

Alternative Futures for Sarajevo Polje

Building resilient and productive landscapes with multifunctional waterscapes – a green infrastructure approach to Sarajevo Polje



River, space, design: a potentially multifunctional space here with the case of Ilidza and the river Zeljeznica

Cooperating Universities and Partners

- International Burch University, BiH
- University of Sarajevo, Faculty of Forestry
- University of Sarajevo, Faculty of Agriculture and Food Production
- Nürtingen-Geislingen University (HfWU), DE
- Weihenstephan-Triesdorf University of Applied Sciences (HSWT), DE
- Université Libre de Bruxelles (BE), Architecture Faculty La Chambre Horta
- Association of Landscape Architects in Bosnia and Herzegovina

Further partners to be involved: local administrations, sectoral experts, local NGOs

Time Frame and Activities

15.02. – 11.03.16	Preparatory phase with online lectures and desk research
14.03. – 25.03.16	on site phase in Sarajevo, BiH, study project with students and teachers from architecture, urban design and landscape architecture.
28.03. – 08.04.16	follow-up and documentation

Rationale and overall concept

The specific emphasis of this study project will be on the integration of urban planning, environmental protection and landscape architecture for building a sustainable development perspective for the urban periphery of Sarajevo. It is expected that this interdisciplinary cooperation will produce innovative solutions to the planning, design and management of dispersed and fragmented areas in urban fringe zones. These areas are characterised by competing interests and land use demands of housing, agriculture, tourism, industry, education, traffic, nature protection, water management, recreation and various other sectors.

A profound understanding of the driving forces shaping these areas combined with creative procedural and spatial thinking leading to concrete planning action is required for assuring the sustainable development of urban fringe zones. Urban and peri-urban areas are Europe's key to economic growth, social wealth and political stability. But at the same time this urban productivity is highly threatened if its ecological foundation is destroyed. Therefore, sustainable growth has become the principal goal of the Europe 2020 strategy. The urban fringe is thus an excellent laboratory for exploring the possibilities of integrated land management leading to smart integration of different demands for example in the form of multifunctional areas that succeed in combining aspects of infrastructure, water management, recreation, environmental protection (habitats, soil, water and air), heritage protection, tourism, agricultural production as well as structural and aesthetical functions.

Landscape is understood in this project as the everyday environment of people which is the basis of their livelihood. It is the landscape scale at which competing territorial interests need to be negotiated. However, people's site-specific perspectives and possibilities are the key to sustainability, which is why community involvement is crucial. The landscape perspective should help building a cross-sectoral and community-based vision for Sarajevo Polje.

