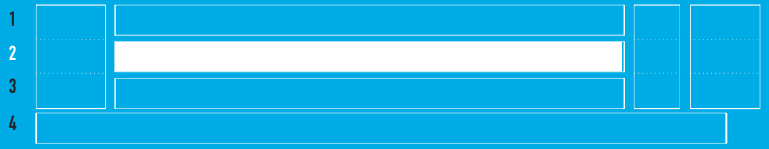
/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

course M6A.3
seminar 2

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: within module M6 leaders of project suggest and organize realization of two seminars that provide a theoretic frame for work on the project. topics can be various, from theoretic-philosophic and conceptual to practical and pragmatic. topics are suggested based on special tendencies and qualifications of professors – leaders of the projects.





M5U

module M5U

design project 1 - specialization U / 22 ects

specialization u - urbanism

teaching aims: upgrade of knowledge on basic of urban design – theoretic principles, historic development and examples, methods and techniques in relation with contemporary and future trends of cities development, as well as development of skills in urban planning at strategic and detailed level (as support to ideas, scenarios and development options of urban development) with establishing relation of architecture and planning.
necessary background: passed module M4 – architectural-urban design

course:

studio	14 ects
seminar 1 - urban design	2 ects
seminar 2 - spatial composition	2 ects
seminar 2 - research of location	2 ects
seminar 2 - modeling urban systems	2 ects

