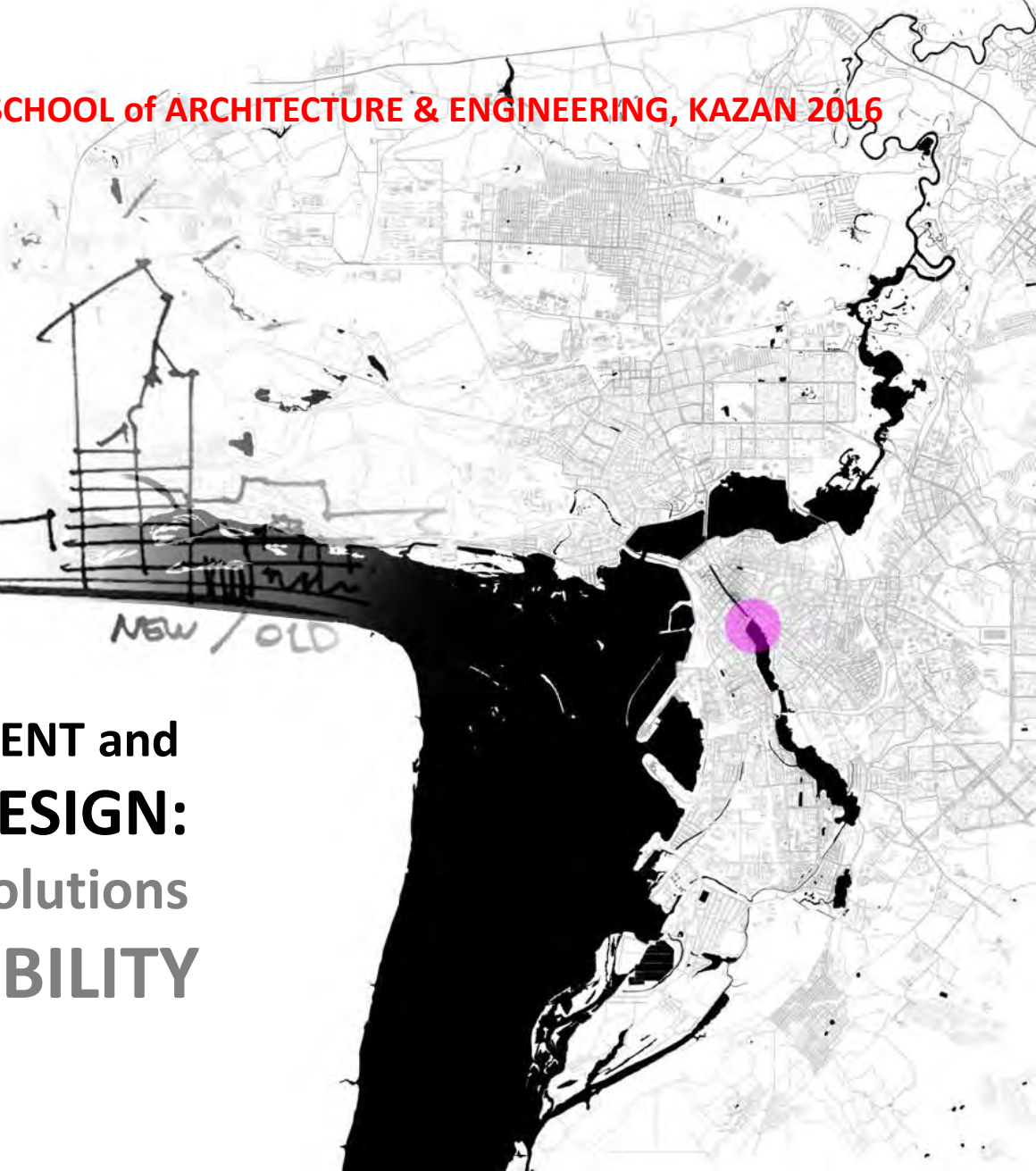


(ISSAEK) INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING, KAZAN 2016

July 11-20, 2016



URBAN DEVELOPMENT and INTEGRATED DESIGN: Challenges and Solutions for SUSTAINABILITY



WELCOME MESSAGE

On behalf of Kazan State University of Architecture and Engineering, we are delighted to welcome you to the **International Summer School of Architecture & Engineering 2016 “URBAN DEVELOPMENT and INTEGRATED DESIGN: Challenges and Solutions for SUSTAINABILITY”** that will be held in July in Kazan City (Russia). Our summer school will take place with the participation of around 50 students from different cultures.

We look forward to meeting you in a comfortable campus located in Kazan, one of the most interesting cities of Russia, with the population of about 1.2 million, located in 800 km far from Moscow and at the confluence of the Volga and the Kazanka Rivers. Our city celebrated its millennium in 2005. We are inviting you to enjoy the beauty of the “Third capital” of Russia and to feel the real atmosphere of friendship between Christian and Muslim cultures, and more than 100 different nationalities.

