

VSB - Technical University of Ostrava, Czech Republic

**OSTRAVA** | CZECH REPUBLIC

# International Summer School

**2019**



JOIN US  
**8 — 19 July 2019**

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**WWW.ISSOSTRAVA.CZ**  
**@ISSOSTRAVA**

# CZECH REPUBLIC

The Czech Republic, also known as Czechia, is a landlocked country in the “heart of Europe”. The country neighbours with Austria, Germany, Poland and Slovakia.

The Czech Republic covers an area of 78.867 km<sup>2</sup> and has a population of 10,56 million people (2016). The capital and largest city is Prague, and native language is Czech, a West Slavic language. The Czech climate is mixed with warm summers (often over 30 °C) and cold winters (below 0 °C).



## THE CZECH REPUBLIC IS FAMOUS FOR...

Prague and its famous historical centre .

Hiking trails - unique network of over 40.000 km of marked hiking trails.

Hundreds of castles, châteaux and mansions.

Czech beers well-known all over the world.

MORE INFORMATION  
ABOUT THE CZECH REPUBLIC AT  
[WWW.CZECH.CZ/EN](http://WWW.CZECH.CZ/EN)

# OSTRAVA

CENTRE OF THE MORAVIAN-SILESIA REGION

**3<sup>rd</sup> LARGEST** CZECH CITY

**POPULATION OVER 300.000+**  
INHABITANTS

**AWESOME HIKING AND CYCLING  
TRAILS IN THE PICTURESQUE  
BESKYDY MOUNTAINS**

**24.000+ UNIVERSITY STUDENTS**

Ostrava is the third largest city in the Czech Republic, and has an advantageous position near the border of Poland and Slovakia. It is surrounded by the Beskydy and the Jeseníky Mountains, offering wonderful opportunities for leisure activities.

Once a region of heavy industry with the coal mining, metallurgical and chemical industries, over the last 20 years this industrial face is changing and has undergone a successful transition to an important economical, cultural, administrative and educational centre of the region.

# DOLNÍ OBLAST VÍTKOVICE

[www.dolnivitkovice.cz](http://www.dolnivitkovice.cz)

A unique, globally renowned area in the centre of Ostrava where coal used to be mined and pig iron produced between **1828** and **1998**. Now the industrial complex has transformed into a unique educational, social and cultural centre of a significance reaching beyond the region. **OPEN AIR MUSEUM**

# COLOURS OF OSTRAVA 2019

[www.colours.cz](http://www.colours.cz)

**LEGENDARY MUSIC FESTIVAL** – an annual international multi-genre music festival which has over **21** stages, with more than **450** programme items – concerts, discussions, theatre performances, films, workshops as well as art activities. **17 – 20 July 2019**

**1267 — 750+ YEARS**

**MORE INFORMATION  
ABOUT OSTRAVA CITY AT  
[WWW.OSTRAVAINFO.CZ](http://WWW.OSTRAVAINFO.CZ)**

# VSB - TECHNICAL UNIVERSITY OF OSTRAVA



170  
Years

7  
Faculties

12.000+  
Students

VSB - Technical University of Ostrava was founded in 1849 and has since grown into a modern institution of higher education, offering the highest levels of education in technical and economic fields, based on the interconnection of science, research, education, and the creative activity that binds and enhances them. Moravian-Silesian region has long been a hub of major industry in Central Europe, and study and research at VSB - Technical University of Ostrava is informed by historically close ties with major international companies, as well as by joint research and mobility programmes with university partners the world over. VSB - Technical University of Ostrava is a pleasant place to study and to start your professional career, making new friends along the way.

Our study programmes stand on a tradition going back 170 years, but reflect current, state-of-the-art technologies and the needs of industry and society. Education is organized within 7 Faculties. Strong results in intellectual property protection of R&D output. Partner universities, research institutions and exchange opportunities on 6 continents.