course M5U.1

studio

/ 2. semester / 14 ects

teaching organization: 8 hours of lectures

examination: portfolio presentation

<u>teaching aims:</u>

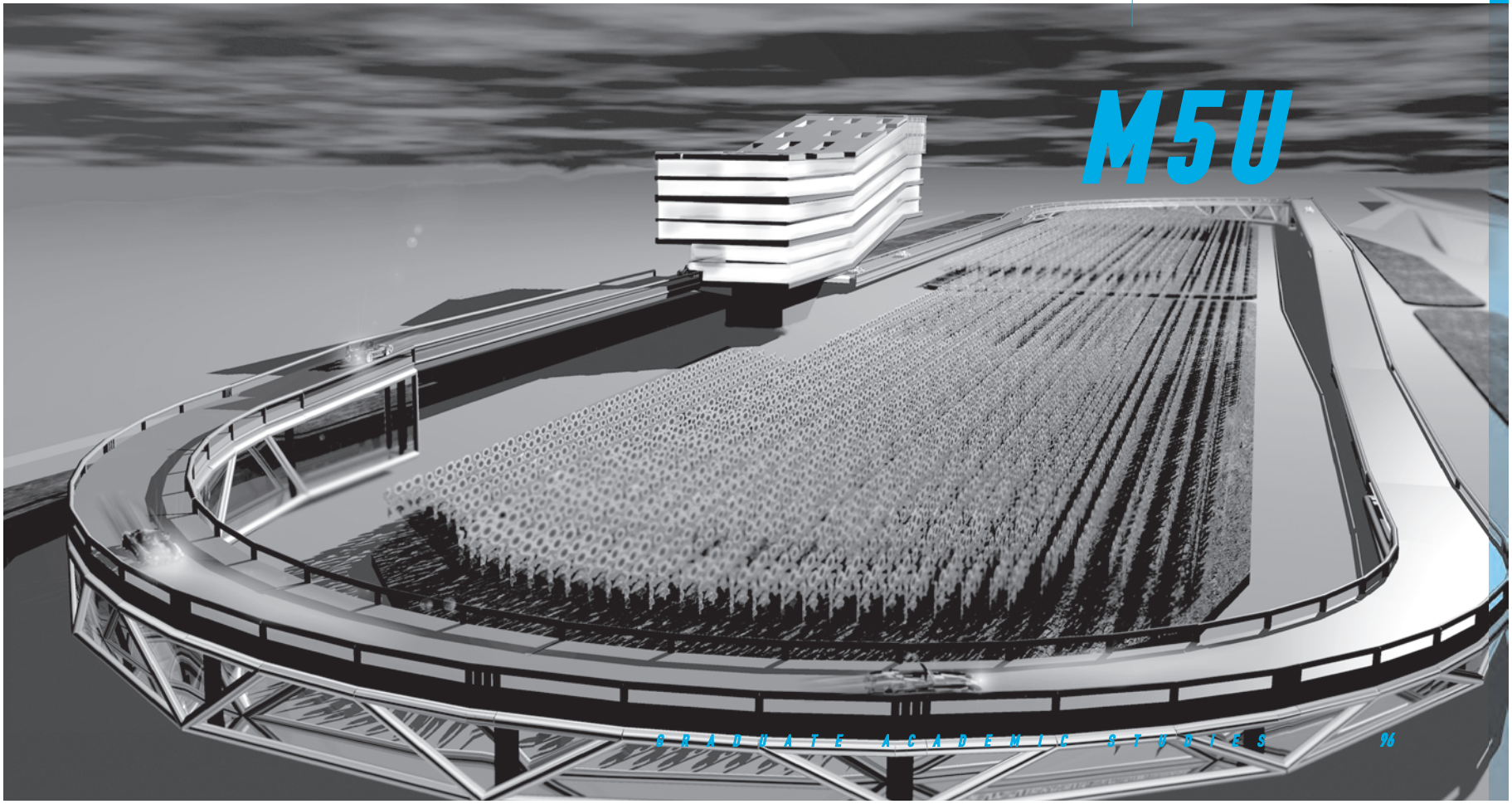
model 1

main goal of master course is affirmation of aspects and methods of urban design as strategic frame of regeneration, maintaining and encouraging vital city tissue. focus of the course is promoting research, critical opinion and comparison in the domain of: (a) traditional patterns of compact urban tissue, with its' renewal and preservation, (b) experimenting and innovating toward potential, new concepts and urban patterns specific educational goals are related to training the students for application of theory and methodological knowledge in the field of urban design, through: /understanding transformation (regeneration, development, mutation) of city, its structure and spatial patterns /perceiving differences and characteristics of typological models of contemporary city /understanding and application of strategies, methods, techniques and procedures of urban design /creative and innovative acting in the domain of intervention on different typological models of urban tissue, from the level of strategy of urban design to the level of chosen urban entities /understanding and application of techniques of interpretation (creating diagrams, techniques of mapping, producing new cartography, topography and morphology of city)

model 2

main assignment of teaching is application of theoretic knowledge in the field of urban planning and designing through simulation of planning-designing process, with urban aspect as a primary one. previously gained knowledge and skills in identification and surmounting basic problem aspects of urban planning and designing location are learned.

through surmounting methods and techniques of urban planning, students are trained for researching possibilities of upgrading urban structure and identification of goals and effect of development. at the same time, they are trained to surmount methods and techniques of evaluation of offered solutions according to the set goals.


M5U

course M3U.2

seminar 1 - urban design

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: perception of urban design as a link between planning and architecture through consideration of criteria, values, procedures and actors, and dominate dimensions of urban design (morphologic, perceptive, sociologic, functional and temporal).
creating a platform that researches different theories and methodologies of urban design, with a goal of perceiving and understanding characteristics of different structures and spatial forms of contemporary typological models of cities and their transformation (regeneration, development and mutation).

course M5U.3

seminar 2 - spatial composition

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: main goal of teaching is for the students to develop sense of problems of urban composition and urban designing by upgrading existing knowledge. teaching is oriented to research of process, methods and instruments of urban composition in the context of upgrading level of organization of urban structure, at macro and micro level.

M5U

course M5U.4

seminar 3 - research of location

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

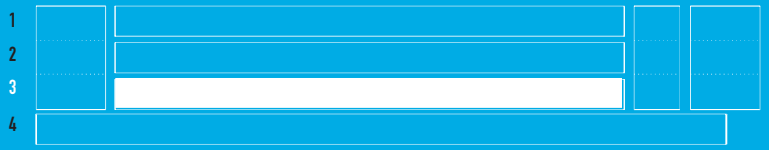
teaching aims: main goal of teaching is to present process of solving location demands, problems and potentials, and to enable gaining skills and knowledge on problems of programming and designing urban locations. possible principles, factors and conditions of planning, use and organization are researched, as well as elements of designing urban locations. in that sense, theoretic-methodological assumptions of location analysis and technical creation of program-spatial solutions are used in consideration of process of choosing optimal location.
teaching is focused to developing consciousness and understanding new role of architects and urbanists in urban practice through defining strategic horizon, defining demands of location and optimization of location.

course M5U.5

seminar 4 - modeling urban systems

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: main goal of teaching is introducing to the process, methods and instruments of planning, organization and control of urban development and gaining necessary knowledge and skills for solving problems through researching possibilities of upgrading the structure of urban systems.
teaching is focused to research of process, methods and instruments of management: planning, organization and control of urban development in the context of upgrading quality of living and preserving environment. theory knowledge is focused to developing critical attitude and ability of young experts in reforming present practice in our surrounding.