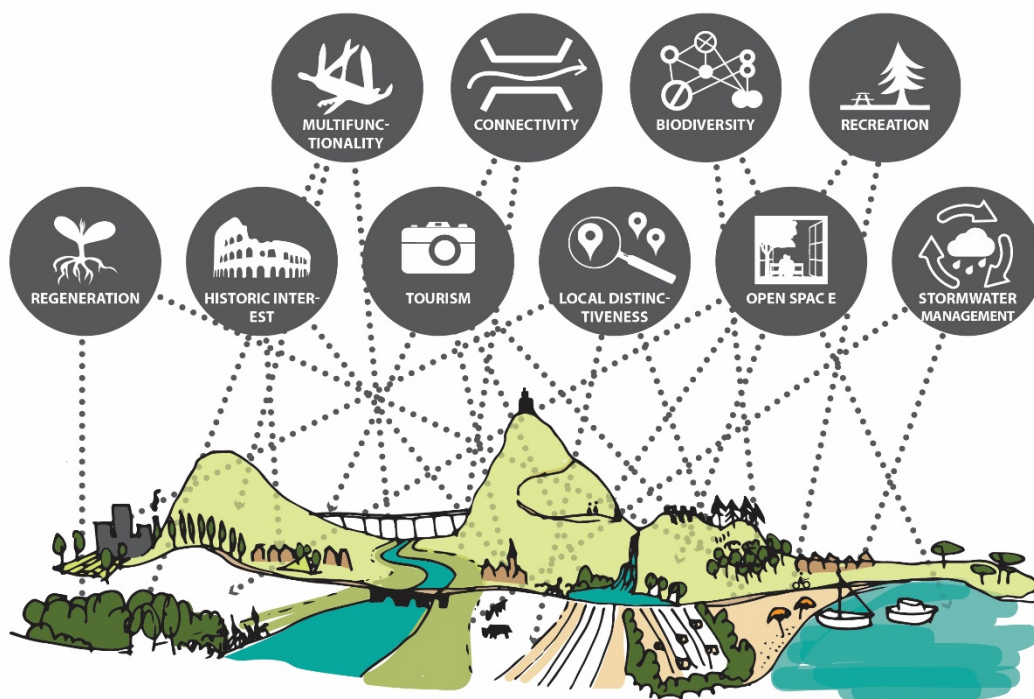


The Green Infrastructure Approach

Green Infrastructure is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect villages, towns and cities. It is a natural, service-providing infrastructure that is often more cost-effective, more resilient and more capable of meeting social, environmental and economic objectives than 'grey' infrastructure.

It effectively reduces the need for constructing or renovating traditional, unattractive uni-functional grey infrastructure elements like concrete pipes, floodwalls or holding tanks. It is a vital infrastructure from which economic, social and ecological benefits can be gained if it is managed and planned appropriately.

The European Union has recently published a green infrastructure communication in which the concept has been defined as follows: *"Green infrastructure (GI) is a successfully tested tool for providing ecological, economic and social benefits through natural solutions. It helps us to understand the value of the benefits that nature provides to human society and to mobilise investments to sustain and enhance them. It also helps avoid relying on infrastructure that is expensive to build when nature can often provide cheaper, more durable solutions. Many of these create local job opportunities. Green Infrastructure is based on the principle that protecting and enhancing nature and natural processes, and the many benefits human society gets from nature, are consciously integrated into spatial planning and territorial development. Compared to single-purpose, grey infrastructure, GI has many benefits. It is not a constraint on territorial development but promotes natural solutions if they are the best option. It can sometimes offer an alternative, or be complementary, to standard grey solutions."* (<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52013DC0249&from=EN>)



Green infrastructure functions at a glance, graphic by A. Szilágyi-Nagy

The Sarajevo Polje Case

The so-called 'Sarajevo Field' relates to the western end of the urban area of Sarajevo where the Miljacka river valley widens and eventually opens up to the large plain shaped by the Bosna River and its tributaries: Dobrinja, Zeljeznica, Miljacka and Zujevina. The plain is limited in the Southwest by the steep slopes of the Igman-Bjelasnica massive and to the South-East by low and middle mountains of the Trebebic-Jahorina chain. The entire alluvial plateau is strongly shaped by the rivers and their catchment areas. Urban development is limited both by topography and the need to provide extensive areas for water retention because of frequent flood occurrences. Furthermore, vast territories are groundwater protection areas providing water for the entire city and characteristic thermal water areas can be found as well.