Nowadays Kazan State University of Architecture and Engineering (KSUAE) is one of the leading architecture and engineering public universities in the Russian Federation. Our University provides opportunities for its students to develop invaluable skills to give them the edge in the job market. Our graduates are always in demand on labor market where they confirm their high professional skills.

The International Summer School 2016 offers you a truly professional, intercultural and positive learning atmosphere with the activities that ensure you return your homelands with amazing and unforgettable experiences.



Programme schedule for Architects



KSUAE) Kazan State University of Architecture and Engineering
(ISSAEK) INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING, KAZAN 2016_July 11-20, 2016

Programme Overview

(ISSAEK) International Summer School of Architecture & Engineering Kazan 2016 “**URBAN DEVELOPMENT and INTEGRATED DESIGN: Challenges and Solutions for Sustainability**” offers an intensive 10-day programme of architectural education engaging students in experience to explore architectural theory and practice in Cultural Heritage Preservation, Urban Development and Architectural Design.

This course is available to students with a demonstrable background in Architecture and Design.

The full time course provides a challenging brief and an international advanced programme of methodological training, lecture sessions, master classes, excursions, workshop including group discussions and presentations. Students attending the programme will gain (1) understanding of the both “preservation” and “development” debates addressing the history, theory, practice / design of the urban building environment, (2) practical knowledge of projects’ representation aspects and design.

Location

(KSUAE) Kazan State University of Architecture and Engineering
Zelenaya 1 – 420043 Kazan, Russia

Dates

11 – 20 July, 2016

Programme Leader

Arch. Sophia Agisheva, Department of Building Design, KSUAE

Lecturers & Tutors

Prof. Inessa Fakhrutdinova, Department of Theory and Practice in Architecture, KSUAE

Dr. Anna Akatyeva, Department of Architecture, KSUAE

Arch. Elza Bashirova, Department of Theory and Practice in Architecture, KSUAE

Arch. Sophia Agisheva, Department of Building Design, KSUAE

Support & Promotion

Olga Poroshenko, Head of the International Department, KSUAE

Lilia Gilmeeva, International Department, KSUAE



Introduction

Objectives

- Development of the design skills using contemporary processes of production;
- Development of the hand drawing and modeling skills in pre-design and design phases;
- Understanding the challenge between cultural heritage protection and development of contemporary architecture within the historic urban environment;
- Enhancement of the knowledge about the relationship between buildings and human scales, morphological characteristics of the built environment and typology of historic & new buildings;
- Progress in knowledge to elaborate Sustainable Urban Development in Context of Historic Urban Landscapes;
- Cultural and design approach exchange.

Target group

Mixed Undergraduate & Postgraduate students in Architecture, Urban Design, Landscape Architecture, Building Design

Participants

International students & (KSUAE) Kazan State University of Architecture and Engineering, Russia

Language

English

Credits

6 ECTS

Duration

Full-time, 10 days



(ISSAEK) INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING, KAZAN 2016
“URBAN DEVELOPMENT and INTEGRATED DESIGN: Challenges and Solutions for Historical Cities”
PROGRAMME & TIMETABLE

N	Sunday 10 July	Monday 11 July	Tuesday 12 July	Wednesday 13 July	Thursday 14 July	Friday 15 July	Saturday 16 July	Sunday 17 July	Monday 18 July- 19 July	Tuesday 20 July	
9-11	ARRIVAL	INTRODUCTION Official meetings, Tour around KSUAE's campus	LECTURE SESSION 2 Tradition & Identity	LECTURE SESSION 4 Public space design & new + old	WORKSHOP Work in groups	WORKSHOP Work in groups	TOUR To ancient and historic town Bolgar (whole day)	WORKSHOP Work in groups	FINAL Presentation +Conclusion	Departure	
11-13	ARRIVAL		LECTURE SESSION 3 Presentation methods	LECTURE SESSION 5 Urban Development & Analysis							Departure
13-14		lunch	lunch	lunch	lunch	lunch			lunch	lunch	
14-16	Arrival	LECTURE SESSION 1 Water & Public space	MASTER CLASS 01 Presenting urban scales	WORKSHOP Task & Site visit	WORKSHOP Work in groups	WORKSHOP Work in groups			Preparation of the FINAL Presentation Work in groups	Free time	
				MASTER CLASS 02 Drawing, Survey & Analysis							
16-18	ARRIVAL	TOUR To Kazan Kremlin & city			WORKSHOP Work in groups	INTERMEDIATE REVIEW		FINAL REVIEW			