M6U

module M6U

project 2 – specialization U / 22 ects

teaching aims: is to develop resourcefulness in complex situations in contemporary urban development, where it is necessary to mediate different, frequently opposite interests (social integration, economic development, ecology, protection,...). theory teaching and work on exact problems encourage students for critical and creative approach that enables quality practicing and researching in the field of urban planning.
necessary background: passed module M4 – architectural-urban design

courses:

studio	14 ects
seminar 1 – spatial and sustainable development	2 ects
seminar 2 – methods and techniques of planning	2 ects
seminar 3 – urban economy	2 ects
seminar 4 – planning of social development	2 ects

course M6U.1

studio

/ 3. semester / 14 ects
teaching organization: 8 hours of lectures
examination: portfolio presentation

teaching aims:

model 1

project introduces the students to the practice of planning, from definition of the problem, determination of way of data collecting, analysis and definition of goals to creative process of problem solving, result estimate and making conclusion that lead to recommendation for taking certain measures.
result of work within the module is surmounting different methods of urban analysis, training for solving problems in urban development and preparation of suggestions for upgrading life in the city and developing the ability of presentation and argumentation.

model 2

surmounting making of plan document. possible options:
general urban plan of small settlement, detailed regulation plan, action plan, and special plan act such as agenda 21.
choice is made depending on interests of students and choice of complementary courses, and relevancy of topics that can be treated through planning. topics, i.e. kind of plan document will be changed on year basis. typical topics, such as: institutional frame and legislative for plan preparation, process of plan preparation and application of appropriate method and techniques of analysis, evaluation and syntheses, and special associated to type of plan document that will be processed or specificity of surroundings taken as field of project.

course M6U.2

seminar 1 - spatial and sustainable development

/ 3. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: introducing to philosophy of sustainable development and idea of sustainable city. learning the principles of sustainability and ways of transponing into practice of planning and design. conceptual and methodological effects and need for renewal of discipline. sustainability in planning, institutions, techniques and physical form of the city.

M6U

course M6U.3

seminar 2 - methods and techniques of planning

/ 3. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: work on the course provides understanding and learning methods and techniques used in urban planning. theory teaching at the course includes: methods of collecting and organizing data, statistic processing and analysis of spatial data, methods of predicting, projecting and making decision on development and space, methods of evaluation, communication and conflict solving, formulation of alternative suggestions, and techniques of implementation control.
special attention is paid to the techniques of reality of inter-vention proposal evaluation, and analysis of influence of plans and projects.

course M6U.4

seminar 4 - planning social development

/ 3. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

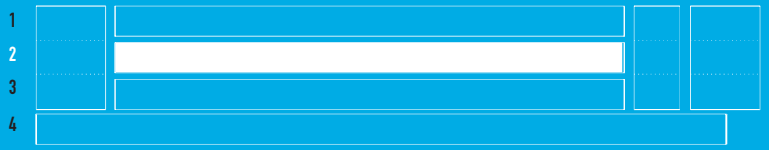
teaching aims: sociology is gaining knowledge on basic categories and notions of democratic, pluralistic and open society, functions and competency of state with social care, development of civil society, civil initiatives and spatial settlements conditions in achieving human rights.

course M6U.4

seminar 3 - Urban economy

/ 3. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: application of economic principles on economic role of cities and spatial structures. market of building land and urban planning. analysis of transactions at the real estate market. methods and techniques of analysis necessary for financing real estates, investments and development.



M5AT

module M5AT

design project 1 - specialization AT / 24(22) ects

Specialization AT – Architectural technologies

teaching aims: gaining advanced knowledge and abilities in the process of designing for constructing. studying principles and technological procedures through technical and organizational aspect. within this module, students especially gain following skills: /knowledge of potentials of new technologies /understanding constructive and engineer problems in the process of designing architectural buildings /gaining appropriate knowledge in the field of architectural physics and technologies of constructing, with a goal of providing conditions for use and spatial comfort /introducing to industries, organizations and regulative related to process of transformation of elements of design into building.

necessary background: passed module M4 – architectural-urban design

course:	
studio	18 (16) espb
seminar 1	2 espb
seminar 2	2 espb
seminar 3	2 espb

course M5AT.1

studio

/ 2. semester / 18(16) ects
teaching organization: 18(12) hours of lectures
examination: portfolio presentation

teaching aims: projects in the field of specialization at are developed in two basic directions: one focused on studying and application of contemporary technological and construction solutions (application of numeric methods, optimization, modeling), and another primarily focused to the process or realization of architectural buildings in technical and organizational sense (organization of constructing realization, reclamation, reconstruction...). result of studio work is an architectural design, where aspect of real applicability in realization is clearly emphasized. it is also possible to have a proposal of organization of constructing architectural building as a result, with application of regulative relevant in the field.

