



KSUAE

(ISSAEK) 2<sup>nd</sup> INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING  
KAZAN 2017

An isometric architectural drawing of a city with various buildings and green spaces. The drawing is overlaid with several question marks of different colors (white, grey, green) and dashed lines forming a network, suggesting a focus on urban form and design challenges.

# INTERDISCIPLINARY STUDY and INTEGRATED DESIGN: URBAN FORM


in context of Sustainable Urban Development

July 3-12, 2017

<b>Programme Overview</b>	<p>(ISSAEK) 2<sup>nd</sup> International Summer School of Architecture &amp; Engineering Kazan 2017 “<b>INTERDISCIPLINARY STUDY and INTEGRATED DESIGN: URBAN FORM in context of Sustainable Urban Development</b>” offers an intensive 10-days programme of architectural &amp; engineering education engaging students in experience to explore architectural theory and practice in Urban Development, Architectural Design and Engineering.</p> <p>The full time course provides a challenging brief and 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 “architecture” and “engineering” aspects addressing the theory, practice / design of engineering structures, architectural complexes, urban and building environment, (2) practical knowledge of integrated design approach &amp; projects, representative aspects in design.</p>
<b>Location</b>	<p><b>(KSUAE) Kazan State University of Architecture and Engineering</b> Zelenaya 1 – 420043 Kazan, Russia</p>
<b>Dates</b>	<p>3-12 July, 2017</p>
<b>Programme Leaders</b>	<p><b>Architecture Section:</b> Arch. Elza Bashirova, Department of Theory and Practice in Architecture, KSUAE   e-mail: <a href="mailto:bashirova.arch@gmail.com">bashirova.arch@gmail.com</a> ;</p> <p><b>Programme consultant:</b> Arch. Sophia Agisheva, Department of Building Design, KSUAE   e-mail: <a href="mailto:agisheva@mail.ru">agisheva@mail.ru</a></p> <p><b>Engineering Section:</b> Dr. Oleg Radaykin, Department of Reinforced concrete and stone structures, KSUAE   e-mail: <a href="mailto:olegxxii@mail.ru">olegxxii@mail.ru</a> ;</p> <p><b>Coordinator:</b> Dr. Linur Gimranov, Department of Steel Structures, KSUAE   e-mail: <a href="mailto:leenur@mail.ru">leenur@mail.ru</a></p>
<b>Lecturers &amp; Tutors</b>	<p>Architecture Section:</p> <p><b>Dr. Inessa Fakhrutdinova</b>, Department of Theory and Practice in Architecture, KSUAE</p> <p><b>Dr. Anna Akatyeva</b>, Department of Theory and Practice in Architecture, KSUAE</p> <p><b>Dr. Nikolay Ryabov</b>, Restoration and reconstruction of architectural heritage and bases of architecture department, KSUAE</p> <p><b>Arch. Kamila Khalitova</b>, Dessau Institute of Architecture (DIA), Germany</p> <p><b>Arch. Darya Tolovenkova</b>, Kazan City Hall</p> <p><b>Arch. Sophia Agisheva</b>, Department of Building Design, KSUAE</p> <p><b>Arch. Elza Bashirova</b>, Department of Theory and Practice in Architecture, KSUAE</p> <p>Engineering Section:</p> <p><b>Dr. Oleg Radaykin</b>, Department of Reinforced concrete and stone structures, KSUAE</p> <p><b>Dr. Linur Gimranov</b>, Department of Steel Structures, KSUAE</p> <p><b>Dr. Nailya Rakhimova</b>, Institute of Building Technologies, Engineering and Environmental Systems, KSUAE</p> <p><b>Dr. Rustem Mukhametrakhimov</b>, Institute of Engineering, KSUAE</p>