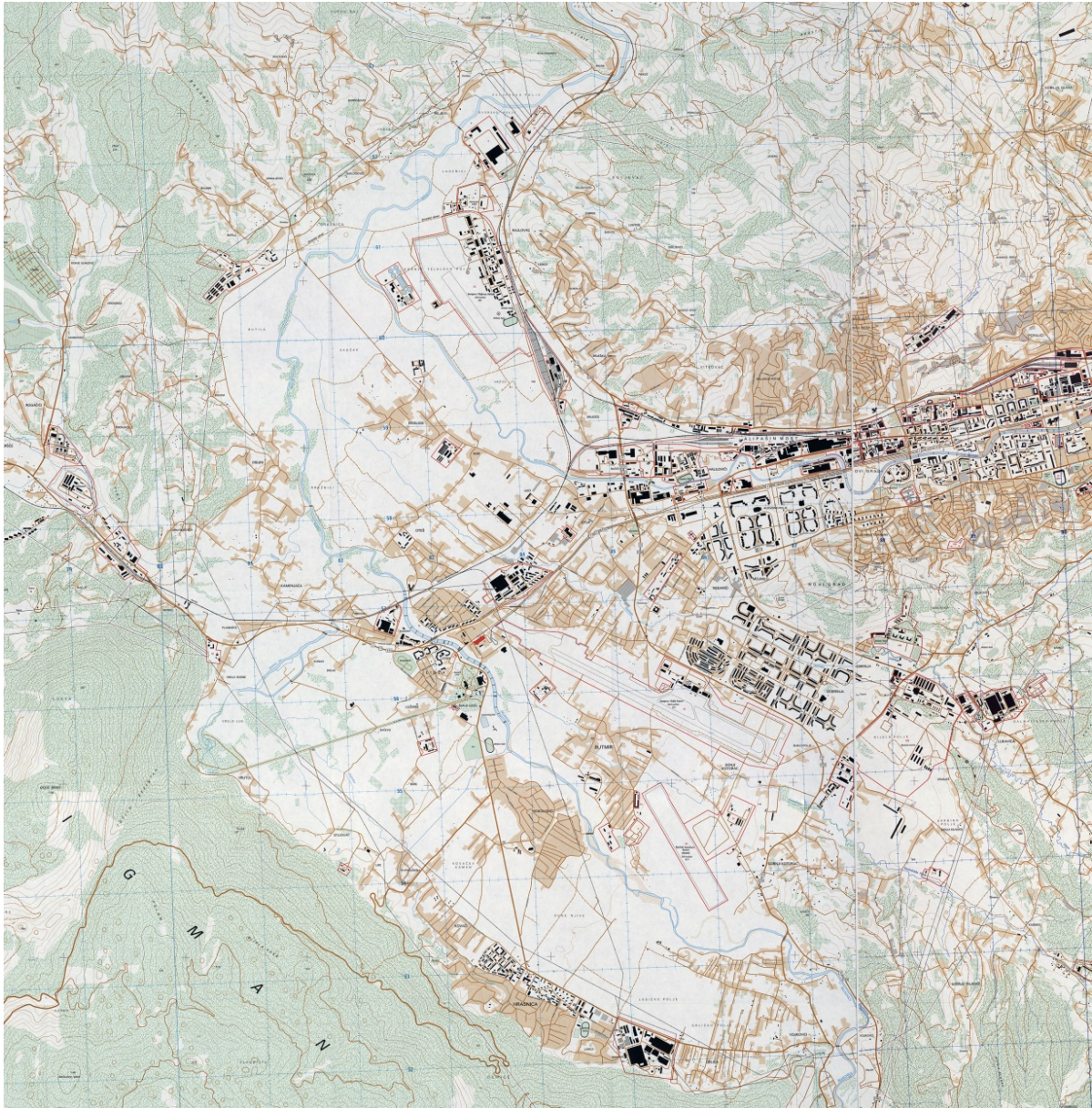
Provisions for engineered flood protection have been installed, partly with EU funds, however, the extreme flood events of May 2014 also hit this area. Sarajevo Polje is a classical peri-urban case in which competing land use interests need to be negotiated and solved by multifunctional solutions that include the natural assets of the landscape. Taking the ongoing rural-urban migration trend, future road infrastructure projects and the increasing role of the airport as communication hub into account, the development pressure on this area will inevitably increase in the coming years. Therefore, the question of how to balance the natural foundation of this landscape with its economic development perspective will become ever more pressing.