course M5AT.2

seminar 1

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

course M5AT.3

seminar 2

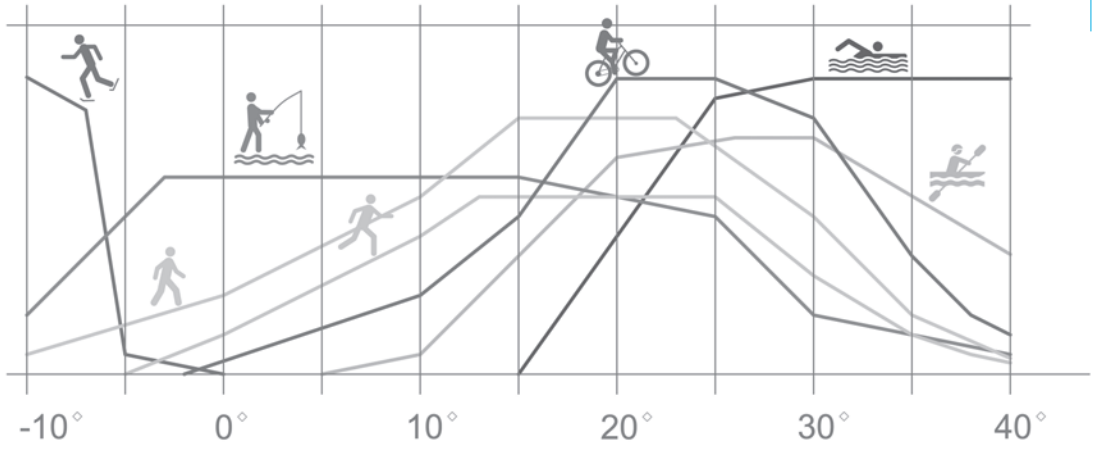
/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

/ course M5AT.4 /

seminar 3

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: each of the projects offered is followed by certain number of theory seminars that have a goal to upgrade knowledge gained at the undergraduate studies. in order to optimize the realization of teaching, it is possible to organize mutual seminars for different projects offered.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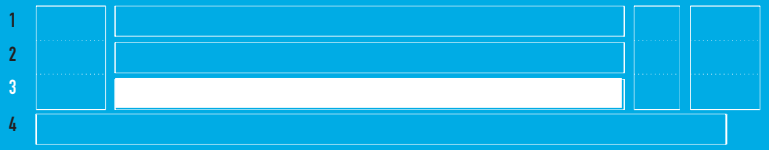


M6AT

module M6AT

project 2 - specialization AT / 24(22) ects

teaching aims: project of specialization 2, line at enables gaining additional experience at the conceptually different assignment, related to the designing process for the building site. through producing the project, students learn the principles and technological procedures through technical and organizational aspect. within this module, students especially gain the following skills:
/ knowledge of potentials of new technologies
/ understanding constructive and engineer problems in the process of designing architectural buildings
/ gaining appropriate knowledge in the field of architectural physics and technologies of constructing, with a goal of providing conditions for use and spatial comfort
/ introducing to industries, organizations and regulative related to process of transformation of elements of design into building
necessary background: passed module M4 – architectural-urban design

courses:

studio	18 (16) espb
seminar 1	2 espb
seminar 2	2 espb
seminar 3	2 espb)

course M6AT.1
studio

/ 2. semester / 18(16) ects
teaching organization: 18(12) hours of lectures
examination: portfolio presentation

teaching aims: projects in the field of specialization at are developed in two basic directions: one focused on studying and application of contemporary technological and construction solutions in designing and constructing, and the other primarily focused to the process or realization of architectural buildings in technical and organizational sense. student can choose two similar or two completely different projects within specialization at. result of studio work is an architectural design, where aspect of real applicability in realization is clearly emphasized. it is also possible to have a proposal of organization of constructing architectural building as a result, with application of regulative relevant in the field.