# Introduction

<b>General Objectives</b>	<ol style="list-style-type: none"><li>(1) Development of the design skills using contemporary processes of production and representative aspects in design;</li><li>(2) Development of the hand drawing and modeling skills in pre-design and design phases;</li><li>(3) Understanding the challenge between cultural heritage protection and development of contemporary architecture within the historic urban environment;</li><li>(4) Enhancement of the knowledge about the both “architecture” and “engineering” aspects addressing the theory, practice / design of engineering structures, architectural complexes, urban and building environment;</li><li>(5) Progress in practical knowledge to elaborate integrated design projects;</li><li>(6) Cultural and design approach exchange.</li></ol>
<b>Target group</b>	Mixed Undergraduate & Postgraduate students in Architecture, Urban Design, Landscape Architecture, Building Design, Engineering
<b>Organizer</b>	 <b>(KSUAE)</b> Kazan State University of Architecture and Engineering, Russia   <a href="http://www.kgasu.ru">www.kgasu.ru</a>
<b>Participants</b>	Undergraduate & Postgraduate students of both Architecture and Engineering programmes
<b>Language</b>	English
<b>Credits</b>	6 ECTS
<b>Duration</b>	Full-time, 10 days
<b>Support &amp; Promotion</b>	<b>Olga Poroshenko</b> , Head of the International Department, KSUAE   e-mail: <a href="mailto:interksaba@mail.ru">interksaba@mail.ru</a> <b>Lilia Gilmeeva</b> , International Department, KSUAE   e-mail: <a href="mailto:interksaba@mail.ru">interksaba@mail.ru</a>



**(ISSAEK) 2<sup>nd</sup> INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING KAZAN 2017**  
**“INTERDISCIPLINARY STUDY and INTEGRATED DESIGN: URBAN FORM in context of Sustainable Urban Development”**  
**PROGRAMME STRUCTURE & TIMETABLE**

TIME	Day 1 2 July	Day 2 3 July	Day 3 4 July	Day 4 5 July	Day 5 6 July	Day 6 7 July	Day 7 8 July	Day 8 9 July	Day 9 10 July	Day 10 11 July	Day 11 12 July	Day 12 13 July
10-11			LECTURE SESSION 1 <i>Arch + En</i>	LECTURE SESSION 2 <i>Arch + En</i>	LECTURE SESSION 3 <i>Arch + En</i>	EXCURSION Kazan city <i>Arch + En</i>	LECTURE SESSION 4 <i>Arch + En</i>	LECTURE SESSION 5 <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	FINAL Presentation	EXCURSION <i>Arch + En</i>
11-12		INTRODUCTION Official meetings, Excursion at KSUAE's campus	MASTER CLASS 01 <i>Arch + En</i>	MASTER CLASS 02 <i>Arch + En</i>	MASTER CLASS 02 <i>Arch + En</i>		WORKSHOP Work in groups <i>Arch + En</i>	MASTER CLASS 04 <i>Arch + En</i>				
12-13			lunch	lunch	lunch		lunch	lunch	lunch	lunch	lunch	lunch
13-14		lunch	lunch	lunch	lunch		lunch	lunch	lunch	lunch	lunch	lunch
14-15	Arrival Students ARRIVAL	Meetings with Academic Staff of KGASU Opening lecture	WORKSHOP Work in groups <i>Arch</i>	WORKSHOP Work in groups <i>Arch</i>	WORKSHOP Work in groups <i>Arch</i>	EXCURSION Kazan city <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	Preparation of the FINAL Presentation Work in groups <i>Arch + En</i>	PARTY	Free time
15-16		WORKSHOP Task & Site visit <i>Arch + En</i>	MASTER CLASS 03 <i>En</i>	MASTER CLASS 03 <i>En</i>	MASTER CLASS 03 <i>En</i>		WORKSHOP Work in groups <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	WORKSHOP Work in groups <i>Arch + En</i>	FINAL REVIEW <i>Arch + En</i>		
16-17			Free time	Free time	Free time		Free time	Free time	Free time	Free time	Free time	Departure  Students Departure

**Legend:** En – lectures for engineers | Arch + En – integrated lectures, workshop & , master classes for architects & engineers | Arch / En – separate study process



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**PROGRAMME STRUCTURE / STUDY PROCESS**