Questions and topics this integrative studio intends to address

- Mapping the landscape character and the landscape capacity of Sarajevo Polje
- Use scenarios for envisioning alternative developments and their impact on the landscape
- Apply the concept of multifunctional and productive landscapes on this urban periphery – how can open areas (agriculture, water protection/retention, remaining open spaces between infrastructure and settlement areas) be strengthened, both functionally and aesthetically, in order to become the guiding force for urban development?
- What does densification mean and how would an ideal settlement development look like?
- How can multifunctionality be implemented in order to reduce space consumption (i.e. combining flood protection, biodiversity and recreation).
- How to envision natural resources as a driving force for sustainable development?
- How could a landscape approach help strengthening the identity of Sarajevo Polje?
- Can natural resources become a driving force of sustainable development?
- How can the local socio-economic condition be addressed? Which types of jobs could be created by multifunctional landscapes (i.e. urban farming, environmental education, tourism recreation and tourism services, local food production and others)
- Which governance and participation models are required?
- Which financing mechanisms could be developed?

European reference examples from the international university partners will be contributed in order to show good practice in this emerging professional field (i.e. Frankfurt Green Belt, Emscher Landscape Park Ruhr District, Neckar Valley Landscape Park Stuttgart region and others)

Area of Consideration for a Green Infrastructure Strategy



Sarajevo Polje and the Bosna plain on a map from 1997 (source: Texas University). The landscape has already strongly changed since then and will continue to do so. However, this map shows how much the territory is shaped and structured by the major landscape components: mountains and rivers.

Objectives and Learning Outcomes

The main activity is a design studio of 12 days duration in Sarajevo. The studio work will be accompanied by theoretical and site-specific lectures. A preparatory phase and a follow-up phase will be delivered in the form of an online seminar.

The following learning outcomes are envisaged:

Competences on the subject-specific level

1. Students shall develop spatial visions and design proposals for multifunctional areas located in the urban periphery. These visions and proposals shall result from an integrated approach of urban planning and landscape architecture.
2. Students shall be enabled to work in an interdisciplinary team in which their own competence feeds into a broader consideration while making use of different planning and design methods.
3. Students shall internalise the specific demands of industry, commerce, housing, society, ecology, agriculture and traffic and thus understand the major drivers of urban change and development.
4. Students shall understand the nature of process-oriented planning methods including methods of public participation.

Competences on the generic level

1. Intercultural competence and European identity: ability to work in an international team, to communicate in a foreign language, to respect cultural differences and to make creative use of the others' cultural potentials.
2. Fostering creative, innovative and process-oriented thinking
3. Project management skills: Time and team management, workflows, team communication, targeted and output-oriented group work.
4. Communication and presentation skills by means of several group and plenary presentations.
5. Development of political, environmental and social awareness, civic engagement and the ability to address issues of public concern

Knowledge of a new culture and development of European consciousness and identity through intercultural teamwork and by studying a foreign landscape and the culture in which it is embedded.

Project Phases and Outputs

1 Preparation Phase: 15.02. – 11.03.2016, 2 ECTS

The working groups will be mixed between the institutions and the groups will already be formed for the preparation phase. Meetings and lectures will take place in the virtual classroom. The following activities are foreseen:

Online meetings

All project participants will meet online for an overall introduction and thematic inputs (dates to be specified)

Readings

All readings will be available from the ILIAS online repository. Each participant will be asked to prepare a concept map or a short summary (max. 2000 signs) of his/her reading and publish it on the project wiki before 10th of March. The reading list will be made available via googledocs after the first online meeting. Participants will then be able to indicate their selection online.

Thematic Analysis

This activity will start as a collaborative desk research during the online phase and continue on site. Each working group will analyse a specific theme/feature. This information will be brought together on the third workshop day in the form of a plenary presentation. Analytical data will be shared afterwards.

The following 10 themes will be distributed among the teams:

1. The wider context: landscape units, peri-urban patterns and transition zones
2. Land use change in the last 100 years, history of the area: are there any traditions or historic events/images that could have a role in the planning?
3. The built environment – typologies and tendencies, incl. monuments, legal framework + current policy objectives
4. Traffic infrastructure and patterns of movement, (status quo and plans)
5. Water bodies + water system
6. Biotopes – flora, fauna + natural monuments, trees, local climate
7. Agriculture, gardens + meadows
8. People + behaviour patterns, quality of life and socioeconomic data
9. Industrial uses + technical infrastructure
10. Visual appearance: landmarks, structures, patterns, topography, borders, connections and limits

In addition, the individual, subjective perception – the sense of place – should feed into the analysis and become part of this output. During this analytical phase, drawings, images, videos, topographical maps and GIS data are to be used in an integrated way. Drivers-Response models can be used for presenting analysis findings.