course M6AT.2
seminar 1

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

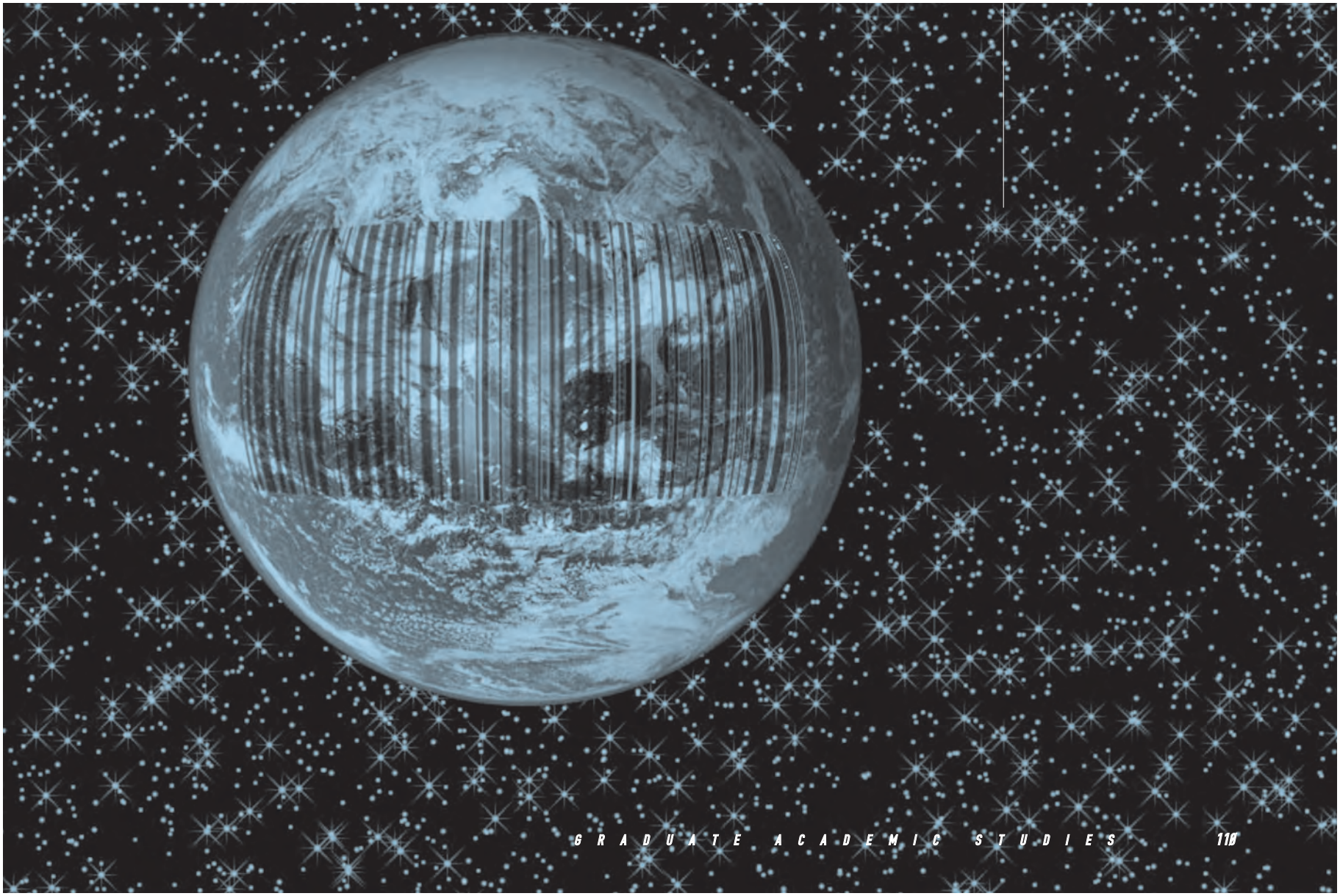
course M6AT.3
seminar 2

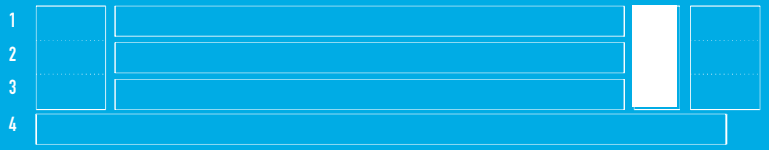
/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

/ course M6AT.4 /
seminar 3

/ 2. semester / 2 ects
teaching organization: 2 hours of lectures
examination: no specific check

teaching aims: each of the projects offered is followed by certain number of theory seminars that have a goal to upgrade knowledge gained at the undergraduate studies. in order to optimize the realization of teaching, it is possible to organize mutual seminars for different projects offered.





