UNIVERSITY OF LJUBLJANA, FACULTY OF ARCHITECTURE
PROGRAMME FOR 2009/2010 (ERASMUS)

Erasmus students can choose among all subjects independently from their year of studies but we recommend they choose courses from 2. year onwards. Subjects are scheduled and lectured if there are enough students:

- all subjects that are taught by the teachers from the Faculty of architecture are run if at least one student (regardless Erasmus or ordinary) applies (if there are less than 5 students, the work is on individual basis – no lectures)

- all subjects lectured by lecturers from other faculties (marked by #) are run if at least 10 students (Erasmus included) apply

Study programme syllabus for 1.,2.,3. year of studies

	Code		Subject	semester winter l.	winter id	winter e.	summer l.	summer id	summer e.	Σhours	Σ hours of subject load	Σ cred. points
YEAR 1				**1. semester**			**2. semester**					
	1.1	*	Design 1	-	-	-	-	3	4	105	**270**	**9**
	1.2	Zorec Glažar	Architectural design 1	1	1	2				60	**150**	**5**
	1.3	Založnik	Mathematics	2	-	1	2	-	1	90	**210**	**7**
	1.4	Muhič	Descriptive geometry	1	-	2	1	-	2	90	**210**	**7**
	1.5	Kilar	Technical mechanics	2	-	1	2	-	2	105	**240**	**8**
	1.6.	Mihelj, Bonča, Perossa	Representation techniques 1	-	2	4	-	-	-	90	**210**	**7**
	1.7	Suhadolc	Representation techniques 2	1	2	-	1	2	-	90	**210**	**7**
	1.8.	Kalčič	Digital methods and representations				2	-	2	60	**150**	**5**
	1.9	Juvanec	Materials and forms	2	-	2				60	**150**	**5**
			Total		26			24		750	**1800**	**60**
YEAR 2				**3. semester**			**4. semester**					
	2.1	*	Design 2	-	4	4	-	3	4	225	**480**	**16**
	2.2	Florjančič	Architectural design 2	1	1	2	-	-	-	60	**150**	**5**
	2.3	Kušar	Structures and dimensioning	2	-	4				90	**210**	**7**
	2.4	Vogelnik	Structures 1	1		1				30	**90**	**3**
	2.5	Medved	Building physics	-	-	-	2	-	1	45	**120**	**4**
	2.6	Gabrijelčič, Zupančič	Introduction to urbanism				2	-	2	60	**150**	**5**
	2.7	Marinko	History and theory of architecture 1	2	-	2	-	-	-	60	**150**	**5**
	2.8	Kresal	Building technology and materials				2	-	2	60	**150**	**5**
	2.9.	Bonča	Introduction to art theory	-	-	-	2	-	1	45	**120**	**4**
	2.10	*	Architectural workshop 1		-		-	1	1	30	**60**	**2**
	2.11	**	Study practise 1					3		45	**120**	**4**
			Total		24			26		750	**1800**	**60**
YEAR 3				**5. semester**			**6. semester**					
	3.1	*	Design 3	-	4	4	-	4	4	240	**510**	**17**
	3.2	Kobe	Architectural design 3	1	1	2				60	**150**	**5**
	3.3	Kilar	Building mechanics	-	-	-	2	-	2	60	**150**	**5**
	3.4	Vogelnik	Structures 2	3		1				60	**150**	**5**

3.5	Koželj	Urban design	2	-	2	-	-	-	60	**150**	**5**
3.6	Ocvirk	Representation techniques 3		-		2	-	2	60	**150**	**5**
3.7	Fister	History and theory of architecture 2	2	-	2	-	-	-	60	**150**	**5**
3.8	Medved	Utility technologies				2	-	2	60	**150**	**5**
3.9	*	Architectural workshop 2					1	1	30	**60**	**2**
3.10	***A	Elective subject	2(1)	-	(1)				30	**90**	**3**
3.11	***B	Elective subject				2(1)	-	(1)	30	**90**	**3**
		Total		26			24		750	**1800**	**60**

Elective subjects, group "A": 3.10, 4.10, 5.4

A1
1 Residential buildings (Kalčič)
2 Public buildings (****)
3 Industrial buildings (Košir)
4 Recreational buildings (Leskovec)
5 Church buildings (Debevec)
6 Interior design (****)

A2
1 20th century Slovene architecture (Koselj)
~~2 Architectural theory and critique (Košir)~~
3 Architectural anthropology (Toš)
4 Architectural analogies (Ažman Momirski)
5 Introduction to research in architecture and urbanism (Zupančič, Lah)
6 Ecological building principles (Zbašnik Senegačnik)

A3
1 Theory of physical and regional planning (Pogačnik #)
2 Communal and housing economy (Šubic Kovač, Rakar #)
3 Land policy and property evaluation (Šubic Kovač, Rakar #)
4 Rurism and rural architecture (Fikfak)
5 Action planning and strategic assessment (Ažman Momirski)

Elective subjects, group B": 3.11, 4.11, 5.5

B1
1 Vernacular architecture (Juvanec)
2 Design of objects (Suhadolc)
3 Design concepts (Bonča)
4 Light in architecture (Novljan)
5 Use of colour and colour metrics in architecture (Novljan)
6 Design of green surfaces (Gazvoda #)
7 Countryside settlement culture (Fikfak)

B2
1 Art history (Krečič)
2 Spatial idiomatics (Košir)
3 Artistic order (Mihelj)
4 Elements of classical composition (Marinko)
5 Environmental psychology (Polič #)
6 Theory of architectural design (Toš)
7 Measurement standardisation (Muhič)
8 Artistic expression (Marolt)

B3
1 Comprehensive preservation of built heritage (Deu)
2 Renewal and adaptation (Ocvirk)
3 Integral renewal (Lah)
4 Preservation of contemporary architectural heritage (Ifko)
5 Architecture and archeology (Ažman Momirski)
6 Industrial archeology (Ifko)

B4
1 Graphics for architects (Botas Kenda)
2 Modelling (Mihelj)
3 Multimedia space (Zupančič)
~~4 Computer supported architecture (Turk)~~

B5
1 Building prefabrication (Muhič)
2 Concepts of structures (Kilar)
3 Structural systems (Kušar)
4 Structures of industrial buildings (Vogelnik)
5 The detail in architectural composition (Kalčič)
6 The detail in the interior (Kalčič)
7 General safety (Muhič)
8 Spatial acoustics and noise abatment (Čudina #)

Short description of the courses

1.1 Design (9 ECTS):
The student completes a project for a small–scale building in a given layout with a simpler programme and simple structure, using timber, brick or stone materials and a programme disposition suited to the sites constraints. The mentor guides the student's work together with lecturers of technical subjects. The project is completed with a public presentation and exhibition.

1.2 Architectural design 1 (5 ECTS):
Basics of architectural design: architecture as an idea, theory and materialisation. Characteristics of spaces and objects: dimension, form, size, position. Man as the measure and criterion.

1.3 Mathematics (7 ECTS):
Mathematical tools and their use: mathematical logic, vectors, systems, linear equations, real numbers, infinity, series and sequences, elementary functions, limits and linearity, calculus, integral, curves and surfaces in space.

1.4 Descriptive geometry (7 ECTS):
The axiomatic of design and descriptive geometry, projection principles, types of projections, basics of design geometry: projectivity, perspective, affinity, co-lineation, 2D and 3D structures etc.; parallel projections, axonometric projections, central projection.

1.5 Technical mechanics (8 ECTS):
Basics of technical mechanics (forces, momentum, balance, deformation, tension, mechanical properties of materials, bending, elastic and plastic behaviour of materials, dimensioning). Working of simple statically determined and undetermined systems.

1.6 Representation techniques 1 (7 ECTS):
Expressing architectural ideas by drawings and models. Sketch, design, model. Drawing tools. Technical and artistic properties of architectural objects. Elements of a plan: scale, projection. Drawing linear geometrical objects.

1.7 Representation techniques 2 (7 ECTS):
Free hand drawing and colour studies: transformation of spatial ideas into drawings. Drawing on a model (geometrical bodies, furniture, machines, architectural models and landscapes); drawing from memory (analysis of an object into composition units) and drawing from imagination.

1.8 Digital methods and representations (5 ECTS):
Logical and effective use of digital media capabilities – hardware and software needed for successful work for use in multimedia digital technologies; internet multimedia technologies, multimedia databases in the field of architecture.

1.9 Materials and forms (5 ECTS):
Interdependency of materials and form, architecture and materials; basics of tectonic logic; unity of content, structure and form; technical, aesthetic and humane issues of spatial design in centuries of historical development unto systemic solutions in design, architecture and spatial planning.

2.1 Design 2 (16 ECTS):
The subject continues from Design 1. In year 2 the student has to complete a project for a larger multi-floor building with more complex programme (concrete structure), layout and dimensioning, building technology and utilities design. The selected mentor guides the student's work in cooperation with lecturers of technical subjects. The project is completed with a public presentation and exhibition.