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“URBAN DEVELOPMENT and INTEGRATED DESIGN:
Challenges and Solutions for Historical Cities”

PROGRAMME & TIMETABLE

N	LECTURE SESSIONS: Thematic Areas & Topics	Lecturers & Speakers
1	LECTURE SESSION 1 Thematic area: Understanding the City and its Relations L1: Water and the City: New Relations L2: Public Spaces as Urban Communicators & Communications	Lecture Session 1 L1: Prof. I. Fakhrutdinova L2: Prof. I. Fakhrutdinova
2	LECTURE SESSION 2 Thematic area: Cultural and Historical Continuity in Traditional and Contemporary Architecture L1: Traditional Architecture L2: Issues of Identity and Diversity in Contemporary Architecture	Lecture Session 2 L1: Arch. E. Bashirova L2: Arch. E. Bashirova
3	LECTURE SESSION 3 Thematic area: Professional Communications and Representation Methods L1: Communicating Achitectural Ideas L2: Group Discussion “Big Picture”	Lecture Session 3 L1: Dr. A. Akatyeva L2: Dr. A. Akatyeva
4	LECTURE SESSION 4 Thematic area: Integrated approaches and concepts in Urban Design L1: Contemporary Trends and Approaches of Public Urban Spaces’ Design L2: Integration of Contemporary Architecture and Structures with Cultural Heritage and Historic Urban Environment	Lecture Session 4 L1: Prof. I. Fakhrutdinova L2: Arch. S. Agisheva
5	LECTURE SESSION 5 Thematic area: Sustaible Urban Development in Context of Historic Urban Landscapes L1: Managing Changes: Cultural Heritage Protection & Urban Development L2: (HIA) Heritage Impact Assesment: Visual Landscape Analysis and Architectural Survey	Lecture Session 5 L1: Arch. S. Agisheva L2: Arch. S. Agisheva





Lecturer:

Inessa Fakhrutdinova, architect, PhD

current position: (a) Associate Professor at the Department of Theory and Practice of Architecture, KSUAE , (b) Programme Leader in Architecture for Double Degree Programme at KSUAE in collaboration with (UEL) University of East London (UK), (c) Supervisor of PhD candidates

experience: Organizer & Curator of the international competitions, seminars (RU)

research interest: cultural heritage, aesthetics, architectural graphics

e-mail: fahinessa@mail.ru



LECTURE SESSION 1

Thematic area: **Understanding the City and its Relations**

L1: Water and the City: New Relations

L2: Public Spaces as Urban Communicators & Communications



LECTURE SESSION 4

Thematic area: **Integrated approaches and concepts in Urban Design**

L1: Contemporary Trends and Approaches of Public Urban Spaces' Design



Lecturer:

Elza Bashirova, architect

education: Kazan State University of Architecture and Engineering, 2010

current position: Lecturer at the Department of Theory and Practice of Architecture, KSUAE

research interest: architecture, ecology, aesthetics, aesthetics of architecture, environmental aesthetics, non-formal architectural education

e-mail: e.nugmanova@gmail.com

LECTURE SESSION 2

Thematic area: Cultural and Historical Continuity in Traditional and Contemporary Architecture

L1: Traditional Architecture

The lecture gives the definitions of key concepts related to the traditional architecture of the Middle Volga region and a review of its architectural culture with the acquaintance with the key monuments located on the territory of Kazan. Also the genetic and stylistic components of traditional architecture of the Middle Volga region are highlighted, in order to use them in the design of public facilities.

L2: Issues of Identity and Diversity in Contemporary Architecture

The lecture touched upon the issues of identity and diversity of modern cities, which have become very relevant under the conditions of globalization and the dominance of international style. Increasing the identity of the modern city is considered as the basic condition for improving the quality of urban environment and the citizens' life level. A modern design method based on the associative use of traditional architecture images is described.





Lecturer:

Anna Akatyeva, architect, PhD

membership: Union of Architects of Russia, Association of Designers of Russia

current position: (a) Senior Architect at the Scientific Design Lab,
SUE “Tatinvestgrazdanproject”;

(b) Assistant at the Department of Architecture, KSUAE

e-mail: akatyeva@gmail.com



LECTURE SESSION 3

Thematic area: Professional Communications and Representation Methods

L1: Communicating Achitectural Ideas

We learn:

- 1) representation methods
- 2) presenting
- 3) professional dialogs

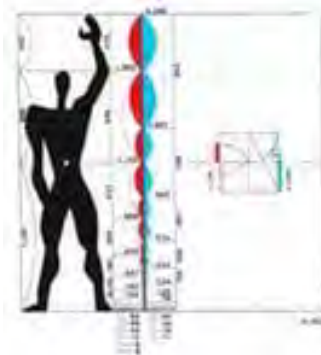
we also do:

- 4) student CV review

Place: lecture room

Equipment: laptop for lecturer, projector, writing board, chalk or markers

Students are asked to bring their CV the day before the lecture



L2: Group Discussion “Big Picture”

we watch and discuss in groups (30 min):

video presentation of Carl Sanagan's “The Pale Blue Dott” and Le Courbusier's “modulor”



Lecturer:

Sophia Agisheva, architect, researcher

current position: (a) Assistant at the Department of Building Design, KSUAE,
(b) Programme Leader in Architecture for Double Degree Programme at KSUAE in collaboration with (UEL) University of East London (UK)

experience: Organizer of the international workshops, summer schools (RU, IT, UK)

research interest: cultural heritage, contemporary architecture, sustainable urban development, historic urban landscapes

e-mail: agisheva@mail.ru

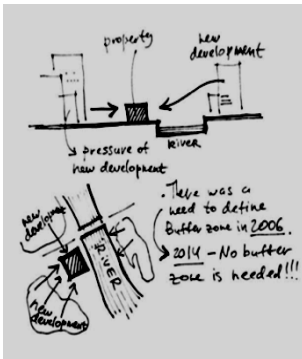


LECTURE SESSION 4

Thematic area: : **Integrated approaches and concepts in Urban Design**

L2: Integration of Contemporary Architecture and Structures with Cultural Heritage and Historic Urban Environment

Lecture makes the overview of the general current worldwide principles for integration of the new architecture with cultural heritage and its surroundings.



LECTURE SESSION 5

Thematic area: **Sustainable Urban Development in Context of Historic Urban Landscapes**

L1: Managing Changes: Cultural Heritage Protection & Urban Development

L2: (HIA) Heritage Impact Assessment: Visual Landscape Analysis and Architectural Survey

Lectures are dedicated to issues on “managing changes” by developing the conflict-solving strategies towards the protection and use of heritage, using tools of Heritage Impact Assessment (HIA), monitoring system, strategic planning, protection and management, sustainable urban development, predominantly trying to prevent a loss of visual integrity and rapid uncontrolled changes of morphological and typological environmental characteristics.

MASTER CLASS 01



PRESENTING URBAN SCALES (4 hours)

Tutor: Dr. Anna Akatyeva

We learn how to:

- 1) define scale by modeling
- 2) capture object in context by camera
- 3) present an idea by short video
- 4) communicate and organize work in groups

Equipment: photo cameras or smart phones cutters, cardboard (white and gray), pencils, erasers, glue, laptops for each student

Programs for photo-editing: Photoshop or Krita

Video montage: Windows Live, **Presentation:** Power Point or Libre Office Impress

MASTER CLASS 02

HAND DRAWING AND SKETCHING IN ARCHITECTURAL SURVEY, ANALYSIS AND DESIGN (3 hours)

Tutor: Arch. Sophia Agisheva

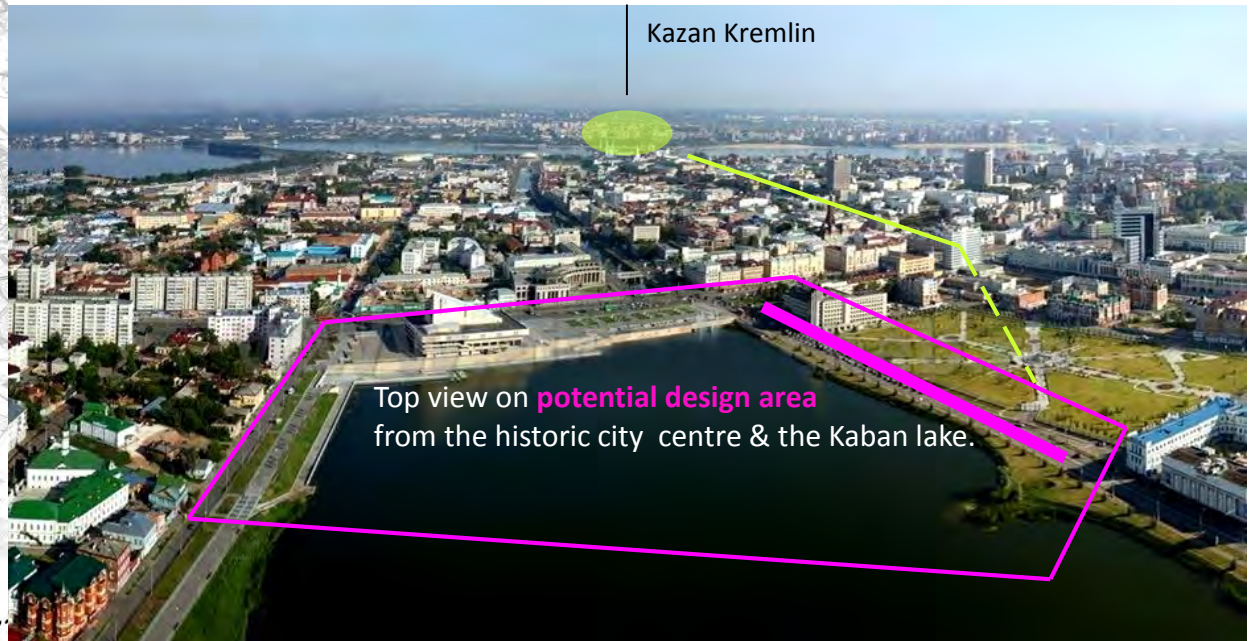
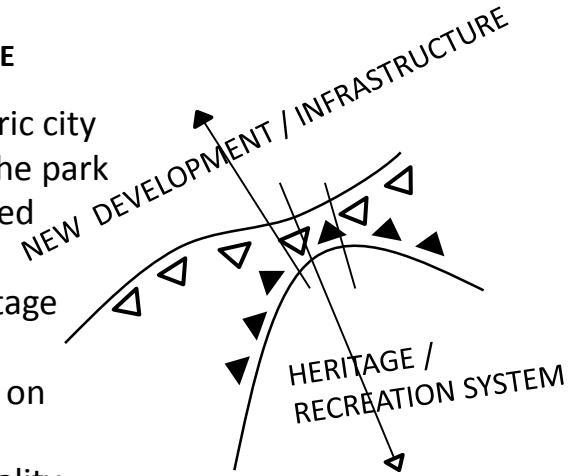
We learn how to:

- 1) understand the site, its morphological & typological characteristics and challenges using the hand drawings
- 2) make a survey, analysis and perceptive investigations for a pre-design process
- 3) present an idea by hand drawing as a postproduction process
- 4) communicate and organize work in groups

RENOVATION OF THE HISTORIC URBAN LANDSCAPE

Potential design area is located in the historic city centre of Kazan and has a visual access to the park and the lake Kaban, but it is physically limited with the general infrastructures showing a confrontation between architectural heritage and new development.

Students will be asked to develop concepts on renovation of the part of the historic urban landscape to achieve balanced and high quality urban environment.



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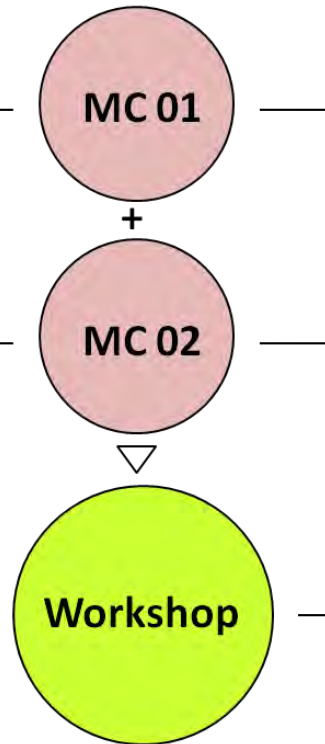
DRAFT PROGRAMME & TIMETABLE