[WWW.VSB.CZ/EN](http://www.vsb.cz/en)

# PROGRAMME ISS OSTRAVA 2019

[WWW.ISSOSTRAVA.CZ](http://WWW.ISSOSTRAVA.CZ)  
[@ISSOSTRAVA](https://www.instagram.com/ISSOSTRAVA)

## 8 – 12 July 2019

ADVENTURES OF ARCHITECTURE IN OSTRAVA  
URBAN WILDNESS  
NEW APPROACHES TO QUALITY MANAGEMENT  
HUMAN ASPECTS IN INDUSTRIAL CONTROL  
RENEWABLE AND ALTERNATIVE ENERGY SOURCES

## 15 – 19 July 2019

ADVANCED METHODS OF MECHATRONICS  
ACTIVITY WEEK  
BATTERY CAMP

8 – 12  
July  
2019

Graduation

2 ECTS CREDITS

Fee

300 €

## ADVENTURES OF ARCHITECTURE IN OSTRAVA URBAN WILDNESS

### ANNOTATION

In 2019 the summer school programme is focused on various aspects of wildness in the city. It researches its development in the past and contemporary dynamic changes too. It is interested in differences in behaviour of citizens on one hand and caused transformation of public space and nature on the other hand. The program is based on lectures, site visits and lively and spontaneous experiences. It's supplemented by individual and collaborative urban games.

Our objective is to offer a direct experience of contemporary and historical architecture and urbanism as well as first-hand contact with experts in various fields. An academic programme offers an interdisciplinary knowledge in the fields of architecture, urban planning, history of architecture and urban history on the example of the city of Ostrava.

The summer course is oriented on the (post)industrial city of Ostrava from different perspectives of architectural history, current development and transformation to sustainable future of the city and region. A significant part of the program focuses on experimental procedures

in the mediation of knowledge and creation of architectural solutions. The summer school of architecture offers 5 working days of creative experience filled with a team workshop, individual mini workshops, urban games in the streets of Ostrava, lectures, discussions, site visits and city research.

Through lectures, presentations, symposia and walking tours we discover the past, the present and future development of architecture in Ostrava, its nature, urban life and its future development. To get a vivid sense of the architecture and the city itself, the class takes field trips to view significant places and buildings. We work on selected topics of in situ research and design workshops.

The summer school programme complements the university education. It is particularly recommended for students in the fields of architecture, landscape architecture and urban planning, history of architecture and urban history, municipal development and engineering. Another target group is professionals who want to go beyond the limits of their narrow specialization and people interested in architecture in their programme of life-long education. Maximum capacity of the course is 8-10 participants.

### COURSE LEADER & CONTACT PERSON

Dipl. Ing. arch. EVA ŠPAČKOVÁ, Ph.D.

[eva.spackova@vsb.cz](mailto:eva.spackova@vsb.cz)

Teaches as an assistant professor/lecturer in the Department of Architecture at the Faculty of Civil Engineering at VSB - Technical University of Ostrava. She is concerned with the topic of housing and public spaces in the city in all of its forms with an emphasis on regeneration of the environment and buildings built in the socialist period.

8 – 12  
July  
2019

Graduation

2 ECTS CREDITS

Fee

300 €

## NEW APPROACHES TO QUALITY MANAGEMENT

### ANNOTATION

The 5-day international summer school course **NEW APPROACHES TO QUALITY MANAGEMENT** is intended for students of technical and economic university study branches, interested in quality management problems under the conditions given by new technical, technological, social, organizational and economic challenges in industry and non-manufacturing organizations, such as Industry 4.0, organizational resilience, sustainability, leagility, mass customization and manufacturing individualization. The course will consist of lectures, presentations of case studies and solutions to practical tasks using specialized software. As a part of the course programme, an excursion to a selected industrial company will be organized. Most of the lectures will be held by professors from the Department of Quality Management – specialists in quality management systems, quality planning and application of industrial statistics, who have a high reputation not only in the Czech Republic.

**TOPICS:** Novelties in quality management and integrated management, Risk management in quality management, Economic aspects of quality assurance, New approaches to quality planning, Advanced methods of industrial statistics in quality management, Computer-aided quality management, Excursion.

### COURSE LEADER

Prof. Ing. DARJA NOSKIEVIČOVÁ, CSc.

[darja.noskievicova@vsb.cz](mailto:darja.noskievicova@vsb.cz)

Professor at the Department of Quality Management, Faculty of Materials Science and Technology, VSB - Technical University of Ostrava. She is specialized in industrial statistics applications, process management including selected operations research methods and modern management approaches (lean manufacturing, legal approach, mass customization, individualization of manufacturing).

### CONTACT PERSON

Ing. FILIP TOŠENOVSKÝ, Ph.D.