2.2 Architectural design 2 (5 ECTS):
Dealing with architectural space by using the layout and section and composing particular elements of the architectural language in to spatial compositions and their dialogue and placement in various spaces. Analysis and decomposition of a given architectural composition and consequent reassembly into a sensible architectural composition in a different space. Layouts of simpler buildings.

2.3 Structures and dimensioning (7 ECTS):
Concepts of load-bearing structures and choice of dimensions pertaining to particular structural fields and materials in accordance to stipulations of common European standards; designing and dimensioning earthquake safe structures; determining measures by using load-bearing capacity tables; choice of dimensions with standard integers and choice of dimensions with proportional relations.

2.4 Structures 1 (3 ECTS):
Knowledge about plans and representations of structural (load-bearing) materials in architecture and civil engineering; layout and design of structural elements in tall buildings and engineering; mechanical load-bearing properties of materials for static and dynamic loads; behaviour of various materials and their properties, foundations, vertical load-bearing elements, horizontal load-bearing elements, wooden roof frames, basics of reinforced concrete, steel, timber structures, bracing, drawing and annotating structures in plans and the specifics of drawing in the ACAD environment.

2.5 Building physics (4 ECTS):
Mechanisms and physical fundaments of transmission of heat in built structures; passage of short- and long wavelength emissions; accumulation of heat and calming temperature amplitudes; vapour diffusion, condensation in built structures, vapour barrier and drainage plane; passage of light in buildings; passage of sound in the exterior and in built structures; noise reduction; heating and environmental properties of buildings, assessment methods.

2.6 Introduction to urbanism (5 ECTS):
Understanding the relation between urban-settlement space and project procedures under real ecological conditions ('urban design'); interdependency of the material spatial culture with nature and society in time with experiential emphasis on the micro-level by checking with abstract, deductive patterns; methodology of objective and subjective assessment of the condition, spatial communication, structures and forms, sustaining life in settlements, real measures and norms.

2.7 History and theory of architecture 1 (5 ECTS):
Histories and theories of the most ancient periods: prehistoric, Egypt, Mesopotamia, Persia, Asia Minor and Aegean cultures, Greece, Rome and the influences of antiquity on later architecture.

2.8 Building technology and materials (5 ECTS):
Historical development of materials, criteria for selection of materials and a systematic overview of their properties; issues in building finalisation, composition of envelope structures and surface treatment on the architectural design level.

2.9 Introduction to art theory (4 ECTS):
Introduction to art theory: the relation between visual and artistic; art as a form of communication; artistic morphology; artistic (measurements) composition; proportions in nature and fine arts…

2.10 Architectural workshop 1 (2 ECTS):
One-week intensive fieldwork tied to a real task or architectural theme. Guided by a tutor, students working in small groups produce a project (anticipated cooperation with the local community).

2.11 Study practise 1 (4 ECTS):
One-month of work on a construction site represents complementary work within the subject Design 1 and practical knowledge with training to complement the theoretical basics of the subject Structures 1. The student learns about the procedure of undertaking an architectural project in real space.

3.1 Design 3 (17 ECTS):
The subject continues from Design 2. In year 3 the student has to undertake a project for a large building in the urban environment, with a more complex mixed-use programme (demanding structure): project definition, modular project arrangement, structural layout and dimensioning, building technology, utilities design, fire safety considerations. The selected mentor guides the student's work in cooperation with lecturers of technical subjects. The project is completed with a public presentation and exhibition.

3.2 Architectural design 3 (5 ECTS):
Planar spatial concepts; the relation between interior and exterior; the section in the vertical layout of public space; open vertical passage of space; the facade as representation and understanding of the building's structural concept.

3.3 Building mechanics (5 ECTS):
Behaviour of reinforced concrete, steel and masonry structures; earthquake resistant building; criteria for selecting dimensions of structural elements.

3.4 Structures 2 (5 ECTS):
The principles of primary and secondary structures, prefabricated building, bridges, frame structures, massive structures, principles of constructing tall buildings, frames, cables, polyhedron shells, membranes, thin shells; basic inventory and design pro forma invoice for finishing construction services, usance, norms, standards and regulations.

3.5 Urban design (5 ECTS):
Learning about the theoretical background and operative tools for researching and interpretation of various urban circumstances in the context of the contemporary city (models of compact and dispersed city).

3.6 Representation techniques 3 (5 ECTS):
Analytical architectural sketching – continuation and elaboration of knowledge about architectural drawing and artistic expression (architectural analysis by drawing).

3.7 History and theory of architecture 2 (5 ECTS):
History and theory of architecture as part of cultural history following antiquity: the middle ages, renaissance, baroque, enlightenment …; general development principles of architecture–settlements–buildings–landscape under various global, European and Slovene conditions; development of architectural space in the European and Slovene environment; typological architectural groups: settlements, fortresses, church architecture, public buildings, housing, and their linkage to periods of characteristics styles in European, Slovene and comparative non-European space.

3.8 Utility technologies (5 ECTS):
Technology of building utilities for ensuring adequate living and working environments by sparing use of energy and minimal effects of the building on the environment, heating systems, ventilation systems, sanitary fittings, intelligent fittings and control systems …

3.9 Architectural workshop 2 (2 ECTS):
One-week intensive fieldwork tied to a real task or architectural theme. Guided by a tutor, students working in small groups produce a project (anticipated cooperation with the local community).

Elective subjects, group "A": 3.10

A1.1 Residential buildings (3 ECTS):
Functional and typological analysis of residence and housing; the place of the concept in residential architecture; housing economy;

standards and norms; technological and organisational systems in housing construction; humane living environments; homes for underprivileged groups and minorities.

A1.2 Public buildings (3ECTS):
The relation building–city: size, scale, compactness, building line; typologies of public buildings; basic architectural tasks in historical periods; the relation between old and new.

A1.3 Industrial buildings (3 ECTS):
Cultural aspects of designing industrial buildings; the location theory, development of industry in Slovenia; architectural characteristics of the design of industrial buildings; issues in security and design of industry.

A1.4 Recreational buildings (3 ECTS):
Architecture and typology of sports and recreational buildings – the role and function of leisure, tourism, recreation, sports, in the modern world; the role of modern technology in the design of sports and recreational buildings; sports and recreation areas in the natural and urban environment.

A1.5 Church buildings (3 ECTS):
The historical development of liturgical space and the variety of their architectural interpretations; the principles of specific intertwinement of architectural creativity with other fine arts disciplines; the starting points of the destined relationship architecture – user.

A1.6 Interior design (3 ECTS):
Analysis of function, significance and aesthetics of interior design; historical, designed and technical components of interior design; detailing, unique design; structure, colour and light in space.

A2.1 20th century Slovene architecture (3 ECTS):
The sources and concepts of modern architecture, major works, their authors; analysis of common characteristics and differences in domestic and worldwide pre-war and post-war modernism; the phenomenon and characteristics of the Architectural school of Ljubljana in the 20th century, its guiding principles and influential areas; evaluation and guidelines for preservation and protection.

A2.2 Architectural theory and critique (3 ECTS):
Basic terms; codes and styles, Vitruvius' editing of ancient heritage; deconstruction of Vitruvius' biography; Alberti's reinterpretation of Vitruvius; from tractates to manifestos; 19th century: *die Stilfrage*; 20th century functionalism; development of architectural theory in Slovenia; critical analysis.

A2.3 Architectural anthropology (3 ECTS):
Introduction to primary principles of interaction, interdependency and the anthropogenic in the material-physical environment; the human as „animal symbolicum", biophysical-symbolic creature;

basic terms of semiotics and the information theory; the origin of architecture and the origin of city; the interdisciplinary structure of architectural anthropology.

A2.4 Architectural analogies (3 ECTS):
Critical responsiveness to pending contents of the architectural discipline; use of analogies – the method enabling conclusions from the particular on the particular; opening different and new understanding and interpretation of phenomena that emerge in (apparently) similar circumstances.

A2.5 Introduction to research in architecture and urbanism (3 ECTS):
Research methods and techniques: between individual creativity and team creativity; gaining information and effective communication; methods of research and planning work; passages to designing architectural ideas and concepts; the psychology of creativity; devising the architectural programme and project tasks; representation, interpretation and explanation of research/project results.

A2.6 Ecological building principles (3 ECTS):
Analysis of materials and structures according to ecological principles based on valid regulation and recommendations; learning about relevant technologies in particular planning approaches on renown examples of the specific practise abroad; integrating principles of ecological building into the concept of building and settlement.

A3.1 Theory of physical and regional planning (3 ECTS):
Historical overview of the development of spatial planning and regional sciences; basics of spatial planning legislature, documentation and governance; informational support in spatial planning, GIS and their use; methodological ground for planning primary uses in space, planning the secondary and tertiary sectors; synthesis in the spatial plan, synthesis methods and examples of best practises.