THEORY



*3 days

PRACTICE



*5 days

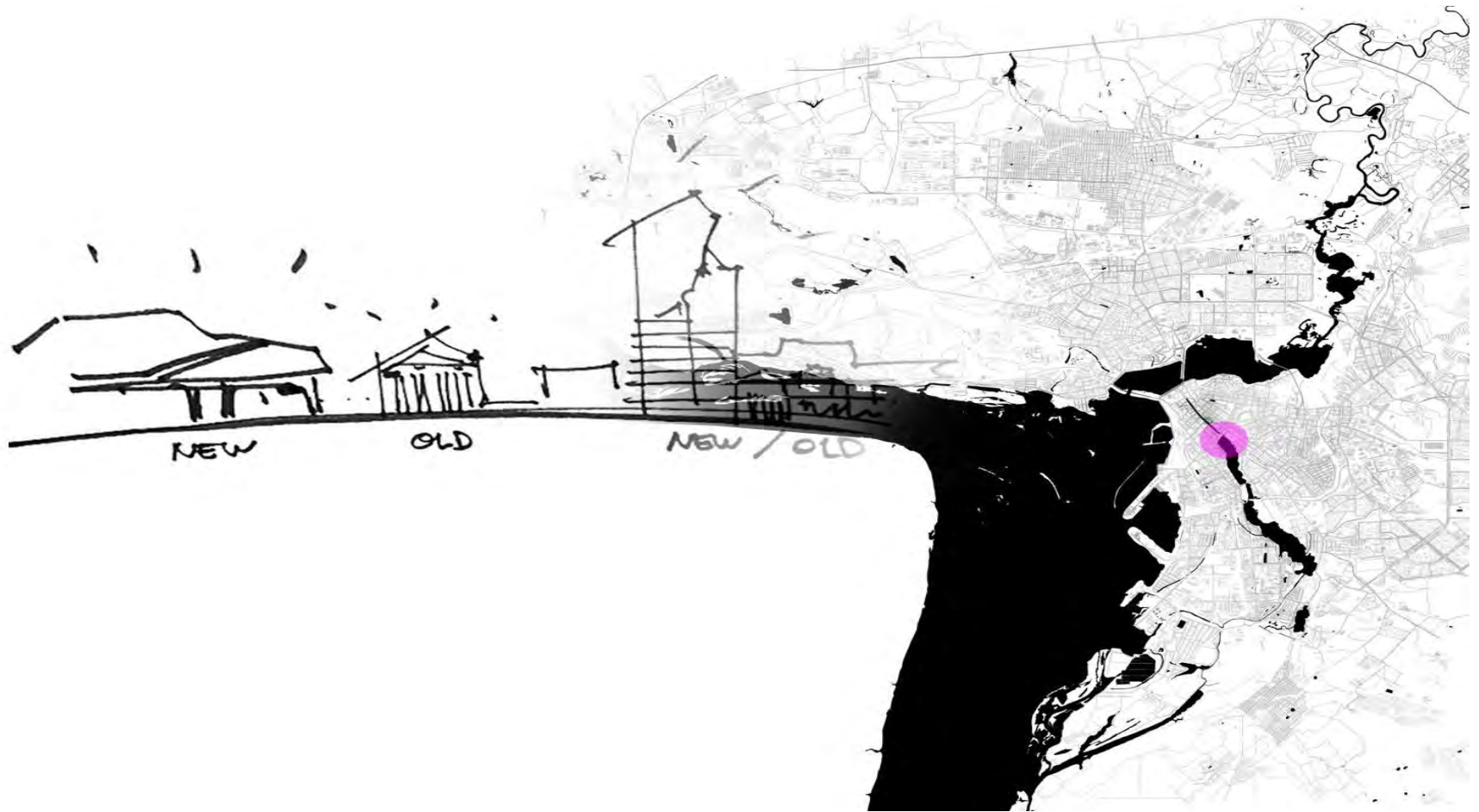
LEARNING OUTCOMES

- a) Development of the design skills;
- b) Development of the hand drawing and modeling skills in pre-design and design phases;
- c) Understanding the challenge between cultural heritage protection and development of contemporary architecture;
- d) Enhancement of the knowledge about the relationship between morphological characteristics of the built environment and typology of historic & new buildings;
- e) Progress in knowledge to elaborate Sustainable Urban Development in Context of Historic Urban Landscapes;
- f) Cultural and design approach exchange.

*8 days



Programme schedule for Engineers



Introduction

Programme Overview

(ISSAEK) International Summer School of Architecture & Engineering Kazan 2016 “**URBAN DEVELOPMENT and INTEGRATED DESIGN: Challenges and Solutions for Sustainability**” gives you opportunity to get insight into civil engineering of concrete and masonry structures. Intensive 10-day course contains studying not only main designing steps of concrete and masonry structures accordingly different codes, but also offers you review of latest scientific accomplishment of KSUAE in structural material research such as High Strength Sand Concrete. Some insights in designing long span steel structures. Participants will get extensive knowledge in field of civil engineering of concrete and masonry structures obtained through lectures and workshop, visiting also building sites.

Location

(KSUAE) Kazan State University of Architecture and Engineering
Zelenaya 1 – 420043 Kazan, Russia

Dates

11 – 20 July, 2016

Program Leader

Dr. Gimranov Linur, Department of Steel Structures , KSUAE

Lecturers & Tutors

Dr. Oleg Radaykin, Department of Concrete and Reinforced Concrete Structures, KSUAE
Dr. Adel Fakhрутdinov, Department of Steel Structures, KSUAE
Dr. Nikolay Morozov, Department of Structural materials, KSUAE
Dr. Marat Salakhutdinov, Department of Steel Structures, KSUAE

Support & Promotion

Olga Poroshenko, Head of the International Relations, KSUAE
Lilia Gilmeeva, International Relations, KSUAE



Introduction

Objectives

- Development of specific skills in calculation and assessment of a load bearing capacity of concrete and reinforced concrete structure;
- Review of new developed structural materials on example of High Strength Sand Concrete
- Building knowledge in main designing steps of long span steel structures

Target group

Undergraduate students in Civil Engineering, 3 and 4 level

Participants

International students & (KSUAE) Kazan State University of Architecture and Engineering, Russia