[filip.tosenovsky@vsb.cz](mailto:filip.tosenovsky@vsb.cz)



8 – 12  
July  
2019

Graduation

**2 ECTS CREDITS**

Fee

**300 €**

## HUMAN ASPECTS IN INDUSTRIAL CONTROL

### ANNOTATION

The 5 day course of Human Aspects in Industrial Control is intended for all students interested in a supervisory control and data acquisition system design, reflecting the role of the human-machine interface, particularly the relation of data measurement - data visualization - process control. Lectures will consist of theoretical fundamentals followed by presentations of case studies that will demonstrate challenges in data acquisition from real time process, man-machine interface and human - production process interaction, data visualization in operator workstations, object oriented graphics and screens design, application access rights and safety issues, alarms handling and trend reporting in processes. This course will include an excursion to an industrial company.

### COURSE LEADER & CONTACT PERSON

Assoc. Prof. Ing. **LENKA LANDRYOVÁ, CSc.**

[lenka.landryova@vsb.cz](mailto:lenka.landryova@vsb.cz)

8 – 12  
July  
2019

Graduation

2 ECTS CREDITS

Fee

300 €

## RENEWABLE AND ALTERNATIVE ENERGY SOURCES

### ANNOTATION

The course is oriented on the use and future implementation of renewable and alternate energy sources for a sustainable future of family homes and small communities. The academic programme offers interdisciplinary knowledge in the fields of energy sources, accumulation techniques, electromobility for independence and sustainability. This course is designed for students and wide public in the field of energetics, electrical and mechanical engineering, civil engineering, architecture and urban planning, safety engineering, municipal development and engineering. The summer school offers an intensive course for all of those who are interested in sustainable development, permaculture, sustainable energetics, particularly photovoltaic and geothermal systems, hydrogen technologies and energy accumulation techniques and future independence from non-renewable energy sources. The programme is based on lectures and site visits together with a workshop on a selected topic and presentations of course participants. Lectures will consist of theoretical fundamentals followed by practical exercises that will demonstrate methods and tools for development, planning, measuring and evaluation renewable and alternate systems. The laboratory experiments will be based on equipment of Laboratory of photovoltaic solar systems, Fuel cells laboratory, Heat pump laboratory, Prototype laboratory and Common Research and Monitoring Centre TRIANON.

### COURSE LEADER & CONTACT PERSON

Assoc. Prof. BOHUMIL HORÁK, Ph.D.

*bohupil.horak@vsb.cz*

Associate Professor in the Department of Cybernetics and BMI of Faculty of Electrical Engineering and Computer Science at VSB - Technical University of Ostrava. He is involved in lectures and research in the field of measurement and control of the renewable and alternate energy sources.

15 – 19  
July  
2019

Graduation

2 ECTS CREDITS

Fee

300 €

**TOPICS:** Data acquisition and processing using Signal Analyser and Matlab (spectral analysis; filters), Demonstration of MEMS sensors features, Modelling of mechatronic systems (cantilever beams, rotor system supported by journal bearings), Active vibration control with the use of piezoactuators (demo test rigs), Excursions (the Lower Area of Vitkovice, Tatra Technical Museum). Designed for students in the field of mechatronics, mechanical engineering and electrical engineering.

## ADVANCED METHODS OF MECHATRONICS

### ANNOTATION

The summer school of mechatronic systems offers an intensive 5 days course for all interested in mechatronics, particularly systems for active vibration control, including basic hardware and software. Lectures will consist of theoretical fundamentals followed by practical exercises that will demonstrate methods and tools for measuring signals from mechanical and electrical systems and explain how to process them in Matlab. The laboratory experiments will be based on MEMS (Micro Electronic Mechanical Systems) and piezoactuators, while the laboratory measurements will use models such as Segway for vertical stabilization, active vibration control of cantilever beams and journal bearings with the use of the piezoactuators. The schedule divides each day into key lectures, lab demonstrations, and basic work in the computer lab. Courses are planned from 9:00 to 16:00 with two short breaks and a lunch break.

### COURSE LEADER

Prof. Ing. JIŘÍ TŮMA, CSc.

*jiri.tuma@vsb.cz*

Professor in the Department of Control Systems and Instrumentation of Faculty of Mechanical Engineering at VSB - Technical University of Ostrava. He lectures and researches in the field of automatic control, signal processing, measurement of vibration and noise, experimental dynamics and recently also with active vibration control.

### CONTACT PERSON

Assoc. Prof. Ing. LENKA LANDRYOVÁ, CSc.