A3.2 Communal and housing economics (3 ECTS):
The term, significance and role of communal activities and communal economy, organisational-management models of undertaking communal activities; types of investment; investment models and accumulation of fixed communal funds; the aspect of cost in execution of communal activities; the significance and role of amortisation in communal economy, forming prices in communal economy.

A3.3 Land policy and property evaluation (3 ECTS):
Aspects of managing building land; property assessment: purchasing land for the public domain, developing, leasing and selling building land; the subject of assessment and value, methods and standards of property and investment project appraisal

A3.4 Rurism and rural architecture (3 ECTS):
Countryside culture and identity; the genesis of the countryside with emphasis on the development of agriculture as the formative element of the traditional countryside cultural landscape; the countryside's spatial composition; social-economic changes and transformation processes in the countryside; agrarian operations as the instrument for management of agrarian space and settlements; renewal and development of countryside settlements; modern forms of spatial development of the countryside; traditional rural architecture and its renewal.

A3.5 Action planning and strategic assessment (3 ECTS):
Understanding informal/non-authoritarian planning forms that run parallel to planning for real and analytical planning; motives, solutions, use of solutions or their summaries in daily life of local urbanists and the local planning authority.

Elective subjects, group "B": 3.11, 4.11, 5.5

B1.1 Vernacular architecture (3 ECTS):
Comprehensive issues of vernacular architecture, from theoretical concepts to yesterday's solutions.

B1.2 Design of objects (3 ECTS):
Conceptual and design aspects of small architecture, which isn't necessarily a part of larger interiors or concepts; the term style; issues of national identity in architecture and design; aspects of international and domestic achievements; technology and details.

B1.3 Design concepts (3 ECTS):
The contour and form; understanding form; weight and modelling; study of special forms; approaching technology; relations; texture…

B1.4 Light in architecture (3 ECTS):
Physical properties of light; the relation between natural and artificial light; shadows, reflection and absorption; interior lighting; exterior lighting; quality and quantity of lighting; lighting technology…

B1.5 Use of colour and colours metrics in architecture (3 ECTS):
Basic physical properties of colour; the effect of colour on man; the influence of colour on spatial perception; shadows, reflection and absorption; colour in the exterior and interior; technical quantities in colour; additive and subtractive mixing of colour, colour as a message bearer; mistakes in colour application; future use of colour.

B1.6 Design of green surfaces (3 ECTS):
Origins of landscape architecture (the profession, division into specialised branches, expert terms); landscape structure (emergence of landscape patterns); garden art; types of open space; conceptualising the landscape; city parks; European practise;

American practise; plaza, Chinese garden art and contemporary design, living culture; housing estate; water in the city; the concept of nature in landscape architecture.

B1.7 Countryside settlement culture (3 ECTS):
The space of architecture, the form of the house and living culture; building elements in the sense of "understanding, spatial imagination"; contemporary examples of organised housing development in the countryside, new dwelling, new forms, experimental patterns …

B2.1 Art history (3 ECTS):
The concept of art in relation to natural and cultural heritage; various artistic disciplines: painting, sculpture, architecture, with a wider array of artistic practises, such as urbanism, landscape architecture, industrial and graphic design, photography, artistic crafts etc.; historical overview of art phenomena from prehistoric times till the present; learning about fundamental artistic terms, especially architectural elements and their composition.

B2.2 Spatial idiomatics (3 ECTS):
Man and space, construction as the criterion for architectural expression (from the renaissance till de-constructivism); bewitching the social into the spatial order; *Traum und Wirklichkeit* (Vienna Austria); Golden Prague (What is *genius loci*?); as put by Dickens: The tale of two cities (London versus Paris); new tendencies; what is de-constructivism?

B2.3 Artistic order (3 ECTS):
Analyses of basic elements of aesthetic order based on geometrical representation of planes and volumes in space.

B2.4 Elements of classical composition (3 ECTS):
The lore of architectural composition; definition of terms; the main characteristics of classical and modern architecture; principles of classical composition (tectonics, three-part structure, axial structure, symmetry, balance, rhythm, proportions).

B2.5 Environmental psychology (3 ECTS):
Theory of social sciences and methods derived from human relations and the wide variety of environments; theories of behavioural sciences and methods in relation to mutual effects of individuals in the living and working environment.

B2.6 Theory of architectural design (3 ECTS):
Design as a preparatory inter-subject, interdisciplinary, multi-phase creative process of spatial intervention; design as communication, agreement, coordination, integration of contributions; design aspects, types and phases; the role of regulations and norms; basic design methodology and technology; basic general and particular methods and techniques and comparison of methods; systemic methods in design and issues of specialisation.

B2.7 Measurement standardisation (3 ECTS):
Theoretical and methodological principles of measurement standardisation in civil engineering: anthropometrics, Vitruvius' models, renaissance *partes*, development of industrial standardisation…

B2.8 Artistic expression (3 ETCS):
Knowledge of artistic composition, composition methods and principles that can help us solve architectural composition tasks and spatial design.

B3.1 Comprehensive preservation of built heritage (3 ETCS):
Value-oriented and normative starting points; comprehensive preservation and renewal, as a method within the framework of physical planning, design of settlements and places.

B3.2 Renewal and adaptation (3 ETCS):
Preservation and upgrading extant architecture and space; settlement principles; the genesis and behaviour of buildings, their architecture and structural elements; interventions on extant buildings; renewal and adaptation methods.

B3.3 Integral renewal (3 ETCS):
Composition principles in renewal and adaptation of settlement and architectural space; the significance of historical research and integration of archeological sites into compositions of the newly designed in extant places; tectonics in renewal and adaptation of buildings; conservation interventions, methods and concepts for planning renewal; interdisciplinary and team work; management and architectural heritage.

B3.4 Preservation of contemporary architectural heritage (3 ETCS):
Preservation and interpretation of the most recent categories of architectural heritage: modernist, engineering and architectural heritage; philosophy of preservation approaches, complexity of renewal and interdisciplinary work, analysis of good practises and integration of renewal into urban revitalisation processes.

B3.5 Architecture and archeology (3 ETCS):
Learning about architecture and archaeology within the framework of theory (measurements and interpretation) and practise (transformation); dealing with the period from the renaissance till the present; architects that use antique architecture and use it as the groundwork for their theories; »quasi« measurements and fantasised reconstructions; first attempts at scientific, systematic archaeology; controversies about antique architecture in the 18th and 19th century; the shift in the second half of the 19th century; the role of architects within the framework of archaeology in the 2oth century.

B3.6 Industrial archeology (3 ECTS):
Characteristics of technological development – influences on spatial and architectural design; development of production areas and

infrastructure systems, abroad and in Slovenia; basics of interdisciplinary research and formulation of preservation approaches to industrial heritage; reuse of abandoned industrial areas.

B4.1 Graphics for architects (3 ECTS):
The meeting point and symbiosis of visual communications and architecture; morphology of lettering: structuring, writing and printing; the concepts of geometrical, optical and organic; point, line and plane: rhythm, integral design, sign in the architectural environment.

B4.2 Modelling (3 ECTS):
Learning about the process of spatial design in the sphere of abstract and real; sensible use of material properties and construction systems; spatial analysis of natural laws and reasons for operability of material complex's in artistic entirety.

B4.3 Multimedia space (3 ECTS):
Upgrading of knowledge about various architectural representation techniques with state-of-the-art results of studies about processes of spatial cognition and interpretation and considerations about their usefulness in the process of architectural and urban design.

B4.4 Computer supported architecture (3 ECTS):
The communication revolution; basics of computer technology; the computer as mediator – representation of architectural information, basic computer modelling in building; the computer as a communication tool – networks, internet, hypertext, portals, distance working, virtual ateliers, mobile environments.

B5.1 Building prefabrication (3 ECTS):
The system of closed prefabricated building; systems of open prefabricated building; modular coordination and measurement standardisation of prefabricated components; structural systems, properties of prefabricated components; joints and joiners in prefabricated elements, the action radius, permanence of the construction season.

B5.2 Structural concepts (3 ECTS):
The concept and choice of load-bearing structures; determining the structure's material, design of structures and bridges, defining initial dimensions, designing earthquake-resistant buildings according to EC8, presentation of recently completed buildings; distance studying and designing.

B5.3 Structural systems (3 ECTS):
Overview of historical structural solutions, elements, systems, concepts and dimensioning; overview of building with timber, from the oldest log-buildings to the most recent timber structural systems; the skeleton structure of the Slovene hayrack; example of an optimised section of a hewed timber beam; choice of optimal proportions for the section of a timber beam with consideration of

particular loads and choice of optimal proportions in a combination of bending and sagging when considering the origins of the "golden cut" proportion.

