

TBU Summer School 2013 – 13 July – 26 July

DEADLINE
31 May 2013

 Tomas Bata University in Zlín
Faculty of Applied Informatics

Cybernetics and Informatics – Key 21th Century Sciences



www.summerschools.utb.cz



Czech Republic

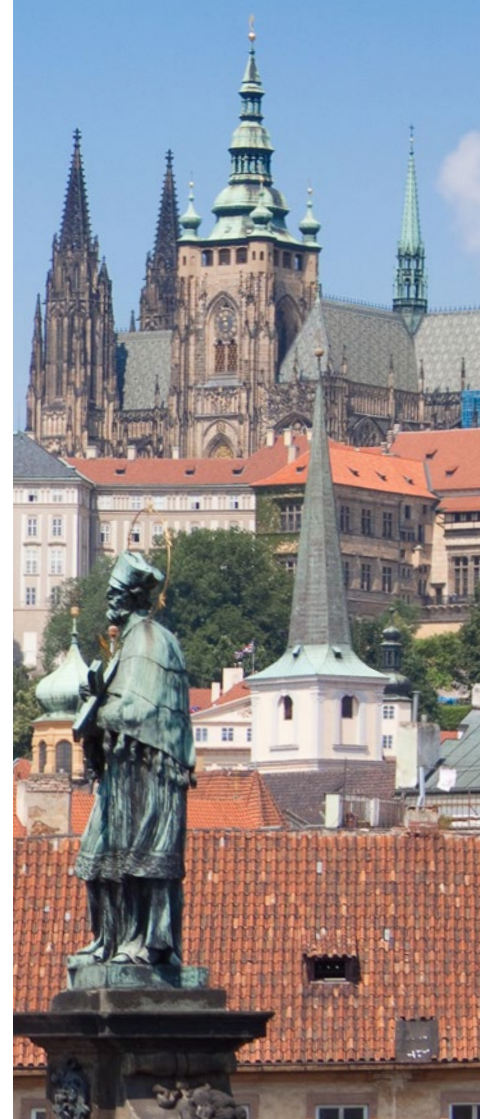
The Czech Republic (Česká republika in Czech) is a landlocked country in Central Europe. It is often said that the Czech Republic is located in the 'heart of Europe' and this unique location makes the country accessible to major European cities. The capital city, located in the north central part of the country, is Prague. Nowadays, the Czech Republic is a democratic country based on the parliamentary system and it is a member of European Union and many other prominent international organizations and institutions. Czech people are very friendly and most of them speak English, especially younger generation.

With a population of 10.5 million and total area of 78,866 sq km, the Czech Republic is a relatively small country. However, the history of the country spans over a thousand years. The Czech Republic is well-known for its historical sights, some of which have been inscribed on UNESCO's World Heritage List. Historical monuments are certainly not the only reason why the Czech Republic is worth visiting. Our country can offer many different types of landscape with wonderful scenarios and amazing beauties of nature and greenery. The Czech Republic offers lots of places where to take a trip and discover Czech heritage, all providing numerous opportunities to relax but also to pursue sporting activities.

The town of Zlín

The town of Zlín is administrative centre of the Zlín region and lies in a mild climatic area of south-eastern Moravia (approximately 300km far from Prague and 100km far from Brno). The town of Zlín is known as the birthplace of the founder of the colossal Bata Shoe Empire, Tomas Bata (1876-1932), where his company flourished in the first half of the 20th century.

The first-time visitors to Zlín are greatly impressed by its beauty, greenery and friendly environment. Zlín spreads out across the Dřevnice River Valley and a walk through the town is an unforgettable experience that leaves pleasant memories in the minds of visitors. The advantage of the town is its layout, because all important places, buildings and institutions are located within easy walking distance. The green areas in the centre, but also in the closest surroundings offer lots of possibilities to relax, to do sports activities or to spend a great day avoiding noise and air pollution. Moreover, people who are interested in the culture certainly appreciate many exhibitions, theatre, philharmonic orchestra and various events organized also by our students. The town of Zlín also fascinates its visitors with its unique functionalist architecture. Even though the town has a relatively small size, there are lots of possibilities for everyday activities. In addition, the large number of students makes Zlín a university town full of young people.