N	Date	Time	Room	Lecture Sessions: Thematic Areas & Topics	Lecturers & Speakers	Group
1	4 July Day 3	10:00-10:30 10:30-11:00	3-410	<b>LS 1   Thematic area: Practical Aspects Of Design</b> L1: "Parks of Kazan" program implementation. Review of renovated parks L2: Fine-grained and sandy concrete used in building design	<b>Lecture Session 1</b> L1: Arch. D. Tolovenkova L2: Dr. N. Morozov	Arch + En
2	5 July Day 4	10:00-10:30 10:30-11:00	3-410	<b>LS 2   Thematic area: Technology</b> L1: Architecture and Design. Trends and design approaches L2: The erection of buildings and structures in reinforced concrete technology	<b>Lecture Session 2</b> L1: Arch. K. Khalitova L2: Dr. R. Mukhametrakhimov	Arch + En
3	6 July Day 5	10:00-10:30 10:30-11:00	3-410	<b>LS 3   Thematic area: What Lies Behind The Design Solution</b> L1: The new typology of public spaces L2: The theory and practice of designing the buildings and structures of a complex curved forms in reinforced concrete	<b>Lecture Session 3</b> L1: Arch. E. Bashirova L2: Dr. O. Radaykin	Arch + En
4	8 July Day 7	10:00-10:30 10:30-11:00	3-410	<b>LS 4   Thematic area: Contemporary Approach In Design</b> L1: Urban activism and urban communities. Their influence on the architecture of the city L2: Computer modeling of the building structures using modern software systems	<b>Lecture Session 4</b> L1: Dr. I. Fakhrutdinova L2: Dr. L. Gimranov	Arch + En
5	9 July Day 8	10:00-11:00	3-410	<b>LS 5   Thematic area: The Best Practices In Design And Construction In The Homecountries Of Our Guests</b> Lectures Presented By Our Guests	<b>Lecture Session 5</b> Our guests	Arch + En
N	Date	Time	Room	Master classes: Thematic Areas	Tutors	Group
6	4 July 5-6 July 4-6 July 9 July	11:00-13:00 11:00-13:00 14:00-16:00 11:00-13:00	ExhHall ExhHall ExhHall ExhHall	<b>Master class 1 Conceptual Design Of architectural Form. Manual Tools</b> <b>Master class 2 Conceptual Design Of architectural Form. Use Of Software</b> <b>Master class 3 Using A Computer Simulation In Design (Calculation And Construction) Of Buildings And Structures In Reinforced Concrete</b> <b>Master class 4 Graphical and Oral Presentation</b>	M1: Dr. N. Ryabov M2: Arch. K. Khalitova M3: Dr. O. Radaykin Dr. L. Gimranov M4: Dr. A. Akatyeva	Arch+ En Arch+En En Arch+En
N	Date	Time	Room	Workshop	Tutors	Group
7	3 July	15:00-17:00	Site	<b>Workshop Arch + En   Site visit</b>	Tutors Arch + En	Arch + En
8	4-6 July	14:00-16:00	ExhHall	<b>Workshop Arch   Concept ideas for sustainable urban development &amp; building design</b>	Tutors of Arch Section	Arch
9	8 July	11:00-16:00 11:00-16:00	4-406 ExhHall	<b>Workshop En   Introduction to Design of Building Structures</b> <b>Workshop Arch   Landscape design</b>	Tutors of En Section Tutors of Arch Section	En / Arch
10	9 July	14:00-16:00 14:00-16:00	4-406 ExhHall	<b>Workshop En   Calculation &amp; verification of concept ideas for building design proposals</b> <b>Workshop Arch   Detailed design elaboration</b>	Tutors of En Section Tutors of Arch Section	En / Arch
11	10 July	10:00-16:00	ExhHall	<b>Workshop Arch + En   Integration of architectural &amp; engineering concepts</b>	Tutors Arch + En	Arch + En
12	11 July	10:00-17:00	ExhHall	<b>Workshop Arch+ En   Postproduction process</b>	Tutors Arch + En	Arch + En
13	12 July	10:30-13:30	3-410	<b>Final Presentation</b>	Tutors Arch + En	Arch + En