B5.4 Structures of industrial buildings (3 ECTS):
Review of specific issues in factory building; heavy foundations, structural systems, components and typical details; general study of construction materials and methods; review of the building procedure.

B5.5 The detail in architectural composition (3 ECTS):
The concept and design of details with more demanding and complex materials; assembling various materials into new compositions: metal and glass, wood and concrete, stone and concrete, metal and wood, … or even more complicated and complex: concrete, metal and glass, concrete, metal and wood, metal, wood and glass etc.

B5.6 The detail in the interior (3 ECTS):
Concepts and design of details in various materials, principles of designing details at the joints and assembly of different materials; principles of architectural composition: addition, subtraction, axis, repetition, rhythm…

B5.7 General safety (3 ECTS):
Systematic research of hazards in built spaces and possible built protection measures against them: fire protection, safety at work, safety from pollution.

B5.8 Spatial acoustics and noise abatment (3 ETCS)
Theoretical foundations of sound (noise). Superposition of sound waves in space and static waves. Translation of sound waves thorugh air, structures and manifestations. The effects of rigidity, resonance, mass and coincidence on translation of losses in panels.

Study programme syllabus for 4.,5. year of studies

Electives are shared (can be found on previous pages).

GRADUATE COURSE SYLLABUS for the academic year 2003/2004

YEAR 4

A. oriented programme - ARCHITECTURE

No.	Lecturer	Subject	Semester: Winter lectures	Winter exercise	Winter ind.work	Summer lectures	Summer exercises	Summer ind.work	Total hours	ECTS
4.1	*	Design studio 4	-	-	-	-	10	10	300	21
4.2	Košir	History of urbanism	2	-	-	-	-	-	30	3
4.3	Pogačnik	Urban planning	1	1	-	-	-	-	30	3
4.4	Koželj	Methodology of urbanism	1	1	-	-	-	-	30	3
4.5	Fister	Arch.rehabilitation and conservation	2	4	-	-	-	-	90	6
4.6	Bonča M.	Public buildings 2	2	2	-	-	-	-	60	5
4.7	Vodopivec	Residential buildings 2	2	2	-	-	-	-	60	5
4.8	Košir	Industrial buildings	2	2	-	-	-	-	60	5
4.9	**	*Elective subjects - general*	-	-	-	2	-	-	30	3
4.10	**	*Elective subject - oriented*	-	-	-	2	-	-	30	3
	**	Foreign language	-	-	-	2	-	-	30	3
			12	12	0	6	10	10	750	60

4.9 Elective subjects - general

4.9.1 Košir: Architectural theory and critique 2
4.9.2 Polič: Environmental psychology
4.9.3 Muhič: General safety
4.9.4 Toth: Basics of philosophy
4.9.5 Krečič. Art history 2
4.9.6 Kučan: Landscaping 2
4.9.7 +++: Management in building
4.9.8 +++: Building and urban planning legislature
4.9.9 Mihelj: Fine arts order 2
4.9.10 Debevc: Design and equipment of ecclesiastic buildings
4.9.11 Muhič: Standardisation
4.9.12 Zupančič Strojan: Space and media
4.9.13 Novljan: Lighting in architecture

4.10 Elective subjects - oriented

4.10.1 Kilar: Construction concepts
4.10.2 Muhič: Prefabrication
4.10.3 Ocvirk: Refurbishment and renewal
4.10.4 Leskovec: Recreational buildings
4.10.5 Marinko: Elements of classical composition
4.10.6 Vogelnik: Industrial structures
4.10.7 Kalčič: Detail in architectural composition 2
4.10.8 Deu: Cultural heritage protection

Notes: +++ Lecturer will be announced later.
* (Explanation on page 28)
** (Explanation on page 28)

GRADUATE COURSE SYLLABUS for the academic year 2003/2004

4. YEAR

B. oriented programme - URBANISM

No.	Lecturer	Subject	Semester							
			Winter			Summer				
			lectures	exercises	ind.work	lectures	exercises	ind.work	Total hours	ECTS
4.1	*	Design studio 4	-	-	-	-	10	10	300	21
4.2	Košir	History of urbanism	2	-	-	-	-	-	30	3
4.3	Pogačnik	Urban planning	1	1	-	-	-	-	30	3
4.4	Koželj	Urbanistic methodology	1	1	-	-	-	-	30	3
4.5	Fister	Arch. rehabilitation and conservation	2	4		-	-	-	90	6
4.11	Košir	History of urbanism in Slovenia	2	2	-	-	-	-	60	5
4.12	Pogačnik	Planning settlements	2	2	-	-	-	-	60	5
4.13	Gabrijelčič	Ruralism	2	2	-	-	-	-	60	5
4.9	**	*Elective subjects - general*	-	-	-	2	-	-	30	3
4.14	**	*Elective subject - oriented*	-	-	-	2	-	-	30	3
	**	Foreign language	-	-	-	2	-	-	30	3
			12	12	0	6	10	10	750	60

4.9 Elective subjects - general

4.9.1 Košir: Architectural theory and critique 2
4.9.2 Polič: Environmental psychology
4.9.3 Muhič: General safety
4.9.4 Toth: Basics of philosophy
4.9.5 Krečič. Art history 2
4.9.6 Kučan: Landscaping 2
4.9.7 +++: Management in building
4.9.8 +++: Building and urban planning legislature
4.9.9 Mihelj: Fine arts order 2
4.9.10 Debevc: Design and equipment of ecclesiastic buildings
4.9.11 Muhič: Standardisation
4.9.12 Zupančič Strojan: Space and media
4.9.13 Novljan: Lighting in architecture

4.14 Elective subjects - oriented

4.14.1 Gabrijelčič: Landscape architecture and environment preservation
4.14.2 Pogačnik: Physical planning
4.14.3 +++: Spatial sociology

Notes: +++ Lecturer will be announced later.
* (Explanation on page 28)
** (Explanation on page 28)

GRADUATE COURSE SYLLABUS for the academic year 2003/2004

4. YEAR

C. oriented programme - DESIGN

No.	Lecturer	Subject	Semester							
			Winter			Summer				
			lectures	exercises	ind.work	lectures	exercises	ind.work	Total hours	ECTS
4.1	*	Design studio 4	-	-	-	-	10	10	300	21
4.2	Košir	History of urbanism	2	-	-	-	-	-	30	3
4.3	Pogačnik	Urban planning	1	1	-	-	-	-	30	3
4.4	Koželj	Urbanistic methodology	1	1	-	-	-	-	30	3
4.5	Fister	Arch. rehabilitation and conservation	2	4	-	-	-	-	90	6
4.15	Kobe	Interior design	2	2	-	-	-	-	60	5
4.16	Suhadolc	Design of objects	2	2	-	-	-	-	60	5
4.17	Suhadolc	Graphic design for architects	2	2	-	-	-	-	60	5
4.9	**	*Elective subjects - general*	-	-	-	2	-	-	30	3
4.18	**	*Elective subject - oriented*	-	-	-	2	-	-	30	3
	**	Foreign language	-	-	-	2	-	-	30	3
			12	12	0	6	10	10	750	60

4.9 Elective subjects - general

4.9.1 Košir: Architectural theory and critique 2
4.9.2 Polič: Environmental psychology
4.9.3 Muhič: General safety
4.9.4 Toth: Basics of philosophy
4.9.5 Krečič. Art history 2
4.9.6 Kučan: Landscaping 2
4.9.7 +++: Management in building
4.9.8 +++: Building and urban planning legislature
4.9.9 Mihelj: Fine arts order 2
4.9.10 Debevc: Design and equipment of ecclesiastic buildings
4.9.11 Muhič: Standardisation
4.9.12 Zupančič Strojan: Space and Media
4.9.13 Novljan: Lighting in architecture

4.18 Elective subjects - oriented

4.18.1 Kobe: Advanced interior design
4.18.2 Mihelj: Model making
4.18.3 Kalčič: Detail in interior
4.18.4 Bonča J.: Design concepts

Notes: +++ Lecturer will be announced later.
* (Explanation on page 28)
** (Explanation on page 28)

4.1 PROJEKTIRANJE IN KOMPOZICIJA 4 *DESIGN STUDIO 4*

IV. letnik 300 ur

izbrani mentor/elected mentor

Študenti vpišejo mentorja v seminarju; izbira mentorja je načeloma prosta, a mentor mora vnaprej soglašati (glej stran 39). Enkrat v semestru se v seminarjih izvedejo tudi intenzivne in časovno omejene arhitekturne delavnice.

Students register their tutor (mentor) in the studio; in principle the choice of tutor is open, but the tutor has to give prior consent (see page 39). Once per semester intensive and time limited architectural workshops are conducted in the studio.