Tomas Bata University in Zlín

Tomas Bata University in Zlín (TBU) is a progressive and modern university following the current trends of higher education in Europe and in the world. With a current student population of more than 12,600, TBU ranks among medium-sized Czech universities. Since its establishment, hundreds of highly-qualified professionals have received education from the University. The University is named after world-renowned entrepreneur Tomas Bata, founder of the shoe industry in Zlín. He played a significant role in transforming life in the town of Zlín, as well as whole of the Czech Republic and its economy. The multicultural, dynamic and youthful environment at TBU provides base for an excellent studying experience for each student. TBU is comprised of six faculties offering to students the possibility to study technology, economics, management, natural sciences, informatics, humanities, art, logistics and health care. Students in all levels of education are provided with modern facilities to advance their personal development and skills. During the classes strong emphasis is put not only on the theoretical side but also on the practical side of the studies. The university lays great emphasis on the development of internationalization. Every year hundreds of international students study at TBU in degree programmes accredited in Czech or English to get their Bachelor's, Master's or PhD degree or in Exchange programmes. Our student body is multicultural and comes from more than 40 countries worldwide, creating a valuable environment for intercultural interaction, knowledge sharing and enriching experience for all. Moreover, students have the opportunity to meet and interact with some of the world's finest academic minds.

In 2012, a prestigious certificate - **ECTS Label** - **was awarded to TBU** by the European Commission. The ECTS Label is the most significant European certificate awarded in the sphere of tertiary education and is recognized as a proof of high quality of the higher education institution.



The Faculty of Applied Informatics

The Faculty of Applied Informatics (FAI) provides students with university-level educations at the Bachelor's, Master's and Ph.D. degree levels. At all levels, all courses are accredited within the overall framework of the "Engineering Informatics" study programme provided as full-time courses, the majority are also offered in a part-time mode. FAI offers three study degree courses at the Bachelor's level: Information and Control Technologies; Security Technologies, Systems and Management, and Information Technologies in Administration. Six degree courses: Information Technologies; Automatic Control and Informatics; Security Technology, Systems and Management; IT Teaching at Secondary Schools; Integrated Systems in Buildings, and Computer and Communication Systems are offered at the Master's level and two degree courses: Engineering Informatics and Automatic Control and Informatics are offered at the Ph.D. level. At each degree-level, it is also possible to study selected disciplines in English.

Currently, more than 1,600 students are studying in all three levels provided by the Faculty of Applied Informatics. Its graduates are successful in finding employment in Czech as well as foreign companies in the **Information Security Technologies** and **Manufacturing Systems Automation** fields.

The Faculty's scientific research activities are aimed at resolving national and international Intelligent Manufacturing, Security and Information Systems and Information Technology research project applications, and are focused on three fundamental pillars:

- **Information and Communication Technologies**
- **Automatic Control Systems**
- **Security Technologies**

Within the context of (inter)national Research Objectives and the National Research Programme II, a recent seven-year research project, concluded in 2011, smoothly evolved into the construction of a Regional Research Centre for Security, Information and Advanced Technologies - the CEBIA-Tech Building, as well as the Science and Information and Communication Technologies Park.

In both projects, new laboratories were built and equipped with the latest technologies, facilities and equipment so as to enable the concurrent interlinkage of Academic Science, R&D and Industry. This is then integrated into the educational processes at all three study-levels - especially the Ph.D.

The aims of the newly-inaugurated facilities are to develop joint-ventures with regional industry and national and international companies actively operating in these fields based upon their actual and perceived needs and resolved with the financial support of the Czech State and the EU.

TBU Summer School 2013 —

Cybernetics and Informatics – Key 21th Century Sciences

13 July – 26 July 2013

Application deadline: 31 May 2013

Fee: EUR 500

FEE INCLUDES

- Administration fee
- Course fee (Courses take place every day: 9:30-12:00, 13:30-16:00)
- Course materials
- Accommodation in the University Halls of Residence including Wi-Fi connection and breakfast
- Cultural programme (13 July–26 July)
- Welcome Dinner, Farewell Evening, Orientation Walk
- Discount for meals in the University Refectory and Restaurant
- Access to the University Library
- Internet connection in University campus
- Guided tours of the Czech companies
- Certificate
- CD with photos
- Guides provided by Czech students

Fee does not include travel costs, extra local transportation, VISA processing fees, other costs connected with the personal needs.

It is our pleasure to invite you to the Summer School 2013 at Tomas Bata University in Zlin on modern Informatics and Technology Systems Management and Control fields in the European Union. In two challenging and exciting weeks, you will gain valuable knowledge of current issues and trends in Cybernetics Informatics, Data Management, and Security and Control Theory. Moreover, interesting guided tours of the Czech companies play an important role in the TBU Summer School.

During the TBU Summer School students can use modern facilities to advance their personal development and skills. Participants can meet and discuss with the finest academic minds and experts in the field of their interest.

