

VŠB – Technical University of Ostrava, Czech Republic



International Summer School

2018

COME JOIN US

9 — 27 July 2018

www.issostrava.cz

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PROGRAMME

9 – 13 July 2018

ADVENTURES OF ARCHITECTURE IN OSTRAVA
EXTRAORDINARY WAYS OF EATING IN THE CITY
HUMAN ASPECTS IN INDUSTRIAL CONTROL
MECHATRONICS APPLICATIONS IN BIOMEDICAL ENGINEERING
NEW APPROACHES TO QUALITY MANAGEMENT

16 – 20 July 2018

CULTURE, HISTORY AND PRESENT OF THE CITY OF OSTRAVA
ADVANCED METHODS OF MECHATRONICS
ENERGY

23 – 27 July 2018

BATTERY CAMP
BUILDINGS CONTROL – KNX
ACTIVITY WEEK II.

OSTRAVA!!!

Ostrava – Centre of the Moravian-Silesian Region

3rd LARGEST CZECH CITY

Population over 300.000+ inhabitants.

DOLNÍ VÍTKOVICE | 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.

COLOURS OF OSTRAVA 2018 | www.colours.cz

Legendary music festival – an annual international multi-genre music festival which has over 16 stages, with more than 300 concerts, theatres, movies, workshops and discussions. **18 – 21 July 2018**



Ostrava is the third largest city in the Czech Republic, and has an advantageous position near the border of Poland and Slovakia, and 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.



VŠB – TECHNICAL UNIVERSITY OF OSTRAVA



169+
Years

7
Faculties

14.000+
Students

VŠB – TU Ostrava was founded in 1849 and has since grown into a modern institution of higher learning, 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. Ostrava region has long been a hub of major industry in central Europe, and study and research at VŠB – TU 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. The University holds prestigious EU certificates – the ECTS and DS Labels. VŠB – TU 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 more than 169 years, but reflect current, state of the art technologies and the needs of industry and society. Education is organized within 7 Faculties and 3 University Study Programmes. Strong results in intellectual property protection of R&D output. Partner universities, research institutions and exchange opportunities on 6 continents.

www.vsb.cz

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9 – 13
July
2018

Graduation

2 ECTS CREDITS

Fee

300 €

Facebook: ISSArchitecture



ADVENTURES OF ARCHITECTURE IN OSTRAVA EXTRAORDINARY WAYS OF EATING IN THE CITY

ANNOTATION

In 2018 the summer school programme is focused on various aspects of eating 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 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 objectives are 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 (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 media-

tion 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, and 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 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 on 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

Teaches as an assistant professor/lecturer in the Department of Architecture at the Faculty of Civil Engineering at VŠB – TU 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.

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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.

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9 – 13
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Graduation

2 ECTS CREDITS

Fee

300 €

COURSE LEADER

Assoc. Prof. MAREK PENHAKER

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Associate Professor in the Department of Cybernetics and Biomechanical Engineering. Marek Penhaker finished MSci in 1996 at Faculty of Electrical Engineering and Computer science in specialization Measurement and Control in Biomedicine at VŠB – TU Ostrava, Czech Republic. He followed his Ph.D. studies with the thesis entitled “The development of the process for systematic diagnostics of vascular system conditions with the use of plethysmographycal record” where he was specialized in biosignal processing and measurement. He received Ph.D. in Technical Cybernetics from VŠB – TU Ostrava. In October 2000 he started working as a professor assistant at VŠB – TU Ostrava in the field of biosignal measurement, transmission and processing. Since 2002 he is Guarantee of MSc specialization Measurement and Control in Biomedicine, from 2003 he is vice-director for research and science of Department Measurement and Control. Currently he is from 2004 Ph.D. tutor specialist for branch Technical Cybernetics. Through his career he published more than 100 original research articles including over 30 peer reviewed journal papers. He is author and coauthor of more than ten books. He received several awards, among them the Siemens in Study of Drive Gear at Mobile Mount with Fuel Cell.

MECHATRONICS APPLICATIONS IN BIOMEDICAL ENGINEERING

ANNOTATION

This 5 day intensive course is intended for those interested in new access and influence of electrical and mechanical engineering for medical problems. Students will receive information on solution of biomechanics problems by Finite Element Methods, new types of the instruments for surgery, medical devices for ECG, ultrasonography, plethysmography and so on. Classes will include lectures by experts in mechanics and biomedical engineering. Attention will be focused on the issue of cooperation in this area, and the necessity of cooperation of these interdisciplinary teams. During the Summer School the student will present their own work and create their own project within biomechanics, biomechatronics and biomedical engineering.

The schedule is planned to divide each day into parts with key lectures, demonstrations in the lab, and demonstrations in the lab and soft skills, incl. own-work presentations. Courses are planned from 9:00 to 16:00 with two short breaks and a lunch break.