*lenka.landryova@vsb.cz*

15 – 19  
July  
2019

Graduation

2 ECTS CREDITS

Fee

300 €

## COURSE LEADER & CONTACT PERSON

Ing. JIŘINA KRAČMAROVÁ

[jirina.kracmarova@vsb.cz](mailto:jirina.kracmarova@vsb.cz)

Professional Assistant at Department of Physical Education and Sport, instructor of aerobic, yoga, skiing, and fitness. Instructor of childrens' sports preparations for university kindergarten. The main supervisor of new aerobic instructors.

## ACTIVITY WEEK

## ANNOTATION

This course is prepared by the Department of Physical Education and Sport. This course will not only include sport but it is also a great opportunity to see the beautiful natural areas in the region. During the week students will try our sport facilities within the university campus as well as make trips around the area.

## PROGRAMME

*Programme may vary in accordance to the weather.*

**MONDAY:** Sports games (Tennis, Floorball, Frisbee, Basketball, Table tennis).

**TUESDAY:** Canoeing on Opava River.

**WEDNESDAY:** Trip to the Wallachian Open Air Museum (Pustevny- Beskydy Mountains, The Little Wooden Town), Ropes course Tarzania.

**THURSDAY:** Badminton, Beach volleyball, Trip to the outdoor swimming pool Vřesina (Minigolf).

**FRIDAY:** Trip to the dam Kružberk, fishing in the David's Mill.

15 – 19  
July  
2019

Graduation

2 ECTS CREDITS

Fee

300 €

## BATTERY CAMP

### ANNOTATION

This course is oriented on the use of chemical batteries for accumulation of energy for future of family homes, small communities and transportation means. The academic programme offers interdisciplinary knowledge in the fields of energy, accumulation techniques and electromobility for independence and sustainability. The course is designed for students and wide public in the field of energetics, electrical and mechanical engineering, civil engineering, architecture and urban planning, safety engineering, municipal development and engineering. The summer school offers an intensive course for all of those who are interested in sustainable development, permaculture, sustainable energetics, electrochemistry, control technologies and energy accumulation techniques. The programme is based on lectures and site visits together with a workshop on a selected topic and presentations of course participants. Lectures will consist of theoretical fundamentals followed by practical exercises that will demonstrate methods and tools for development, planning, measuring and evaluation battery accumulation units. The laboratory experiments will be based on equipment of Prototype laboratory and Common Research and Development working place for Electromobility KAIPAN.

### COURSE LEADER & CONTACT PERSON

Assoc. Prof. BOHUMIL HORÁK, Ph.D.

[bohupil.horak@vsb.cz](mailto:bohupil.horak@vsb.cz)

Associate Professor in the Department of Cybernetics and BMI of Faculty of Electrical Engineering and Computer Science at VSB - Technical University of Ostrava. He is involved in lectures and research in the field of measurement and control of the renewable and alternate energy sources.

## APPLICATION PROCESS

**APPLICATION DEADLINE**

**31 MAY 2019**

### APPLICATION

The application is available on-line [www.issostrava.cz](http://www.issostrava.cz) where you also find further information on the application process.

Application documents:

- On-line Application Form with photo attached,
- Curriculum vitae,
- Certificate of Enrolment at your home higher education institution,
- Transcript of Records from your home higher education institution,
- Copy of the passport within period of validity.

### ELIGIBILITY

Students enrolled at any university are eligible to apply for the International Summer School. Applicants must be proficient in English, the language of instruction.

### CERTIFICATE OF COMPLETION

Will be granted to students who complete the programme in its entirety. Academic performance is assessed according to exams, assignment, attendance and lessons participation.

## FEES, ACCOMMODATION

**ALL COURSES ARE AWARDED**

**2 ECTS CREDITS**

1 ECTS Credit = 30 hours of workload

**300 €**

Fee/Course

### FEES

The fee includes:

- registration and tuition,
- study materials,
- entrance tickets during field trips.

### ACCOMMODATION

Can be provided at the Dormitory Halls. Information available at [hotelvsb.cz](http://hotelvsb.cz).

Or look here: [www.visitostrava.eu/en/accomodation](http://www.visitostrava.eu/en/accomodation). We can help with finding other possibilities.

# REGISTRATION

To register for the  
ISS Ostrava 2019 visit:

**WWW.ISSOSTRAVA.CZ**

If you have any questions  
contact us at:

**SUMMERSCHOOL@VSB.CZ**

To inquire about the contents details  
of individual courses, please connect  
with contact persons listed at the  
bottom of each course description.

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**VSB - Technical University of Ostrava**

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