Language

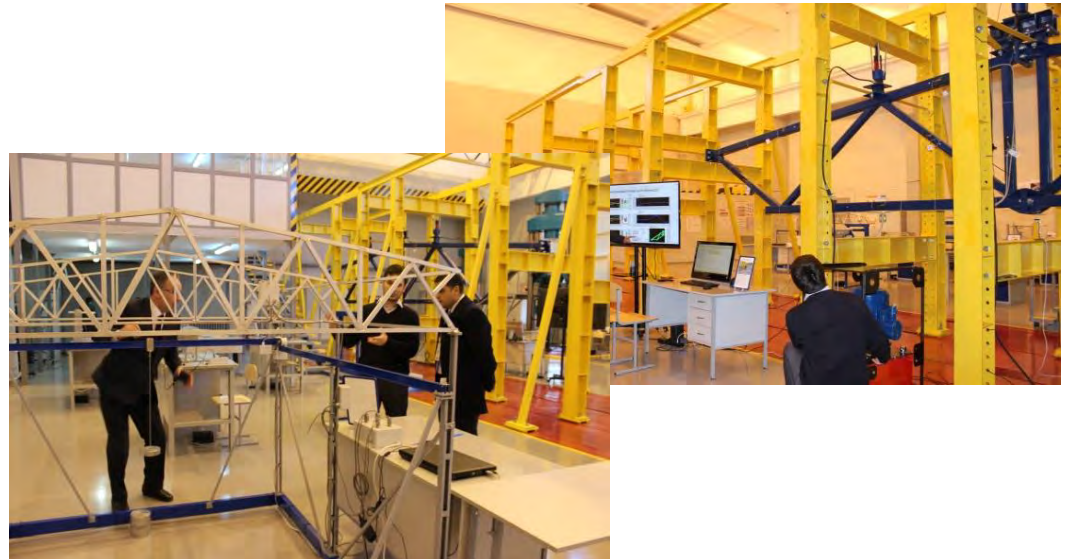
English

Credits

6 ECTS

Duration

Full-time, 10 days



*(KSUAE) Kazan State University of Architecture and Engineering
(ISSAEK) INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING, KAZAN 2016_July 11-20, 2016*

TIME	Sunday 10 July	Monday 11 July	Tuesday 12 July	Wednesday 13 July	Thursday 14 July	Friday 15 July	Saturday 16 July	Sunday 17 July	Monday 18-19 July	Tuesday 20 July	
9.30-11	ARRIVAL	INTRODUCTION Official meetings Tour around KSUAE’s campus	LECTURE SESSION 2 Calculations of a load bearing capacity.	LECTURE SESSION 5 Introduction to the steel structures	LECTURE SESSION 7 Review of a High Strength Sand Concrete	LECTURE Session 9 Applications of a High Strength Sand Concrete	TOUR to the ancient town Bolgar (whole day)	WORKSHOP Work in groups	FINAL Presentations of the students FINAL REVIEW	DEPARTURE	
11-13			LECTURE SESSION 3 Bases for design of statically indeterminate reinforced concrete structures.	LECTURE SESSION 6 Designing of long-span steel structures	LECTURE SESSION 8 Composition of High Strength Sand Concrete	WORKSHOP Work in groups					
13-14	Lunch time	Lunch time	Lunch time	Lunch time	Lunch time	Lunch time		Lunch time	Lunch time	Lunch time	
14-16	ARRIVAL	LECTURE SESSION 1 Introduction to the reinforced concrete and masonry	LECTURE SESSION 4 Calculations of a load bearing capacity of masonry structures	WORKSHOP Work in groups	WORKSHOP Work in groups	WORKSHOP Work in groups		Preparation of the FINAL Presentation Work in groups	FREE TIME		
		TOUR To City Kazan and	WORKSHOP Task Introduction Work in groups			INTERMEDIATE REVIEW					

PROGRAMME & TIMETABLE

No	LECTURE SESSIONS: Thematic Areas & Topics	Lecturers & Speakers
1	<p>Lecture session 1</p> <p>1.1. The essence of the concrete, the area of its application. Short historical data on the use of concrete, reinforced concrete and masonry structures.</p> <p>1.2. Determination of the course «Design in Reinforced Concrete and Masonry» its goals and objectives, communicate with other disciplines.</p> <p>1.3 Scope monolithic, precast, precast reinforced concrete, steel fiber concrete, their advantages and disadvantages.</p> <p>1.4. The essence of masonry and reinforced masonry structures, on-domain of their application, advantages and disadvantages.</p> <p>Material properties of concrete and masonry structures.</p>	Dr. Oleg Radaykin
2	<p>Lecture session 2</p> <p>2.1. Strength calculation and design of reinforced concrete flexural elements.</p> <p>2.2. Strength calculation and design of eccentrically compressed and stretched concrete elements.</p> <p>2.3. Calculation of reinforced concrete structures to II-nd group limit state.</p>	Dr. Oleg Radaykin
3	<p>Lecture session 3</p> <p>3.1. Bases for design of statically indeterminate reinforced concrete structures based on redistribution of stresses due to inelastic deformation. The concept of plastic hinge and limit equilibrium method. Alignment of the bending moments. Economic efficiency of the design, taking into account the redistribution of effort.</p> <p>3.2. Calculation of reinforced concrete elements on the local effect of load.</p> <p>3.3. Base for nonlinear deformation model to reinforced concrete structures calculation</p>	Dr. Oleg Radaykin