M7

module M7

student workshop / 6 ects

teaching aims: is developing creativity and lateral relation toward designing process. experience of concentrated designers workshops offers the possibility of developing ability of quick and efficient designers decision-making. program of workshops contributes to gaining additional knowledge of fine and applied arts, and their influence to quality of architectural design.
necessary background: no necessary background required. high level of interest into chosen topics is expected.

courses:

workshop 1	2 ects
workshop 2	2 ects
workshop 3	2 ects

course M5.1

workshop 1

/ 1. semester / 2 ects
teaching organization: 1 week
examination: project presentation

course M5.2

workshop 2

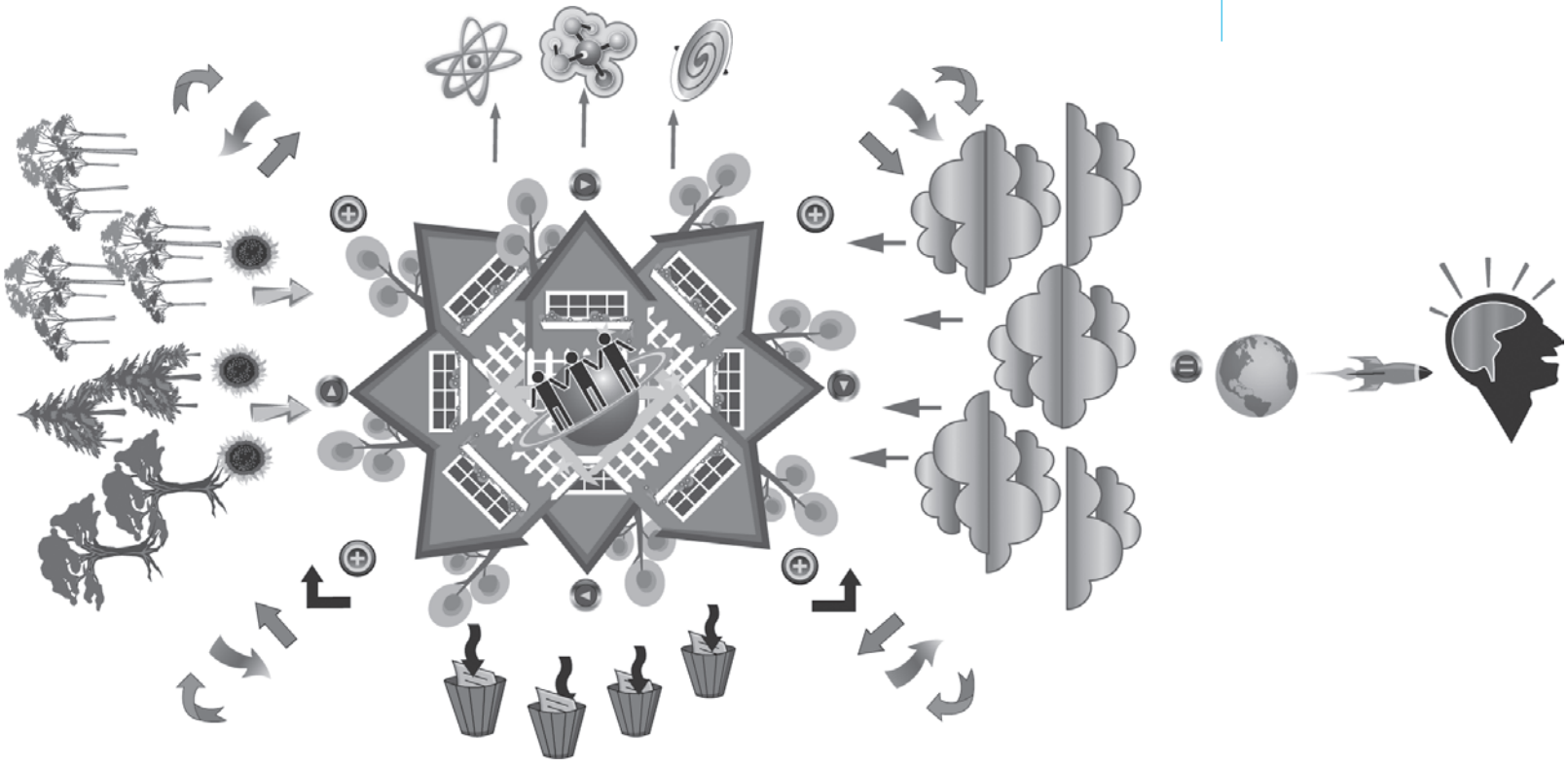
/ 2. semester / 2 ects
teaching organization: 1 week
examination: project presentation

course M5.3

workshop 3

/ 3. semester / 2 ects
teaching organization: 1 week
examination: project presentation