Predmet je hrbtenica programa, ki združuje aplikativni del strokovnih predmetov (vaje). Simulacija projektantskega biroja ali ateljeja se izvaja v mentorskih skupinah, ki združujejo vse letnike v istem prostoru (seminarju). Študent ima svojo delovno mizo, ob kateri se sreča vsak dan s svojim mentorjem. Tradicija, ki traja že od ustanovitve šole (Plečnik, Vurnik), je v času doživljala spremembe in danes je metoda dela prilagojena potrebam in izzivom prakse tako, da se namesto rutinskega akademskega dela pojavljajo nove, žive in v aktualne probleme prostora ter družbe odprte oblike (več dela na terenu, delavnice, natečaji). Vsi izdelki študentov se enkrat letno javno razstavijo.

The subject is the backbone of the programme, unifying the practical contents of professional subjects (exercises). The simulated architectural office or atelier is carried out in tutored groups that join all students in the same space (seminar). Each student has a desk where meetings with the tutor (mentor) are conducted. This tradition is being pursued since the faculty was established (Plečnik, Vurnik) and has since been subject to changes. Today the method is adapted to needs and challenges of present practice, thus instead of routine academic work new, vital and real issues are emerging, as well as new open societal types (more filed work, workshops, competitions). The students' projects are publicly exhibited annually.

4.2 RAZVOJ URBANIZMA *HISTORY OF URBANISM*

IV. letnik 30 ur

prof. dr. Fedja Košir, univ. dipl. inž. arh.

- Košir, F. : Zamisel mesta (LJ, SM 1993)

Vsebina: Uvod (temeljni pojmi): geneza elementov (prostorskih prvin). Od tvorb k zasnovam: sedem korakov do nastanka vezanega mesta (diferenciacija, koagulacija, kristalizacija, polarizacija, geometrizacija, aksializacija, nukleacija). Vezano mesto: Orient in klasična antika. Dualizem radialnih in ortogonalnih zasnov. Helenski dualizem »starega« in »novega« načina (kot ga definira Aristotel). Helenizem. Rimski urbani univerzum (castrum). Postantična kriza: vrnitev raščenih struktur. Fevdalno »bastidsko mesto« kot uvod v moderni načrtovani red. Renesančno »idealno mesto«: nastanek kaste oficirskih načrtovalcev. Baročno rezidenčno mesto. Racionalistično »žoržetsko mesto« (Georgette City). Moderno »tartansko mesto« (Tartan City). Industrijska revolucija kot detonator. Funkcionalizem (Le Corbusier). Postfunkcionalizem in dekonstruktivistične perspektive.

Contents: Genesis of (spatial) elements. From agglomerated to planned patterns: seven steps to the emergence of consistent city (differentiation, coagulation, crystallisation, polarisation, geometrisation, axialisation, nucleation). The totally integrated city: Oriental and classical antiquity. Dualism of radial and orthogonal patterns. Hellenic dualism of the »old« and »new« method (as defined by Aristoteles). Hellenism. Roman urban universe (castrum). Post-antiquity crisis: return of organic structures. Feudal »Bastide City« as introduction to the modern planning order. The Renaissance »Ideal City«: emergence of the caste of planning officers. The Baroque Residential City. The Rationalistic »Georgette City«. The modern »Tartan City«. The industrial revolution as the detonator. Functionalism (Le Corbusier). Postfunctionalism and deconstructivist perspectives.

4.3. URBANISTIČNO NAČRTOVANJE *URBAN PLANNING*

IV. letnik 30 ur

prof. dr. Andrej Pogačnik, univ. dipl. inž. arh.

- De Chiara: Time saver standards for residential development, McGraw Hill, ZDA, 1989
- Hough, M.: Cities and natural placess, Routledge, London, 1994
- Kastelic, T.: Tehnični normativi za projektiranje in opremo mestnih prometnih površin, FGG, Ljubljana, 1991
- Pogačnik, A.: Urbanistično planiranje, učbenik, FAGG, Ljubljana, 1984
- Pogačnik, A.: Urejanje prostora in varstvo okolja, učbenik, Mladinska knjiga, Ljubljana
- Pogačnik, A.: Kvantitativne metode v prostorskem in urbanističnem planiranju, FAGG, Ljubljana, 1988
- Vrišer, I.: Urbana geografija, FGG – IPŠPUP, Ljubljana, 1984

Vsebina: Uvod, splošni pojmi in urbanistična terminologija. Proces urbanizacije, urbani sistemi. Geodetsko-kartografske podlage urbanističnih dokumentov, kataster, zemljiška knjiga, GIS-i in druge podatkovne osnove. Pregled glavnih podatkov o prostoru in njihova obdelava za urbanistične naloge. Karte primernosti in okoljske nosilnosti, urbana ekologija.
Urbanistična dokumentacija, zakonodaja in služba. Izvajanje urbanističnih planov in projektov. Instrumenti zemljiške politike. Urbanistična sinteza. Metode in tehnike v urbanističnem načrtovanju.
Podrobno urbanistično načrtovanje naselitvene, centralne, proizvodne, komunalne rabe, mestnih zelenih površin, prometne, komunalne, energetske in okoljevarstvene infrastrukture. Varnost v naseljih. Strokovni obiski pomembnejših urbanističnih zavodov – upravnih in projektantskih.

Contents: Introduction, general terms and urban planning terminology. Urbanisation process, urban systems. Geodetic, cartographic maps fort planning documents, land cadastre, geographic information systems and other databanks. Data processing and uses of geographic information systems in urban planning. Environmental impact assessment and bearing capacity, urban ecology.
Site plans, urban documents, legislation and agencies. Plan implementation, types of plans and projects. Real estate management. Synthesis in urban planning. Methods and techniques in urban planning.
Detailed planning of housing, central, industrial, land uses, municipal services, traffic infrastructure, supply systems, public safety.
Visits of important urban planning institutions, offices and governmental institutions.

4.4. URBANISTIČNA METODOLOGIJA *URBANISTIC METHODOLOGY*

IV. letnik 30 ur

prof. Janez Koželj, univ. dipl. inž. arh.

- Alexander, Ch.: A Pattern Language, Oxford University Press, New York 1977
- Barton, H., Davis, G., Guise, R.: Suistainable Settlements, A Guide for Planners, Designers and Developers, University of the West of England and the Local Government Management Board, Bristol 1995
- Čerpes, I.: Samoorganizacija in urejanje naselij, Univerza v Ljubljani, Fakulteta za arhitekturo, Ljubljana 2002
- Lynch, K.: The Image of the City, The M.I.T. Press, Cambridge 1960
- Čerpes, Koželj s sodelavci: Priporočila za urejanje naselij, Ministrstvo za okolje in prostor ter Ministrstvo za znanost, šolstvo in šport Rep. Slovenije, Ljubljana 2001
- Čerpes, Koželj, Pahor: Urbanistična metodologija, interna navodila za izdelavo vaj, Fakulteta za arhitekturo 2002

Temeljni cilji predmeta so naslednji: opredeliti in razložiti temeljne pojme v sistemu trajnostnega urejanja prostora, spoznati študente z metodami in tehnikami urbanističnega načrtovanja, seznaniti študente s stanjem in težnjami razvoja v prostoru ter s problemi njegovega urejanja, preizkusiti uporabo operativnih metod in tehnik načrtovanja v konkretnem prostoru, ozaveščanje študentov za odgovorno poseganje v prostor glede na njihove okoljske, ekonomske socialne učinke.
Vsebina: Metode in tehnike: analitične, inventarizacijske, napovedovalne; lokacijsko načrtovanje: razporejanje rabe in organizacija dejavnosti v prostoru; fizično načrtovanje: dimenzioniranje in urejanje vzorcev, fizičnih struktur in prostorskih oblik; Simulacija načrtovalskega postopka; sistemski pristop: baze podatkov, urejanje in izbiranje, ankete, statistike, GIS /geoinformacijski sistem/, urbanističe analize: stanje in težnje: layering, okoljske, strukturne, morfološke , zaznavne, jezik vzorcev, vrednotenje primernosti in ranljivosti: metoda pedoskvenc, metoda izločanja s prekrivanjem plasti, postavljanje ciljev: protokoli, delo z javnostmi, sektorska pričakovanja, urbanistična zasnova: razvojno programiranje, strateško presojanje , SWOT analize, modeliranje, pisanje scenarijev, prezentacije: ArcView, IDRISI; ProVal, implementacija: odločanje, preverjanje.

The basic goals of the subject are as follows: defining and explaining basic concepts in the system of sustainable spatial management, introducing students to methods and techniques of urban design, informing students about conditions and trends of spatial development and management issues, testing the use of operative design methods and techniques in real space, raising awareness among students about environmental, economic and social effects of spatial developments.
Contents: Methods and techniques: analysis, inventory, forecasting; Site planning: distribution of uses and organisation of activities in space; Physical planning: dimensioning and arrangement of patterns, physical structures and spatial forms; Simulation of design procedures; Systems approach: databases, management and selection, surveys, statistics, GIS (geo-information systems); Urbanistic analysis: conditions and trends, environmental, structural, morphological and perceptive layering, pattern language, evaluation of suitability and vulnerability: method of pedo-sequences, method of elimination by overlapping layers, setting goals: protocols, public participation, departmental expectations, urbanistic concept, development programming, strategic assessment, SWOT analyses, modelling, drafting scenarios, presentations: ArcView, IDRISI, Proval, implementation, decision-making, checking.