2 Core Phase on Site: 14.03. – 25.03.2016, 8 ECTS

Output 1: Landscape Assessment and Analysis of Driving Forces

The thematic analysis started during the online phase will be continued and refined on the basis of site observations. A group presentation will be held by mid of the first workshop week.

Output 2: Scenario Building

After bringing together the different analysis themes each group will produce a scenario in order to discuss the perspective of the area under observation. Alternative futures will be formulated depending on the groups' specific selection and combination of factors, values and criteria. Challenging aspects like economic and political uncertainty should be considered. Scenarios will be presented in an interim plenary at the end of week one. Both output 1 and 2 cover the entire area of Sarajevo Polje.

Output 3: Translation to the site and visualisation

At the beginning of the second week each group will continue at a local scale in order to show how challenges derived from the scenarios can be approached on site and with the community. All projects need to include a sustainability model in which aspects of governance, finance and participation are outlined.

Possible detailing areas (these are just rough ideas, we need to take ideas from the community into account as well)

- Zeljeznica river front (urban context: Ilidza), there could be 2-3 areas in Ilidza
- Zeljeznica river front (agricultural context between Ilidza and Vojkovici)
- Urban sprawl hotspot Bosna/Zeljeznica confluence
- Miljacka between M17 road and Doglodi
- Dobrinja river north of M17 road
- The campus environment (Burch, International University, Zeljeznica)
- Peri-urban landscape between Hrasnica village and Zeljeznica river
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3 Documentation Phase: 28.03. – 08.04.2016, 2 ECTS

Reworking and refining of project outputs for the printed documentation.

Repository link with project data:

To be defined

Username: *To be defined*

Password: *To be defined*

Project WIKI

<http://european-peripheries.imla-campus.eu>

Alternative Futures for Sarajevo Polje 13.03. – 26.03.2016 –WEEK 1						
Date	Hour	Activity	Person	Delivery	Location	Staff
13.03. Sun	Until 18.00	Arrival			Hostels	
	19.00	Come together	All			All
14.03. Mon	09.30	Welcome by university Opening Ceremony	<p>Dean of Faculty of Engineering and Information Technologies, IBU Prof. Dr. Gunay Karli</p> <p>Head of Department of Architecture, IBU Assist. Prof. Dr. Emina Zejnilovic</p> <p>Dean of the Faculty of Forestry, University of Sarajevo Prof. Dr. Mirza Dautbašić</p> <p>Dean of the Faculty for Agriculture and Food Sciences, University of Sarajevo Prof. Dr. Sarić Zlatan</p> <p>Dr. Ellen Fetzer from the IMLA programme in Germany and ECLAS</p> <p>Alain Simon, ULB Brussels</p> <p>ALA BiH of Bosnian-Herzegovinian Landscape Architects (ALA BiH) Dr. Mersad Omanovic</p> <p>Groups present themselves briefly</p>		Burch	All
	12.00		Joint lunch at Burch			
	13.00	Site Visit 1 from the university along Zeljeznica river (by foot)		fieldwork		
	17.30		reflection	Burch		
	19.00	Free Evening				