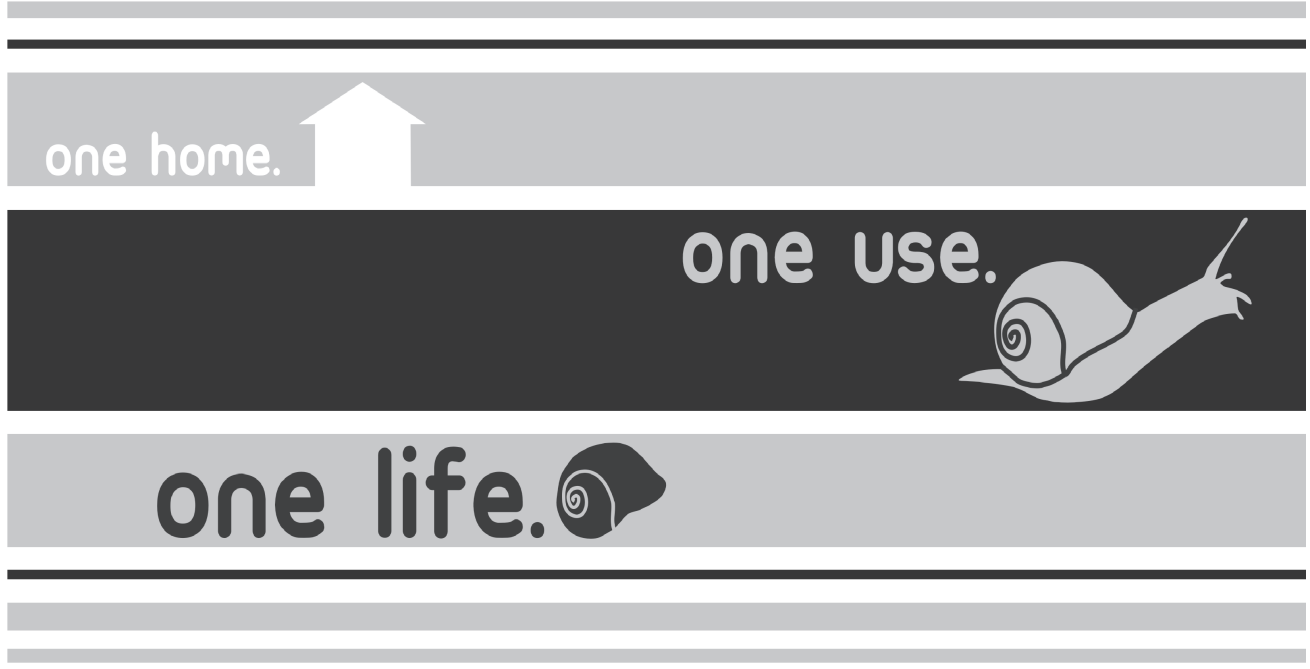
teaching aims: design workshops present creative exercises that are fast, content full and limited in time. they are in the field of architecture or other techniques and arts focused on architecture. these projects take place in the 15th week of semester and present a manifestation that the whole school is committed to. it is possible to invite guest workshop moderators that would bring additional fresh ideas and approaches. these projects are made with minimal corrections and consultations. there is a public presentation of the results. ects points gain at similar program of international student' workshops can also be admitted.



disposable architecture - arhitektura za jednokratnu upotrebu

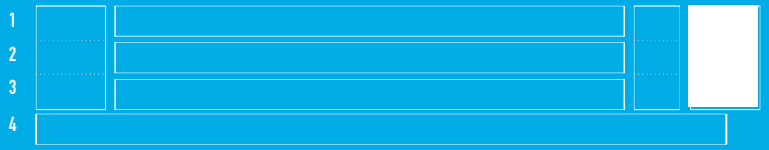
...disposable architecture existed millions of years before human architecture...

...created by nature...



...we can only interpret it in our way...

...but it is not our discovery.....