4.5. PRENOVA ARHITEKTURE IN KONZERVATORSTVO
ARCHITECTURE REHABILITATION AND CONSERVATION

IV. letnik 90 ur

prof. dr. Peter Fister, univ. dipl. inž. arh.

- Fister, P.: Prenova in varstvo arhitekturne dediščine, Ljubljana 1979
- Fister, P.: Serija strokovnih in teoretičnih člankov v zbornikih Varstvo spomenikov in drugod

Vsebina: Teorija in metode dokumentiranja: cilji in metode temeljnih strok; interdisciplinarni cilji in metode konservatorskega dokumentiranja dediščin; sodobni informacijski sistemi. Analiza in ocena dokumentirane dediščine, priprava kriterijev varstva in prenove: merial za posege v dediščino, reevaluacija dediščine, javna dostopnost ocen; izdelava konservatorskega programa Projekt procesa varstva in prenove dediščine: teorija načrtovanja procesa varstva in prenove, metode izdelave projektov (mednarodno uveljavljene in slovenske posebnosti), projekti konservacije, prezentacije, likovne, tehnološke in vsebinske sanacije, managementa in prostorske prenove, strokovno in javno preverjanje projektov. Izvedba konservatorskega programa: organizacija, korektura programov, dodatne raziskave, izpolnjevanje formalnih zahtev, odgovornost. Aktualnosti in vzorci: novosti doma in po svetu ter v posameznih strokah; posebni problemi, vloga novih tehnologij, managementa, ekologije. Vzorčna predstavitev primerov s kritično oceno izvedbe.

Contents: Theory and documentation methods: goals and methods of basic professions; interdisciplinary conservation aims and methods of documenting heritage; modern information systems. Analysis and appraisal of heritage, preparation of preservation and restoration criteria; standards for interventions on heritage; re-evaluation of heritage, public accessibility to appraisals, implementation of conservation programmes. Designing the process of preservation and restoration of heritage: theory of the preservation and restoration planning process, methods of internationally acknowledged design implementation (and Slovenian particularities), projects of conservation, preservation, refurbishment of artistic and technological contents; management and spatial restoration, professional and public evaluation of plans. Execution of conservation programmes: organisation, correction of programmes, additional research, meeting formal requirements, and responsibility. Actualities and models: domestic and foreign novelties and novelties in specific professions, special problems, the role of new technologies, management, ecology. Model presentation of case studies with critical evaluation of execution.

4.6. DRUŽBENE ZGRADBE II *PUBLIC BUILDINGS 2*

IV. letnik 60 ur

prof. dr. Miloš Bonča, univ. dipl. inž. arh.

- Pevsner, N.: A History of Building Types; Thames and Hudson, London 1979
- Murray, P.: The Arhitecture of Italian Renaissance; Thames & Hudson, London 1986
- Wittkover, R.: Arhitectural Principles in the Age of Humanism; Academy Editions, London 1988
- Summerson, J.: The Classical Language of Architecture; Thames & Hudson, London 1988
- Tafuri M.: The Sphere and the Labyrinth, MIT Press, Cambridge 1990
- Gombrich E.-Eribon D.: Looking for Answer, Conversations on Art and Science; Harry N. Abrams Inc., NY 1993
- Bonča, M.: Pet vaj iz arhitekture ali arhitekturna razprava o hiši; FA, Ljubljana 1995
- http://www.arh.uni-lj.si/program/dodiplomski/dz2
- Morgan, Conway Lloyd: Jean Nouvel: The Elements of Architecture, Universe Publishing, NY 1998
- Van Berkel, B., Bos, C.: Move: 1. Imaginations, 2. Techniques, 3. Effects; UN Studio & Goose press, Amsterdam 1999
- Baudrillard, J., Nouvel, J.: The Singular Objects of Architecture; University of Minnesota Press, Minneapolis 2002
- Spletni gradbeni vodnik, http://gcs.gi-zrmk.si/3-vodnik/gc_v03.htm, 15.1.2003
- Veljavni pravilniki in zakoni pri projektiranju v RS, http://www.arhiforum.com/literatura1.html, 15.1.2003

Osnovni smoter predmeta je vzporedno dograjevanje osnov – projektne in strukturne filozofije za posamezne vrste zgradb, z vzpostavljanjem odnosov v širšem prostoru. Vsebina: 1. Hiša je tehniško urejena celota: Analiza značilnih tipov zgradb (... do multifunkcionalnih mega zgradb, ki se sproti prilagajajo novim dejavnostim), spoznavanje arhitekturne teme. Organizacija prostora, uporabnost zgradbe, logična, z metodo podprta razporeditev programa zagotavlja, da bo zgradba najbolje služila svojemu namenu (... do zgradb, kjer se program stalno spreminja). Sestava zgradbe, materiali in njihova svojstva, konstrukcijske izkušnje, transformirane v arhitekturo, delitev na nosilni in ločilni sistem omogoča novo razumevanje fasadnega pasu (... do integralnih površin, ki združujejo funkcijo, infrastrukturo in konstrukcijo). 2. Hiša je del mesta (graditi hišo je kulturno dejanje): Odnos med hišo in mestom, temeljne arhitekturne naloge v zgodovinskih obdobjih, mestna palača – javni svet mesta, privatni svet uporabnikov, naravni svet vrtov. Hiša, ki določa mesto – 19. stoletje v Ljubljani – veliki volumni, novo veliko merilo, nove ambientalne poteze, razvoj novih tipov zgradb. Odnos med obstoječim in novim, prenova kot aktivna zaščita, značilni primeri povojne prenove mestnih jeder v Evropi. Odnos med zgradbo in okoljem, značilni posegi, klasifikacija posegov, metode. Proučevanje okolja – sistematična ureditev elementov na nivoju ambienta, objekta, detajla, ob spoštovanju zgodovinskega razvoja in lokalnih značilnosti. Model uskladitve novega z obstoječim – razgraditev volumnov na stalne osnove in spremenljive dodatke (na tehniške in oblikovne enote). Razvoj modela, razslojevanje lupine na zaščito objekta in na povezavo z okoljem - dve plasti (... do novih topoloških prostorskih kontinuitet).

The prime rationale of the course is parallel growth of basic project and structural philosophy for particular types of buildings by establishing relations in wider space.Contents: The building is a technically arranged entity: Analysis of typical types of buildings (... from multi-functional mega-buildings, that consequentially adapt to new functions), recognition of the architectural theme. Spatial organisation, building utility, logical, method supported distribution of programmes ensures that the building will serve its purpose (... even buildings, whose programme changes constantly). Composition of a building, materials and their properties, experiences in construction translated to architecture, separation into load bearing and dividing systems enables new understanding of the façade belt (... to integral surfaces that join function, infrastructure and construction). The building is part of the city (building a house is a cultural act): the relation between the building and city, basic architectural tasks in historical periods, the city palace, city's public domain, private user's domain, natural domain of gardens. The house which determines the city ... 19th century in Ljubljana, large volumes, new grand scales, new ambiances of single strokes, development of new building types. Relation between extant and new, rehabilitation as active protection and typical examples of post-war rehabilitation of urban cores in Europe. Relation between the building and its' surroundings, typical developments, classification of developments, methods. Examining the environment, systematic arrangement of elements on the level of place, building, detail, with respect to historical development and local specifics. Model for harmonising the new with the extant, decomposition of volumes into constants and changeable additions (technical and design elements). Development of the model, layering of the envelope into two layers – protective and connective layer (... unto new topological spatial continuities).

4.7. STANOVANJSKE STAVBE 2 *RESIDENTIAL BUILDINGS 2*

IV. letnik 60 ur

prof. dr. Aleš Vodopivec, univ. dipl. inž. arh.

- Ackerman, J. S.: The Villa, Princeton UP 1990
- Colomina, B.: Privacy and Publicity, MIT Press, Cambridge, London 1994
- Hartoonian, G.: Ontology of Construction, Cambridge UP 1994
- Rykwert, J.: On Adam's House in paradise, The Museum of Modern Art, New York 1972
- Rowe, C.: The Mathematic of the ideal Villa, MIT Press, Cambridge 1976
- Van der Ree, Smienk, Steenbergen: Italian Villas and Gardens, Prestel, Munchen 1993
- Risselada, M.: Raumplan versus Plan libre, Delft UP, Delft 1988
- Lotus 60, Electa, Milano 1988
- Izbrana poglavja iz monografij obravnavanih arhitektov.