**Legend:** En – lectures for engineers | Arch + En – integrated lectures, workshop & master classes for architects & engineers | Arch / En – separate study process | LS – Lecture Session | CMLab – Laboratory of Construction Materials | ExhHall – Exhibition Hall



i



**Sophia Agisheva**, architect, researcher  
(IAD) Institute of Architecture and Design, KSUAE

**current position:** (a) Teaching 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), (c) PhD researcher in Theory and History of Architecture  
**experience:** internship at (EEA) Erick van Egeraat Association Architects, NL; internship at (UNIFI) University of Florence, IT; organizer of the international exhibitions, workshops & summer schools (Russia, Italy, United Kingdom)  
**research interest:** cultural heritage & contemporary architecture, sustainable urban development, historic urban landscapes  
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In light of the massive pressure of the worldwide changes and non-stop progressive rapid urbanization and globalization over the second part of the XX century expressed in so-called “future” / “present shock”, the city and its historic urban landscapes are involved in the process of radical urban changes within existing urban structures, including cultural heritage and contemporary architecture. Therefore, we observe a confrontation of “conservative” and “progressive” visions and perceptions on “*cultural heritage protection*” and no less important “*urban development*”. Based on current international trends and approaches concerning “*managing changes*” of the urban environment, the design concepts should be considered within *sustainable urban development concept (social, cultural, ecological and economical aspects)* for heritage-related and new architectural design issues.

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**Elza Bashirova**, architect  
(IAD) Institute of Architecture and Design, KSUAE

**current position:** (a) Associate Professor at the Department of Theory and Practice of Architecture, KSUAE  
(b) Programme Leader, Double Degree Programme at KSUAE in collaboration with (UEL) University of East London (UK),  
**experience:** Organizer & Curator of the international competitions, seminars (RU)  
**research interest:** architecture, ecology, aesthetics, aesthetics of architecture, environmental aesthetics, non-formal advanced architectural education  
**e-mail:** [bashirova.arch@gmail.com](mailto:bashirova.arch@gmail.com)

We are used to say that the content of the book is more important than its cover. But when it comes to architecture, the neglect of the external form is unacceptable. Architecture, forming our objective environment, affects our life by its shape just as much as by its content.

Architectural shape is influenced by many factors: cultural and technical. Modern technologies give architects practically unlimited possibilities for designing different shapes. Among this diversity it is very important to identify and consider forming concepts that meet the criteria of humanism, justice and beauty, as well as to study the properties of advanced materials and structures that affect the shaping.





**Arch. Darya Tolovenkova**, architect, city-planner  
*Kazan City Hall*

**current position:** project team leader of the Creative Group under the Kazan City Hall

**experience:** internship at (EEA) Erick van Egeraat Association Architects, HU; supervision and design of public spaces, renovation of parks in the city of Kazan and the Republic of Tatarstan, Russia; participant and winner of numerous competitions; nomination on "TOP 50: The MOST Famous People of Kazan", 2016

**research interest:** advanced methods and technology in the design of public spaces

**e-mail:** [arch.dash@mail.ru](mailto:arch.dash@mail.ru)



### L1: "Parks of Kazan" program implementation. Review of renovated parks

Today creating a comfortable living environment by improving the quality of urban public spaces has become one of the priorities for the development of the Republic of Tatarstan, Russia. As a part of the reconstruction of parks program 36 green areas were renovated for last two years in Kazan.

We are committed to high-quality urban environment transformation and the creation of eco-friendly living and public spaces, parks, in which citizens of Kazan will find a lot of interesting activities. People's requests, their daily activities, and leisure preferences were taken into account in the design of the territory.



**Dr. Nailya Rakhimova**, engineer, PhD in Engineering  
*(IBTEES) Institute of Building Technologies, Engineering and Environmental Systems, KSUAE*

**current position:** (a) Associate Professor at the Department of Building Materials, KSUAE

b) Module Leader, Double Degree Programme at KSUAE in collaboration with (UEL) University of East London (UK), (c) Supervisor of PhD candidates

**experience:** Research on modeling of building materials (RU)

**research interest:** innovations in building materials & structures

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### L2: Fine-grained and sandy concrete used in building design

The lecture discusses the role of high-strength concrete in modern construction and the methods of sandy concrete modification. The peculiarity of sandy concrete lays in the lack of coarse aggregate, which increases the volume of the cement paste. Raising the quality indicators of the sandy concrete is possible through the use of optimal grain composition of sand, as well as modern chemical and mineral additives. The use of high-strength sandy concrete in reinforced concrete structures can reduce the costs of their production and operation.



**M. Arch. Kamila Khalitova**, architect, researcher.

**current position:** founder of the “Digital Architecture and Design” course, “Start” school (Kazan);

**experience:** international research and design projects, architectural competitions, international collaboration;

Study at Dessau Institute of Architecture (DIA), Germany, 2016; Politecnico di Milano, Italy, 2016.