M8

module M 8

elective module / 9 ects

teaching aims: elective module presents secondary theoretical module of teaching at the master studies. goal of teaching is gaining certain fund of theoretical knowledge as a supplement or upgrade of specialization matter. student may choose courses from the selection of seminars from the first semester that he did not attend, seminars from the project of same or different specialization (with additional exam of 1 ects), special elective courses at the faculty of architecture or other faculties.

necessary background: no necessary background required. high level of interest into chosen topics is expected.

courses:

elective course 1	3 ects
elective course 2	3 ects
elective course 3	3 ects

course M6.1

elective course 1

/ 1. semester / 3 ects

teaching organization: 2 hours of lectures

examination: seminar work

course M6.1

elective course 2

/ 2. semester / 3 ects

teaching organization: 2 hours of lectures

examination: seminar work

course M6.1

elective course 3

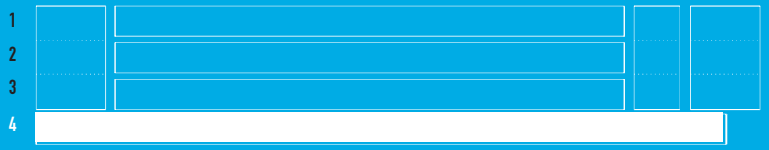
/ 3. semester / 3 ects

teaching organization: 2 hours of lectures

examination: seminar work

current list of proposed elective courses at master level:

1. english for architects 1 / 2
2. interactive shaping of virtual space
3. graphic signalization in urban space
4. graphic identification
5. portfolio
6. computer graphics
7. artistic workshop
8. ikt support in planning and designing
9. electronic communication in architecture
10. intercultural architecture
11. place, architecture and philosophy
12. multidisciplinary and art forms
13. lightning in architecture
14. architecture and identity
15. cooperation of architecture and other arts
16. architecture of temples
17. history of architecture of gardens
18. historic review of architecture of non-european civilizations
19. aesthetics and symbolic in architecture and arts
20. antique heritage in the region
21. architecture in serbia in 19th and 20th century
22. contemporary architecture
23. special problems of research in contemporary architecture:
24. parallel world of shapes
25. mathematics in systems of constructions
26. public art for public space
27. conceptual architecture
28. contemporary urban family house
29. communications and city
30. demilitarization of urban space
31. contemporary facades and roofs



M9

module M9

master project / 30 ects

teaching aims: student graduates by producing master project. master project is a work where student associates all the gained knowledge and skills, and shows that masters the processes of research, conceptualization, designing and materialization of complex urban and architectural-urban entities, as well as other topics (general and within specialization). goal of the project is to make students highly independent in all phases of the project. by rule, topics of master projects demand application of wide range of previously gained knowledge, skills and competencies.
work means research and defining assignment (written theses), graphic presentation, spatial presentation and oral public defence in front of commission. master project is done in mentor studio chosen on bases of proposed program. mentor studio is led by 1 professor and 1 associate. there cannot be less then 5 and more then 10 students in a studio. consultations with teachers from related fields are obligatory.
public oral defence of the project is after 21 week of work in front of commission of professor and consultants from other departments and professors from other studios. grade is given based on evaluation of all individual aspects of the project.
necessary background: passed all project modules at the graduate studies (m4, m5 and m6).
in the case of sufficient number of applied students, teaching at master project can be organized in the autumn semester as well. conditions for public defence of master project are passed all exams from the first three semesters.

courses:

theses	10 ects
project	20 ects

course M9.1
theses

/ 4. semester / 10 ects
teaching organization: 6 hours of consultations
examination: seminar work (theses) with defence

teaching aims: crucial progress in pedagogy process is the demand that graduating candidate, based on open spatial and themed frame suggested by mentor, chooses the aspect of research and sets program structure of the project, and defines clearly and precisely the assignment (theses), as a base of the project. relation of theses to contemporary tendencies in architecture and critical consciousness of experiences of past are extremely important. candidate defends his theses after six weeks of teaching, in front of commission, and begins the realization of project after its approval.

course M9.2
project

/ 4. semester / 20 ects
teaching organization: 14 hours of studio work
examination: portfolio presentation with detailed oral explanation

teaching aims: student work on complex designing problem, based on independently developed elements of assignment. producing the final project trains the students for: /appropriate communication with various auditorium, in oral, written and graphic form /tracing and application of contemporary architectural principles and paradigms /high level of independency in work /understanding methods of research and preparation of assignment
candidates are expected to create their original point of view and to transform their knowledge into architectural-urban solutions or proposals of solutions. intensive tracing of students work on the project serves as a control of basics and concept, and for minor adjustment of directions that students are headed to in their work.
result of work is a project with clearly recognizable research and applicative component, where elements of themed fields that project relies on are clearly recognizable.

WHAT WE WANT

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