Predavanja in vaje uvajajo študente v samostojno raziskovanje novih tipologij bivalnega okolja in iskanje odgovorov na vprašanje, kako stanovanjski gradnji tudi v našem času odpreti obzorja arhitekture.
Vsebina: Problematika sodobne stanovanjske gradnje (nov pomen družine in zasebnosti, delo na domu, fleksibilnost in odprti sistemi, sodobne konstrukcijske možnosti, gospodarnost gradnje, energetsko varčna in okolju prijazna arhitektura, sposobnosti novih gradbenih materialov itd.). Topografija okolja, geometrija vile in perspektiva kot vezni element (renesančne vile v Italiji); rojstvo novega tipa (Palladio – palladijanska vila); povezava notranjega in zunanjega prostora (F.L. Wright); prostorski načrt (A. Loos - Raumplan); tektonska logika sodobne gradnje: armirani beton (Le Corbusier - prosti tloris), jeklo (Mies van der Rohe - kontinuiteta bivalnega prostora); vplivi likovne umetnosti, literature in filozofije (Rietveld, Malaparte, Wittgenstein); avtentično gradivo, geometrijski red in narava (T. Ando); nacionalna identiteta arhitekture (L. Barragan, Plečnik); možnosti sodobnih gradbenih materialov (Herzog & de Meuron, J. Nouvel - tekstura ovoja); vplivi filma in sodobne umetnosti - konceptualizem, Land Art, minimalizem (Mies, Siza, Campo Baeza, Silvestrin); pojav globalizacije in regionalizem - ekološka gradnja (G. Murcutt); ekonomika gradnje – socialne razsežnosti stanovanjske gradnje (Lacaton&Vassal); nove medijske tehnologije – vdor javnega v zasebnost stanovanja.

The lectures and exercises introduce students to independent research of new typologies of residential environments and finding of answers to questions about opening contemporary architectural horizons to housing construction.
Contents: Issues in contemporary housing construction (new meanings of family and privacy, working from home, flexibility and open systems, contemporary possibilities in construction, building economics, energy efficient and environmentally friendly architecture, capabilities of new building materials etc.). Environmental topography, geometry of the villa and perspective as the connecting media (renaissance villas in Italy). Ascent of the new type (Palladio). Connection of inner and outer space (Wright). Spatial plan (Loos). Structural logic of contemporary building – open layout (Le Corbusier). Continuity of living space (Mies van der Rohe). Impact of art, literature and philosophy (Rietveld, Malaparte, Wittgenstein). Authentic building materials, geometrical order and nature (T. Ando). Architecture as oasis of silence (L. Barragan). Building envelope texture (Herzog & de Meuron, J. Nouvel). Contemporary art impact, conceptualism, Land art, minimalism (Mies, Siza, Campo Baeza, Silvestrin). Regionalism, ecological building (G.Murcutt). Slovenian contribution to architecture of single-family housing (Plečnik, Tomažič, Šubic, Jugovec).

4.8. INDUSTRIJSKE STAVBE *INDUSTRIAL BUILDINGS*

IV. letnik 60 ur

prof. dr. Fedja Košir, univ. dipl. inž. arh.

- s.a.: Industriebau (Stuttgart, DVA 1994)

Vsebina: Kaj je industrijska arhitektura? Kulturne razsežnosti oblikovanja industrijskih objektov. Razvoj lokacijske teorije industrijskih objektov. Razvoj industrijske arhitekture na Slovenskem: Formativna faza (1500/1800). Idrija kot arhetip modernega industrijskega naselja. Industrijska revolucija v avstrijski monarhiji (1800/1918). Razvoj industrializacije v jugoslovanski monarhiji (1918/1941). Energetika kot bazični problem v federativni socialistični državi (1945/1991). Estetski in programski problemi socialistične izgradnje industrije. Urbanistične dimenzije industrializacije v dvajsetem stoletju. Arhitekturne značilnosti oblikovanja industrijskih objektov. Drugi primeri: oblikovanje industrijskih objektov na Danskem. Trendi v prihajajočem tretjem tisočletju: avantgardna primera Renzo Piano in Santiago Calatrava. Rezervna tema: problemi varnosti.

Contents: What is industrial architecture? The cultural dimensions of designing industrial buildings. Development of the location theory of industrial buildings. Development of industrial architecture in Slovenia: the formative phase (1500–1800). Idrija as the prototype of modern industrial settlements. The industrial revolution in the Austrian monarchy (1800–1918). Development of industrialisation in the Yugoslav monarchy (1918–1941). Energetics as the fundamental problem in the federative socialist state (1945–1991). Issues of aesthetics and programme of socialist industrial development. Urbanistic dimensions of 20th Century industrialisation. Architectural characteristics of industrial building design. Other examples: design of industrial buildings in Denmark. Trends of the emerging third millennium, avant-garde examples: Renzo Piano and Santiago Calatrava. Reserve topic: safety issues.

4.11 RAZVOJ URBANIZMA NA SLOVENSKEM
HISTORY OF URBANISM IN SLOVENIA

IV. letnik 60ur

prof. dr. Fedja Košir, univ. dipl. inž. arh.

- Košir, F.: Izbrani članki 1975/1999 (LJ, FA 2000)

Vsebina: Uvod (značilnosti slovenskega poselitvenega prostora). Arheološko izročilo od neolitika do zatona antike. Vprašanje o regionalizaciji (in standardnih nacionalnih fetiših). Fevdalna mesta in trgi na Slovenskem. Od fevdalnega do modernega tkiva. Maks Fabiani kot prvi moderni urbanistični in arhitekturni načrtovalec in teoretik (»in the field«). Trideseta leta in prodor funkcionalističnih nazorov (1930/1940). Tradicionalizem vrača udarec: Architectura Perennis (1941). Klavrna in kratka faza socrealizma (1945/1950). Vrnitev k ciamovskemu funkcionalizmu (1950/1965). Strukturalistična faza funkcionalizma (1965/1980). Alternativno birokratsko planerstvo in ekosocializem (»urbanizem = matematika + marksizem«). Postmoderna kritika funkcionalističnih dogem (1980/2000). Digitalia »pro futuro«. Rezervna tema (povzetek): urbane zasnove dvajsetega stoletja.

Contents: Introduction (characteristics of the space of Slovenian settlement). Archaeological heritage from the Neolithic till the demise of Classical Antiquity. Regionalisation issues (and standard national fetishes). Feudal cities and markets in Slovenia. From the feudal to the modern tissue. Maks Fabiani as the first modern urbanist, architect and theoretician (»in the field«). The thirties and the influx of functionalistic attitudes (1930–1940). Traditionalism strikes back: Architectura Perennis (1941): the meagre and short phase of Socrealism (1945–1950). Return to CIAM Modernism (1950–1965). Structuralistic phase of Functionalism (1965–1980). Alternative bureaucratic quasi-planning and Ecosocialism (»urbanism = mathematics + marxism«). Post-modern critique of functionalistic dogmas (1980–2000). Digitalia »pro futuro«. Reserve topic (summary): urban concepts of the 20th century.

4.12. NAČRTOVANJE NASELIJ *PLANNING OF SETTLEMENTS*

IV. letnik 60 ur

prof. dr. Andrej Pogačnik, univ. dipl. inž. arh.

Cilji: Seznaniti se s temelji urejanja regionalnega prostora in ocenjevanja vplivov posegov v prostor in okolje. Omogočiti timsko in interdisciplinarno delo v prostorskem planiranju in uporabo GIS in LIS sistemov v prostorskem planiranju. Poudarek je na tehnično-načrtovalskih vidikih (v razliko od socio-ekonomskih in goegrafskih) prostorskega planiranja.
Vsebina predavanj: Kratka zgodovina razvoja prostorskega planiranja v svetu in pri nas, stanje v evropskih državah. Metode in tehnike teamskega in interdisciplinarnega dela na prostorskem planu, mrežnem planu, metodi kritične poti. Kartografske in računalniške tehnike v prostorskem planiranju. Potrebe za površinami, bilance površin, oblikovanje in ocenjevanje variant. Teorija lokacije, lokacijske odločitve. Koncept razporeditve in uskladitve dejavnosti oz. rab v prostoru za: kmetijstvo, gozdarstvo, rudarstvo, naselitev, proizvodnjo, centre, turizem, rekreacijo v naravnem okolju. Trasiranje in načrtovanje prometnih, energetskih, vodo-oskrbnih, komunalnih in drugih infrastrukturnih sistemov. Prostorska sinteza in kompozicija. Prostorsko planiranje z vidika varstva okolja, varstva pred naravnimi nesrečami, varstva dediščine. Sanacija degradiranih območij. Krajinska tipika in oblikovanje. Metode ocenjevanja velikih posegov v prostor z vidika varstva okolja. Zaključek in diskusija.