**research interest:** digital methods of design (computational design techniques), modelling, object oriented programming, optimization of the design/construction processes, fabrication.

*Prize Winner of the international competition "City Sense", Barcelona;*

*Participation in international workshops, including: "Digital takes command", Italy, 2015; "3d printed, jewelry Design", Germany, 2016; Designer "Kinaesthetic cybernetic theatre", Bauhausfest 100, Dessau, Germany, 2016*

**e-mail:** khalitova.kamila@gmail.com

### L1: Architecture and Design. Trends and design approaches

Architecture is developing in extremely high speed. Moreover, it cooperates with science and technology, what gives it an incredible possibilities. We can create a form or a system, that supports the work of all the necessary processes and have a possibility to adapt and self organization.

Which tools can help us in this work? We will overview: Rhinoceros + Grasshopper, Maya, Processing. Many ideas of inspiration lies at the intersection of design and technology.



**Dr. Rustem Mukhametrakhimov**, PhD, (IE) Institute of Engineering, KSUAE

**current position:** Associate Professor of the Department "Technology of building processes"

**experience:** lecturer - "The technological processes in Construction", "Technology of construction of buildings and structures", "Organization and implementation of building control", "Organization, management and planning in the construction."

**research interests:** development of effective fibrocement composite materials and based on them products, increasing their physical and mechanical properties and durability.

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### L2: The erection of buildings and structures in reinforced concrete technology

The lecture discusses the questions of construction of buildings made of precast and monolithic reinforced concrete technology. Separately the problems associated with the manufacture of prestressed reinforced concrete structures in built conditions are presented. Also the attention to the construction of large-span structures of the curved shape is paid.







**Elza Bashirova**, architect  
(IAD) Institute of Architecture and Design, KSUAE

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

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

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

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### L1: The new typology of public spaces

Modern public space - is a material reflection of a growing social activity modern person. Developing, man is changing, so must change the appearance of the surrounding space.

Polyfunctionality, variability, mobility - these features are regarded as signs of the modern public space. A lot of questions are still open: what comes first - a process or space, the individual or society? And how the answers to these questions will affect the design process?



**Dr. Oleg Radaykin**, engineer, PhD in Building Structures and Edifices  
(IE) Institute of Engineering, KSUAE

**current position:** (a) Associate Professor at the Department of Reinforced concrete and stone structures, KSUAE  
(b) Module Leader, Double Degree Programme at KSUAE in collaboration with (UEL) University of East London (UK),

**experience:** lecturer - "Reinforced concrete and stone structures", "Dynamic analysis of buildings and structures", "Methods for solving scientific and technical problems in construction" and etc.

**research interest:** reinforced concrete, survey of building structures, methodology of scientific research

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### L2: The theory and practice of designing the buildings and structures of a complex curved forms in reinforced concrete

The lecture is devoted to the theoretical bases of spatial constructions of conventional and prestressed reinforced concrete designing. Calculation position of Russian, European and other design standards are given. The lecture discusses a number of examples.



**Dr. Inessa Fakhruddinova**, architect, PhD in Architecture  
*(IAD) Institute of Architecture and Design, KSUAE*

**current position:** (a) Associate Professor at the Department of Theory and Practice of Architecture, KSUAE  
 (b) Module 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  
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**L1: Urban activism and urban communities. Their influence on the architecture of the city**

The city, as a collection of urban communities, is capable to develop thanks to the active urban community and the social initiatives coming from below. All of this eventually leads to the improvement of quality of life and increases the comfort of the urban environment.  
 Urban activists and urban communities with their initiatives indicate the direction of development of modern society, claim it needs and eventually form the demand for a new architecture. It is especially can be seen in the development of urban public spaces that cultivate the initiative and at the same time are being their objects.



**Dr. Linur Gimranov**, engineer, PhD in Building Structures and Edifices  
*(IE) Institute of Engineering, KSUAE*

**current position:** Signor Lecturer at the Department of Steel Structures, KSUAE  
**experience:** lecturer in "Steel structures", "Timber structures", "Metrology, Standardization and Certification", "Inspection and testing of buildings and structures", "Modern architectural design", "Building constructions"  
**research interest:** Bearing capacity of composite steel roof, hinged facade systems and strengthening of wooden beams  
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**L2: Computer modeling of the building structures using modern software systems**

The possibilities (advantages and disadvantages) of modern software systems used in the practice of designing buildings and structures are considered at the lecture. The analysis of tools to work with reinforced concrete constructions is given. Specific examples are provided.