PROGRAMME & TIMETABLE

No	LECTURE SESSIONS: Thematic Areas & Topics	Lecturers & Speakers
4	<p>Lecture session 4</p> <p>4.1. Stress state of stone and mortar with central compression masonry. Stage of the stress-strain state of the masonry. Deformation of masonry: elastic, short-term, long-term loading.</p> <p>4.2. Calculation of unreinforced masonry load bearing capacity at the central and eccentric compression.</p> <p>4.3. Calculation of masonry with a cross (mesh) and the longitudinal reinforcement on the bearing capacity at the central and eccentric compression. Calculation of unreinforced masonry load bearing capacity at the central and eccentric compression.</p> <p>4.4. Calculation of masonry: the determination of the crack opening and deformation (in the II-nd group limit states) under eccentric compression; when working on the bias (in the plane of the wall) wall fillings frame buildings; self-supporting wall connected to the frame; other elements of buildings and structures, in which the formation of cracks is not allowed.</p>	Dr. Oleg Radaykin
5	<p>Lecture session 5</p> <p>5.1 Introduction into design of steel structures.</p> <p>5.2 Steel as structural material. Physical and Mechanical properties . Advantages and limitations of steel.</p> <p>5.3 Load and resistance factors design conception.</p>	Dr. Adel Fakhрутdinov
6	<p>Lecture session 6</p> <p>6.1 Examples of long span steel structures.</p> <p>6.2 Peculiarities in design of long-span steel structures</p>	Dr. Marat Salakhutdinov

№	LECTURE SESSIONS: Thematic Areas & Topics	Lecturers & Speakers
7	<p>Lecture session 7</p> <ul style="list-style-type: none"> 7.1 Trends in development of concrete technology 7.2 High strength concrete in modern building construction 7.3 Application field for the sand concrete 7.4 Main ways to increase strength of the sand concrete 7.5 Application efficacy of sand concrete 	Dr. Nikolay Morozov
8	<p>Lecture session 8</p> <ul style="list-style-type: none"> 8.1 Composition peculiarities of sand concrete 8.2 Sand fraction process 8.3 Application of superplasticizers in sand concrete 8.3 Applying of active mineral additives in sand concrete 	Dr. Nikolay Morozov
9	<p>Lecture session 9</p> <ul style="list-style-type: none"> 9.1 Self thickening sand concrete 9.2 Fiber-reinforced sand concrete 9.3 Corrosion sustainability of sand concrete 	

LECTURERS:



**Oleg Radaykin , PhD in Building structures and edifices
Senior Lecturer at the Department of Reinforced Concrete Structures.**



**Nikolay Morozov , PhD in Construction materials and building products
Associate professor at the Department of Structural materials**



**Adel Fakhrutdinov , PhD in Building structures and edifices
Senior Lecturer at the Department Steel Structures**



LECTURERS:



**Marat Salakhutdinov, PhD in Building structures and edifices
Senior lecturer at the Department Steel Structures**



**Linur Gimranov, PhD in Building structures and edifices
Senior lecturer at the Department Steel Structures**



Tours and Excursions



Sites inscribed on the UNESCO World Heritage List:

- △ Bolgar Historical and Archaeological Complex, Tatarstan
- ◁ Historic and Architectural Complex of the Kazan Kremlin

HOW TO APPLY

You should send us the completed Application Form with a copy of your passport (main page) **until 28 May, 2016** by email: interksaba@mail.ru
As soon as we get it we will send you an invitation letter.

The participation fee is **600 USD** that includes:
training course, certificate, accommodation in the University residence
and full board, 2 sightseeing tours, transfer airport-campus-airport.
The fee excludes: visa fees, flight tickets and other personal expenses.

All the payments will be made on your arrival in Kazan.



To travel to Kazan you can choose the following ways:

- your home city – Moscow - Kazan (by plane)
- your home city - Moscow (by plane) –
Moscow-Kazan (by train)





CONTACT INFORMATION

Kazan State University of Architecture and Engineering

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Coordinator for the Summer School

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Skype: oksana88991



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WELCOME TO REPUBLIC OF TATARSTAN AND TO KAZAN





**WELCOME TO KAZAN AND
OUR UNIVERSITY! :))**