In addition, participants are also provided with very interesting programme including cultural events, introduction to Czech culture and traditions, discovering Zlín and its beautiful surroundings.



Why participate in the TBU Summer School 2013?

- Study at one of the greatest universities in the Czech Republic.
- The courses are taught in English by professionals and the finest academic minds
- All participants get a Certificate after completing these courses
- Widen your knowledge in modern Informatics, Cybernetics, Data Management, and Security and Control Theory fields
- Gain valuable information about Czech culture and business environment
- Improve your English language skills
- Meet new friends from all around the world
- Spend two weeks in a multicultural environment
- Have a beautiful summer in the town of Zlín and its surroundings
- Add advantage for your future career

ADMISSION REQUIREMENTS

- Interest in PCs, Programming, Informatics and Cybernetics
- English proficiency
- Submit application form before deadline

TEACHING METHODS

- Lectures
- Discussions based on the theoretical overview
- Program and laboratory demonstrations
- Active learning linked to case-studies
- Illustrating the theories using examples

SUBJECTS COVERED

- Computers, Hardware, Software, Data Security, Data Mining
- Informatics, Coding, Encoding
- Artificial Intelligence - Utilization and Applications
- Programming, DOT.NET and JAVA Technologies
- Automatic Control and Adaptive and Predictive Control
- Mechatronics and Robotics
- Crisis Management
- Measurement and Sensors

Programme

Cybernetics and Informatics – Key 21th Century Sciences
13 – 26 July 2013

Week 1

Sunday, 14 July

Welcome in Zlín
Orientation Walk in Zlín
Welcome Dinner

Monday, 15 July

9:30 - 12:00 Welcome to the Faculty
of Applied Informatics
13:30 - 15:30 Czech Republic, Zlín Region,
the Faculty of Applied Informatics
Movie night

Tuesday, 16 July

9:30 - 12:00 Computers' History and Architecture,
Cybernetics personalities and celebrities
13:30 - 16:00 Computers' History in the Czech Republic,
Information Theory
Tomas Bata's Heritage Evening

Wednesday, 17 July

9:30 - 12:00 Data Saving and Storage,
What Is Hidden in Data?, Data Mining
13:30 - 16:00 Operation Systems and Hardware, History,
Software and Software-oriented Systems
Guided tour of the Czech company

Thursday, 18 July

9:30 - 12:00 Artificial Intelligence, Methods and Applications
13:30 - 16:00 Artificial Intelligence, Case-studies and Examples
Czech-themed Dinner and Traditions

Friday, 19 July

9:30 - 12:00 Programming, DOT.NET Technology
13:30 - 16:00 JAVA Technology, Examples

Saturday, 20 July

Day Trip

Sunday, 21 July

Sports and Relaxing Day

Week 2

Monday, 22 July

9:30 - 12:00 Data Security - Approaches and Methods
13:30 - 16:00 Coding, Encoding, Encryption
Entertainment activities

Tuesday, 23 July

9:30 - 12:00 Modelling Dynamic Systems
13:30 - 16:00 Digital Filtering and "Grey Box" Identification
Guided tour of the Czech company

Wednesday, 24 July

9:30 - 12:00 The Algebraic Approach in Control Theory
13:30 - 16:00 Adaptive and Predictive Control
Day-trip to Lešná Zoo

Thursday, 25 July

9:30 - 12:00 Mechatronics and Robotics - History and Principles
13:30 - 16:00 Intelligent Buildings and Computer-utilisation
in Building Optimisation
Czech Movie Night

Friday, 26 July

9:30 - 12:00 Crisis Management and Crisis Control
13:30 - 16:00 Sensors and Measurements
Farewell Party

Programme may be subject to change.

Facilities and Important Information —

ACCOMMODATION

Accommodation for participants is provided in the University Halls of Residence. Accommodation is offered in double rooms equipped with furniture. The bed linen is also provided. Two rooms share bathroom and kitchenette including sink, fridge and hotplate and basic cookware. In the University Halls of Residence there is a laundry room, a computer room and a TV room and also Internet connection is also provided. The University Halls of Residence is located within short walking distance of all university's buildings.

UNIVERSITY LIBRARY

Participants of the Summer School get free entrance to the University Library where they can use almost 100,000 books, hundreds of magazines, around 25,000 e-periodicals, and around 60 databases. The University Library is located in the new University Centre that was designed by world-renowned architect Prof. Eva Jiřičná. There are a large number of computers, as well as Internet connection for laptop users available in the Library. A copier and a printer are available on every floor. Students can also use special rooms intended for group study. The TBU Library is listed on the prestigious website www.librarybuildings.info among the 64 best contemporary European libraries.