1



**Nikolai Ryabov**, Senior Lecturer of the Restoration and reconstruction of architectural heritage and bases of architecture department, KSUAE

**current position: (a)** Senior Lecturer of the Restoration and reconstruction of architectural heritage and bases of architecture department, KSUAE

**(b)** Teacher at the “DASHKA” architecture school for children

**experience:** Member of the Russian Union of Designers; 5 personal exhibitions

**research interests:** architectural composition, paper modeling, graphical compositions

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**MASTER CLASS 1 | Thematic area: Paper modeling as a sketching technique**

Paper modeling gives visible and partially self-sufficient representation of the relationship between shape and structure in the compositional modeling. Plate - rod, angular - curved, flat - three-dimensional, static - transformable, barrier – permeability - all these dialogical pairs which help us to understand the nature of the space and the form are easy to be represented during the modeling process.

2



**M. Arch. Kamila Khalitova**, architect, researcher.

Dessau Institute of Architecture (DIA), Germany, 2016; Politecnico di Milano, Italy, 2016.

**current position:** founder of the “Digital Architecture and Design” course, “Start” school (Kazan);

**experience:** international research and design projects, architectural competitions, international collaboration.

**research interest:** digital methods of design (computational design techniques), modelling, object oriented programming, optimization of the design/construction processes, fabrication.

*Prize Winner of the international competition "City Sence", Barcelona;*

*Participation in international workshops, including: "Digital takes command", Italy, 2015; "3d printed, jewelry Design", Germany, 2016; Designer "Kinaesthetic cybernetic theatre", Bauhausfest 100, Dessau, Germany, 2016*

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**MASTER CLASS 2 | Thematic area: Updating the making of Architecture. Competitional is the new black.**

We are going the step over the limitation of the usual architectural design platforms and software in order to create interesting and functional forms.

Master class focused on (1) understanding the methods and principles of digital modelling, (2) overview the approaches of creation of forms: maxim and process, (3) creation the form of multifunctional pavilion. Master class consists of theoretical and practical parts, focusing in parametric methods of design and experimentation.



3



**Dr. Nikolay Morozov**, engineer, PhD in Engineering  
(IBTEES) Institute of Building Technologies, Engineering and Environmental Systems, KSUAE

**current position:** Associate Professor at the Department of The technology of building materials, components and structures, KSUAE

**experience:** lecturer in "Concrete technology, building products and designs."

**research interest:** properties and structure of sandy concrete, development of composition and technology.

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### MASTER CLASS 3 | Thematic area: **Using a Computer Simulation in Design (Calculation And Construction) Of Buildings and Structures in Reinforced Concrete**

In this work we will make several concrete sandy compositions of different classes with varying strength and mobility of the concrete mix. To do this, we will use super plasticizers and mineral supplements of various types. In the manufacture of concrete mix the following properties will be evaluated: density, air entrainment, the keeping of mobility. After hardening the concrete samples will be tested for flexural strength and compressive strength. Also, the density of the hardened concrete will be calculated.

4



**Dr. Anna Akatyeva**, architect, PhD in Architecture  
SUE Territorial Design and Survey Production Company "Tatinvestgrazdanproject", Kazan

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

**current position:** (a) Senior Architect at the Scientific Design Lab, SUE "Tatinvestgrazdanproject", Kazan;

(b) Module Leader, Double Degree Programme at KSUAE in collaboration with (UEL) University of East London (UK)

**experience:** research & design projects in Russia, architectural completions, international collaboration

**research interest:** professional language of an architect, integration of architectural theory & practice, mega projects

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### MASTER CLASS 2 | Thematic area: **Graphical and Oral Presentation**

Master class is a practical part based on the theoretical aspects which were given in the Lecture Session 8.

It will include a discussion session as an element of professional communication and perceptual exchange to create a final concept for the project presentations. The students will discuss the postproduction process of the workshop including the learning outcomes and integrated design concepts, and create a strategy for representation and structure of the project materials.