15.03. Tue	9.00	Site visit 2 To be specified, at least 70% per foot	Meeting at Ildiza tram station, walking tours Ildiza and surroundings	fieldwork	Burch	
	12.00		Vrelo Bosne Director of the institution for 'Protected areas in Sarajevo Canton MSc Osman Delić Tour continues in the afternoon to the north			
	19.00	Free Evening				
16.03. Wed	09.30	Thematic input Moderator of the Session Dr. Ellen Fetzer IMLA programme, Germany, ECLAS Short intro: 'The Green Infrastructure Perspective'	Ismet Krzović , Planning Institute of Sarajevo Canton <i>"Legal framework for urban development"</i> Prof. Nasiha Pozder Faculty of Architecture, University of Sarajevu "Municipality Novi Grad - Planning Vs. Implementation"		Burch	
	10.45		Municipality Ildiza <i>"Urban development of Municipality Ildiza"</i>			
	11.30		Lunch Break			
	12.15		Prof. Vesna Hercegovac –Pasic <i>"Urban infrastructure"</i>			
	12.45		Asisst. Prof. Maja Popovac <i>"Cultural Heritage"</i>			
	13.30		Prof. dr. Hamid Čustović <i>"Land use and soil distribution"</i>			
	14.15		Asisst. Prof. Sanela Klaric <i>"Potentials and</i>			
	15.00					

	15.45		<i>linking rural and urban development of Sarajevo"</i> Alain Simon 'Micromega Labs – Studio of urban acupuncture – pedagogical reflections'			
	16.00	Thematic analysis continues				
	20.00	Free evening				
17.03. Thur	9.00	Working groups continue				
	15.00	Groups present thematic analysis		10 PPT slides per group and theme		
	18.30	Outlook on next steps	teaching team			
	20.00	Free evening				
18.03. Fri	9.00	Workshop continuing	Visiting of Agriculture Institute and local farmers? Specificirati			
	All day	Workshop continuing				
19.03. Sat	9.00	Workshop continuing				
	16.00	Interim Presentation working groups and external ULB group		Concept vision and focus areas		
	20.00	Free evening, teaching team comes together				
20.03. Sun	9.00	Free Day				
		Optional – mountain excursion on Igman for site seeing or Sarajevo city tour with guide				

Alternative Futures for Sarajevo Polje 13.03. – 26.03.2016 –WEEK 2

Date	Hour	Activity	Person	Delivery	Location	Staff
21.03. Mon	9.00	Site visits detailing areas		fieldwork	Hostels	
	14.00	Thematic inputs: moderation: Axel Fisher, ULB Brussels	Prof. Dr. Sead Vojniković , Faculty of Forestry <i>"Changes in forest type distribution and potential vegetation"</i>			All
	14.45		Prof.Dr. Salko Muratovic , Faculty of Agriculture and Food Science <i>"Topic missing"</i>			
	15.30		Raduška Cupac , UNDP <i>"Flood issues and spatial planning"</i>			
	16.15		Stefan Grunder , HfWU <i>'Urban agriculture'</i>			
	17.00		Didier Vancutsem , ULB/ISOCAPRP <i>'Green Infrastructure' (to be confirmed)</i>			
	18:00	Workshop continuing				
22.03. Tue	9.00	Site visits detailing areas Optional sites				All
	17.00	Workshop continuing Refining concept	Spotlight on group progress (groups report briefly on their status)			
	20.00	Free Evening				
23.03. Wed	9.00	Workshop continuing				
	20.00	Free Evening				
24.03. Thur	9.00	Workshop continuing				
	All day	detailing				
	20.00	Free evening				
25.03. Fri	9.00	Workshop continuing- Finalizing presentations				

	15.00	Final presentation working groups and external ULB group				
	20.00	Getting together				
18.03. Sat	9.00	Optional excursion (Mostar?) or return travel				
19.03. Sun	9.00	Return travel				

Institutions, contact persons and teachers

Host Institutions

International Burch University – Department of Architecture

Address of the venue: Francuske revolucije bb, Ilidža 71210

Follow the link:

<https://www.google.ba/maps/place/International+Burch+University/@43.818909,18.311136,15z/data=!4m2!3m1!1s0x0:0x6f97362d8c61c461>

Contact person

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Lecturers

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University of Sarajevo – Faculty of Forestry

Contact person

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Lecturers

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Consulting

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Partner Institutions

IMLA Programme: Nürtingen-Geislingen University (HfWU) and

Weihenstephan-Triesdorf University of Applied Sciences (HSWT)

Contact person

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Lecturers

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Université Libre de Bruxelles – Faculté d'Architecture