Goals: To gain knowledge about tha basics of regional planning and the assessment of spatial impacts of development. Enabling team work and inter-disciplinary approaches in physical planning, use of GIS and LIS sytems. Emphasis is on technical-practical aspects (in comparison with social-economic and geographical) physical planning.
Lectures: Short historical overview of physical planning in the World and in Slovenia, the state in European countries. Methods and techniques of team and inter-disciplinary work in physical planning, network plan, method of critical path. Cartographic and computer techniques in physical planning. Spatial needs, balance of surfaces, design and evaluation of possibiities. Site theory, site decision making. Concepts of distributing and harmonising land use for agriculture, forestry, mining, settlement, production, central functions, tourism, recreation in the natural environment. Spatial synthesis and composition. Physical planning from the aspect of environmental protection, protection from natural disasters, protection of heritage. Rehabilitation of degraded areas. Landscape types and design. Methods of appraisal of large scale development projects from the aspect of environemntal protection. Conclusion and discussion.

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4.13 RURIZEM *RURALISM*

IV. letnik 60 ur

prof. mag. Peter Gabrijelčič, univ. dipl. inž. arh.

- Ažman Momirski, L., Fikfak, A. (ur.): Oblike prostorskega načrtovanja: od mestnega načrta do urejanja naselij, Publikacija Mednarodnega posveta dec. 1999, Univerza v Ljubljani, Fakulteta za arhitekturo, Ljubljana 2002
- Barbič, A.: Kulturna identiteta slovenskega podeželja; izhodišča, sestavine in problemi celovitega razvoja podeželja v Sloveniji (izdajatelj skupina Nič), Biotehniška fakulteta, Oddelek za agronomijo, Inštitut za agrarno ekonomiko, Ljubljana 1995
- Barbič, A., Wastl-Walter D. (ur.): Sustainable development of rural areas: from global problems to local solution, Klagenfurter Geographische Schriften, Institut für Geographie der Universität Klagenfurt 1995
- Hoggart K., Buller H., Black R.: Rural Europe, identity and change, Arnold, London 1995
- Gabrijelčič, P.: Novi poselitveni vzorci na podeželju; zbornik posveta: Izhodišča, sestavine in problemi celovitega razvoja podeželja v Sloveniji, str. 149-164, 1995
- Gabrijelčič, P., Fikfak, A.: Rurizem in ruralna arhitektura, univerzitetni učbenik. 1. izd., Univerza v Ljubljani, Fakulteta za arhitekturo, Ljubljana 2002
- Mingay, G. E.(ur.): The rural idyll, Routledge, London 1989
- OECD (Organisation for economic co-operation and development): Agricultural policy reform and the rural economy in OECD countries, Paris 1998
- Stiller, A.: The house as an article – on the way to production, A + T, 10, 1997
- Töpfer K.: Rural poverty, sustainability and rural development in the twenty-first century: A focus on human settlements, zeitschrieft für kulturtechnik und andentwicklung, 41, 3: 98-105, 2000

Vsebina: Pregled metodoloških pristopov k vrednotenju kulturne krajine kot izhodišče za določanje njenih tipov. Fiziognomija pokrajine kot naravna podlaga kmetijsko proizvodne regije. Strukturiranje teh regij in oblikovanje vaških teritorijev po tipih proizvodne usmeritve. Morfološka analiza vaških teritorijev, njihova odvisnost od naravnih in ustvarjenih danosti ter njihov vpliv na oblikovanje poselitvenega vzorca. Morfološka analiza vaških naselij. Analiza osnovnih proizvodnih enot v odnosu do naselja. Metode projektiranja novih tipov agrarno produkcijskih enot in njihova navezava na obstoječe. Alternativni ureditveni preizkusi oblikovanja vaškega teritorija kot izhodišče za kriterije urejanja posameznih tipov naselij.

Contents: Review of methodological approaches to evaluation of cultural landscape as starting point for determining types. Physiognomy of landscape as the natural basis of rural production regions. Structuring of regions and design of village territories according to types of production aims. Morphological analysis of village territories, their dependence on natural and man-made features and their impact on settlement pattern design. Morphological analysis of rural settlements. Analysis of basic production units in relation to the settlement. Methods of designing new types of agrarian production units and their links to the existing environment. Alternative case studies of planning rural territories as the basis for establishing criteria for particular settlements types.

4.15. OPREMA PROSTORA *INTERIOR DESIGN*

IV. letnik 60 ur

doc. Jurij Kobe, univ. dipl. inž. arh.

Vsebina: Analiza funkcije, pomena in estetike opreme prostora. Oprema notranjega in zunanjega prostora. Oprema javnega prostora, industrijskega, sakralnega, gledališčnega prostora in domačega ambienta. Klasični in moderni primeri ter trendi razvoja. Zgodovinske, oblikovne in tehnične komponente opreme prostora. Dekoracija. Pomen tehničnih naprav, strojnih in električnih instalacij. Detajliranje v luči oblike in izvedbe. Oprema kot unikat, kot pohištvo, kot finalna površina prostora. Struktura, barva in svetloba v prostoru.

Contents: Analysis of function, meaning and aesthetics in interior design. Designing inner and outer spaces. Interior design of public space, industrial, ecclesiastic, theatre space and homes. Classical and modern examples with development trends. Historical, formal and technological aspects of interior design. Decoration. The role of technical equipment, mechanical and electrical fittings. Detailing in terms of form and execution. Interior design as a unique product, furniture, finishing of surfaces. Structure, colour and light in space.

4.16 OBLIKOVANJE PREDMETOV *DESIGN OF OBJECTS*

IV. letnik 60 ur

prof. Janez Suhadolc, univ. dipl. inž. arh.

- Oblikovanje na Slovenskem, DOS, Ljubljana 1991
- Slovenski znak in plakat, Sinteza, Ljubljana 1989
- Katalogi BIO 1 – 13, Arhitekturni muzej 1965 - 97
- Plečnik, J.: Napori, Arhitektura perennis, Ljubljana, 1938, 1956
- Russel, F.: Chair Design, Academy editions, London 1985
- Makarovič, G.: Slovenska ljudska umetnost, DZS, Ljubljana 1974
- Bogataj, J.: Ljudska umetnost in obrti, Domus, Ljubljana 1993

Vsebina: Konceptualni in projektantski vidiki male arhitetkure, ki ni nujno sestavina večjih interierov ali zasnov. Pojem stila. Problem nacionalne identitete v arhitekturi in oblikovanju. Vidiki mednarodnih in domačih dosežkov. Tehnologija izdelave in detajli.

Contents: Conceptual and design aspects of small architecture which is not neccessarily a part of bigger interiors or concepts. Definition of style. Problems of national identity in architecture and design. Aspects of international and domestic achievements. Technology and details.

4.17 GRAFIKA ZA ARHITEKTE *GRAPHIC DESIGN FOR ARCHITECTS*

IV. letnik 60 ur

prof. Janez Suhadolc, univ. dipl. inž. arh.

- Ruder, E.: Tipografija, Partizanska knjiga, Ljubljana 1984
- Bratuž, L.: Manum Scriptum, NUK, Ljubljana 1990
- Beisele, I.G.: Graphic Design Education, ABC Verlag, Zurich 1981
- Tafelmaier, W.: Schrift Variiren, Callwey, Munchen 1990
- Frutiger, A.: Type Sign Symbol, ABC Verlag, Zurich 1992
- Berthold Phototypes, Dallwey, Berlin 1986
- Henrion, F. K.: Corporate Identity, T & H, New York 1993

Vsebina: Stik in simbioza vizualnih komunikacij z arhitekturo. Morfologija črke; členitev, pisava in tisk. Pojem geometričnega, optičnega in organskega. Pika, črta in ploskev; ritem, integralni design, napis v arhitekturnem okolju.

Contents: Connection and symbiosis of visual communications and architecture. Morphology of letters; elements, writing and printing. The idea of geometrical, optical and organic. Point, line and surface; rhythm; integral design, lettering in architectural environment.

GRADUATE COURSE SYLLABUS for the academic year 2003/2004

No.	Lecturer	Subject	Semester	lectures	exercises	ind.work	Total hours	ECTS
			Winter					
9.SEMESTER								
5.1	*	**Design studio 5**		-	15	10	375	30
		Thesis preparation						15

	Total hours	ECTS
TOTAL / GRADUATE COURSE	**3375**	**285**

PREDMETNIK DODIPLOMSKEGA ŠTUDIJA za šolsko leto 2003/2004

9.SEMESTER

šifra	predavatelj	predmet	semester: zimski					
			predavanja	vaje	ind. delo		skupaj ure	kreditne točke
5.1	*	projektiranje in kompozicija 5	-	15	10		375	30
		diplomsko delo						15

	skupaj ure	kreditne točke
SKUPAJ / DODIPLOMSKI ŠTUDIJ	3375	285

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