Master class is aimed to give a practical knowledge to students about professional communications in specific architecture& engineering area of activity.



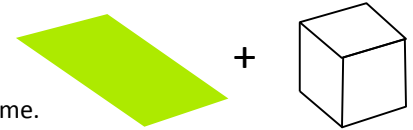
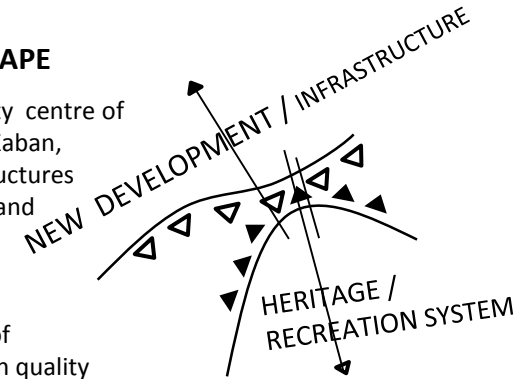


## RENOVATION OF THE HISTORIC URBAN LANDSCAPE

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

Students (both **architects & engineers**) will be asked to develop concepts on renovation of the park as a part of the historic urban landscape to achieve balanced and high quality urban environment on the base of integrated design approach, sustainable urban development concept.

The workshop is aimed at the selection and justification of the thematic orientation of the **park, its redevelopment** and elaboration of the park **pavilion(s)** according to the selected theme.



Top view on **potential design area** from the historic city centre & the Kaban lake.



△ **Monuments of constructivism, Kazan City**

◁ **Historic and Architectural Complex of the Kazan Kremlin, Kazan City**  
(site inscribed on the UNESCO World Heritage List)



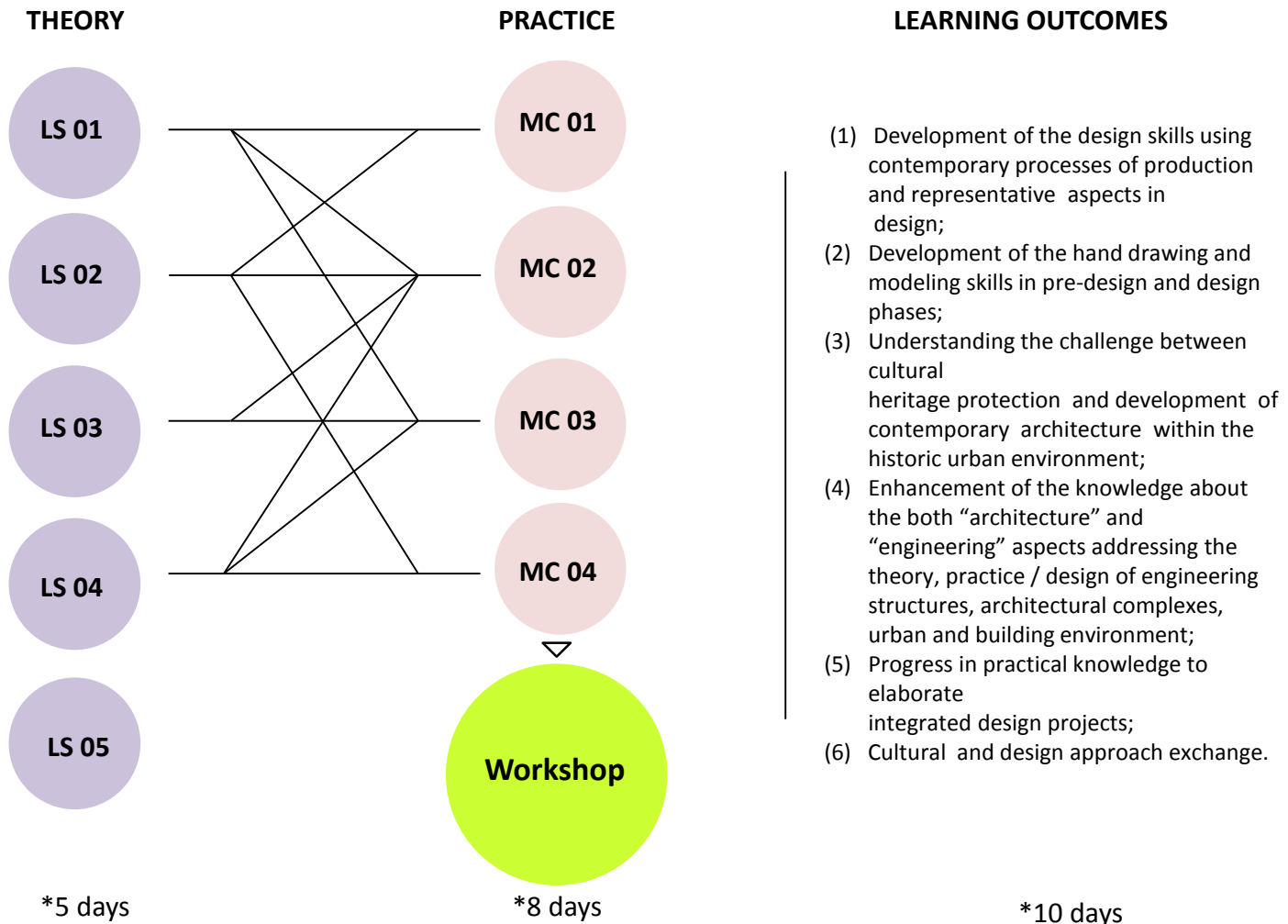
United Nations  
Educational, Scientific and  
Cultural Organization