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Lecturers

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Alain Simon	alain@ms-a.be
Didier Vancutsem	didier.vancutsem@ulb.ac.be

University of Sarajevo, Faculty of Agriculture

Lecturers

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Salko Muratović	s.muratovic@ppf.unsa.ba

Association of Landscape Architects in Bosnia and Herzegovina

Contact persons

Mersad Omanovic	mersad.omanovic@gmail.com
Sabina Zivojevic	sabina.zivojevic@gmail.com

Lecturers:

Vesna Hercegovac-Pašić	vesnaherc@gmail.com
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Local Stakeholders and NGOs to be involved:

- Associations active for tourism, rural development and nature protection
- Local administrations and departments for spatial/urban planning
- Civil society NGOs

Transportation

How to reach Burch University?

By BUS: Bus regularly runs on relation Vijećnica-Hrasnica. The best option for the accommodated in centre (Bistrik etc) would way is to catch a bus at station 'Latinska ćuprija' next to the Bistrik's trolley bus station, and get off the bus at the 'Koledž' station, which is just in front of the University of Burch. The duration of transportation is 40 to 50 minutes. Ticket price is approximately 2KM or 1 EUR. Here is the bus timetable: <http://www.centrotrans.com/uimages/Hrasnica-Vijecnica.pdf>

By TRAM: Regular tram line runs on the relation from the city centre to Ilidža. The total duration of time needed is approximately 60 minutes. After getting of the tram one should take 20 minute's walk to reach Burch university or take a bus or taxi. Tickets can be bought in the tram and price is 1,7 KM or 0,85 EUR.

By TAXY: Taxi can be taken from the city centre to the Burch University. The duration of the ride should be 30 minutes and the price is approximately 20KM or 10EUR. We advise you to take: SAMIR & EMIR TAXI : 033 15 16, CRVENI TAXI : 033 760 600, or ŽUTI TAXI : 033 663 555, but also BOSS TAXI : 033 531 200 – CRVENI TAXI : 033 760 600 – KALE TAXI : 033 570 900 – PAJA TAXI : 033 15 22 – SARAJEVO TAXI : 033 15 15

How to reach Faculty of Forestry?

By FOOT: One can take a maximum 30 minutes' walk from the city centre along the left side of the river Miljacka and reach the Faculty of Forestry. After the bridge (Suada Dilberović i Olga Sučić bridge on Kovačići) one should keep on the same side of the road where trolley bus is running for roughly 500 m. The Faculty of Forestry is green building connected to the building of Franjevački univerzitetski centar-brick building).

By TRAM: One can take a tram from any station in the city and get off at the station 'National Museum of Bosnia and Herzegovina' and walk for 10 minutes. One should pass by the Historical Museum, then cross the Ars Aevy Bridge and keep strait until reaching Zagrebačka Street. Tickets can be bought in the tram the price is 1,7 KM or 0,85 EUR.

By TROLLY BUS: The easiest way to reach the Faculty of Forestry is to catch a trolley bus for 'Dobrinja' or 'Otoka' which stops 30 m from the Faculty building (green building after the Franjevački školski centre-brick building). Since the stations are not marked please don't find it difficult to ask the driver to show you the station. Price of the card is 1,6 KM or 0,8 EUR.

By TAXY: Price of the taxi from the centre to Faculty is approximately 3,5-5KM or 2-3EUR.

Where do we meet the first day (Sunday, March 13th)?

The meeting point is SEBILJ which is in the centre of Old town:

<https://www.google.hr/maps/place/Sebilj/@43.8592916,18.4295727,18z/data=!4m2!3m1!1s0x4758c8c9afb914f5:0x1a4eeac70384899>

How to reach city from main BUS station?

By TAXY: Taxi can be taken from the station to city centre for the price of approximately 7-8 or 3,5-4,5 EUR.

By TRAM: One can take a tram line 'Barčaršija' from main bus and railway station to the city centre. The one heading to Kandilj accommodation (on Bistrik) can get off at the 'Latinska ćuprija' station or at Vijećnica station.