Topics: Mechanics in Biomechanics, Solution biomechanical problems by FEM, Biomechanical equipment for EKG, Solution practical biomechanical problems using FEM – individual projects and its presentation, Excursions.

COURSE COLEADER

Assoc. Prof. MARTIN AUGUSTÝNEK

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Assoc. Prof. MARTIN ČERNÝ

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CONTACT PERSON

Ing. MILADA HLAVÁČKOVÁ, MSc., Ph.D.

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9 – 13
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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

Professor at the Department of Quality Management, Faculty of Metallurgy and Materials Engineering, VŠB-TU 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.

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16 – 20
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2018

Graduation

2 ECTS CREDITS

Fee

300 €

CULTURE, HISTORY AND PRESENT OF THE CITY OF OSTRAVA

ANNOTATION

Enjoy your impressive journey illuminating the heart of Europe, get to know history, culture and lifestyle of our extraordinary region.

Take a historical journey from Middle Age to the end of 20th century that gives you a unique perspective on many technical, social, historical, religious and cultural factors that shaped modern Czech Republic and Europe as a whole. With Ostrava as a starting point, this course will give you an opportunity to truly 'step into history' and a vantage point to understand this part of the world. Many museums, former coal mines and metallurgical steelworks, and many other technical monuments of Ostrava will offer you some of the most breath-taking highlights of the Czech industrial heritage, history and culture. The course includes two full day excursions. Our one week program combines academic courses with excursions, and also social and cultural programs. Ostrava's rich cultural heritage, especially industrial heritage, will help you to understand a modernization of this part of Europe.

TOPICS: History and present of the Czech Republic, Industrial heritage and technical monuments, Tradition and cultural roots, Contemporary art and entertainment, Sports and nature. Designed for any student interested in culture, history and technical monuments.

COURSE LEADER & CONTACT PERSON

Mgr. PETRA KOWALIKOVÁ, Ph.D.

petra.kowalikova@vsb.cz

Senior Lecturer in the Department of Social Sciences at the VŠB-TU Ostrava. She lectures and researches in the field of sociology of the 20th century and sociology of organization.

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Graduation

2 ECTS CREDITS

Fee

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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 of those, who are fans of 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 and 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 is planned to divide each day into parts with key lectures, demonstrations in the lab and basic work in the computer room. Courses are planned from 9:00 to 16:00 with two short breaks and a lunch break.

COURSE LEADER

Prof. Ing. JIŘI TŮMA, CSc.

jiri.tuma@vsb.cz

Professor in the Department of Control Systems and Instrumentation of Faculty of Mechanical Engineering at VŠB-TU 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

16 – 20
July
2018

Graduation

2 ECTS CREDITS

Fee

300 €

ENERGY

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.

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

23 – 27
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Graduation

2 ECTS CREDITS

Fee

300 €

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.

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.

COURSE LEADER & CONTACT PERSON

Assoc. Prof. BOHUMIL HORÁK, Ph.D.

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

23 – 27
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Graduation

2 ECTS CREDITS

Fee

300 €

BUILDINGS CONTROL – KNX

ANNOTATION

The summer course will be oriented on the use of control technologies for buildings control with specialization at KNX standard (overview, topology, bus, powerline, design, operation, diagnostics). This course is designed for students and the broader public in the field of control, sensors, energetic, electrical and mechanical engineering, civil engineering, architecture and urban planning, safety engineering, municipal development and engineering. Lectures will consist of theoretical fundamentals followed by practical exercises that will demonstrate methods and tools for development, planning, measuring and evaluation of technologies for control of buildings. The laboratory experiments will be based on equipment of Buildings control laboratory and Prototype laboratory. In case of interest, the course can be finished with an examination with an official KNX expert certificate.

COURSE LEADER

Assoc. Prof. BOHUMIL HORÁK, Ph.D.

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

CONTACT PERSON

Ing. DAVID VALA

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23 – 27
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2018

Graduation

2 ECTS CREDITS

Fee

300 €

ACTIVITY WEEK II.

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.

COURSE LEADER & CONTACT PERSON

Ing. JIŘINA KRAČMAROVÁ

jirina.kracmarova@vsb.cz

Professional Assistant at KTVS, instructor of aerobic, yoga, skiing, and fitness. Instructor of children's sports preparations for university kindergarten. The main supervisor of new aerobic instructors.

APPLICATION PROCESS

APPLICATION DEADLINE

31 May 2018

APPLICATION

The application is available on-line 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.

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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.

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FEES, ACCOMMODATION

REGISTRATION

To register for the International Summer School 2018 visit:

www.issostrava.cz

If you have any questions contact Lenka Fabíková 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.

ALL GRADUATIONS

2 ECTS CREDITS

Fee/Course

300 €

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 accommodation.vsb.cz.

Or look here: www.visitostrava.eu/en/accomodation. We can help with finding other possibilities.

International Summer School

VŠB – Technical University of Ostrava

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708 33 Ostrava-Poruba
Czech Republic

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