World  
Heritage  
Convention



(ISSAEK) 2<sup>nd</sup> INTERNATIONAL SUMMER SCHOOL of ARCHITECTURE & ENGINEERING KAZAN 2017  
**“INTERDISCIPLINARY STUDY and INTEGRATED DESIGN: URBAN FORM in context of Sustainable Urban Development”**  
**PROGRAMME BENEFITS**





## (ISSAEK) 1<sup>st</sup> International Summer School of Architecture & Engineering, Kazan 2016

“URBAN DEVELOPMENT and INTEGRATED DESIGN: Challenges and Solutions for Sustainability”

July 11-20, 2016

### Participants 2016:



(KSUAE) Kazan State University of Architecture and Engineering, Russia  
[www.kgasu.ru](http://www.kgasu.ru)



(CIC) Canadian International College, Egypt  
[www.cic-cairo.com](http://www.cic-cairo.com)



(BJTU) Beijing Jiaotong University, China  
[www.en.njtu.edu.cn](http://www.en.njtu.edu.cn)



## 34 students of architecture and engineering

from **Russia**, **Egypt** and **China**

took part in the unique experimental school **ISSAEK 2016** to study principles of integrated design and collaborative work of architects and engineers developing joint projects .

**8 Lecture Sessions**  
**2 Master Classes + Labs**  
**1 Workshop**    **3 Excursions**

\*Find more info and photos of ISSAEK 2016:  
<https://www.facebook.com/groups/1107278476011500/>







What are you doing next summer?

## Call for Applications!

**(ISSAEK) 2<sup>nd</sup> International Summer School of Architecture & Engineering, Kazan 2017:**

“**INTERDISCIPLINARY STUDY and INTEGRATED DESIGN: URBAN FORM** in context of Sustainable Urban Development”

**July, 3-12 2017**

If you want to join us in summer 2017 and create Dream Teams of architecture and engineering students at the annual school **ISSAEK 2017**, please send your **CV** (max. 1 page) and **Portfolio** (max. 5 projects) in one .pdf A4 format file with max. size of 10 Mb before **15 April, 2017** to: [interksaba@mail.ru](mailto:interksaba@mail.ru)

Participants should pay the registration fee for the summer school **ISSAEK 2017** that will cover accommodation in 2-3 students rooms, meals (2 times a day), excursions and other school working materials. Travel expenses are covered by students themselves.

For double degree programme students the participation is free.

For more info about **ISSAEK 2017, terms & conditions**, please do not hesitate to contact **Dr. Olga Poroshenko**, Head of International Relations of Kazan State University of Architecture and Engineering: [interksaba@mail.ru](mailto:interksaba@mail.ru)

\* Follow us to get more info about ISSAEK 2017: <https://www.facebook.com/groups/1107278476011500/>

\*\* Please remember, the organizers keep the right to make some minor programme changes before the delivering the programme