CATERING

Catering services are available for students in two Refectories and the Restaurant. Students can choose from several different meals every day, including vegetarian dishes. Students can also buy some snacks and drinks in the Cafeteria. The food provided in the Refectories, Restaurant and Cafeteria is prepared with equipment of high standards; hence, the meals that are served are of a good quality and healthy. Students get their Students ID Card to buy meals at a reduced price.

VISA

The Czech Republic entered the European Union in May 2004; therefore, students (EU citizens) do not need a visa to enter the Czech Republic. They can enter the country with a valid passport or ID. Students who are citizens of Switzerland, Norway, Iceland and Liechtenstein (members of European economic area) are also required to present the above mentioned documents to enter the Czech Republic.

Students who are citizens of non-EU countries are required to obtain a visa to enter the Czech Republic. In order to obtain the Czech visa for the purpose of studies, applicants must provide relevant documents. Kindly note that all documents presented at the Embassy must be in their original form or a notarized copy and must not be older than 180 days.

For more information about the visa application and documentation, applicants must contact the Czech Embassy or Consulate in their home country.





Travel Week —

27 July – 3 August 2013

Application Deadline: 31 May 2013

Fee: EUR 350

FEE INCLUDES

- Travel costs (comfortable air-conditioned coach)
 - Accommodation
 - Entrance fees to historical sights
 - Entertainment
 - Breakfast, Lunch, Dinner
 - Promotion materials
 - Professional guides
-

The Czech Republic, with a population of 10.5 million and total area of 78,866 sq km, is a relatively small country. However, the history of the country spans over a thousand years. The Czech Republic is well-known for its historical sights, some of which have been inscribed on the UNESCO's World Heritage List. However, historical monuments are not the only reason why the Czech Republic is worth visiting. Our country can offer many

different types of landscape with wonderful scenarios and amazing beauties of nature and greenery. The landscape is very varied, ranging from fertile lowlands with many cycling routes, and deep forests, to mountains suitable not only for hiking. The Czech Republic offers lots of places where to take a trip and discover Czech heritage, all providing numerous opportunities to relax but also to pursue sporting activities, both in summer and in winter.

Within the seven days participants in the Travel Week have a great opportunity to discover the Czech Republic and its heritage. During the tour they visit the most beautiful places in the Czech Republic including castles, natural beauties, historical sights of UNESCO, or capital city Prague. Participants also gain unforgettable experiences including rafting, visiting Czech brewery or wine cellar with traditional music, and much more. The programme of travel is created to show the most beautiful places. Travelling with comfortable air-conditioned coaches is guaranteed, the accommodation is provided in high quality standard student's halls and the food is selected in order for participants to taste typical Czech cuisine (there is also possibility of vegetarian meals).

Why participate in Travel Week 2013?

- The best way to discover Czech country and its heritage
- The most beautiful places of interest are included in the programme
- Discovering the historical sights inscribed on the UNESCO's World Heritage list
- Possibility of individual programme in the place of visit
- Professional guides are provided
- Promotional materials
- Relaxing activities and entertainment options are suggested in the programme
- The price is much lower compared to exploring the country on one's own
- Guided tours are available in English

Saturday, 27 July

Town of Olomouc

For centuries Olomouc ranked amongst the most important seats of the Bohemian Kingdom. Nowadays, the town inscribed on the UNESCO List, attracts visitors by several historical monuments including Holy Trinity Column and Town Hall with Astronomical Clock, but also by the greenery and flower beds. The town is also famed for the special aromatic cheese – “Olomoucké tvarůžky”.

Sunday, 28 July

Lednice – Valtice Area

The Lednice – Valtice Area is one of the largest cultural landscapes in Europe inscribed on the UNESCO List. Parts of this amazing area, situated in the wine region, are large parks, baroque and neo-gothic castles, lovely countryside fashioned according to the English principles of landscaping. Visit to the Lednice castle and its large garden, birds of prey show, dinner with wine tasting in wine cellar and traditional Czech music are included on the programme. Overnight accommodation is provided in small cottages on the bank of Nové Mlýn reservoir.

Monday, 29 July

Towns of Telč – Třeboň – České Budějovice

On the way to Bohemia we visit the town of Telč, listed on the UNESCO List. This town is popular because of its historical centre, surrounded by fish ponds, city gates, the number of the renaissance and baroque townhouses and the gothic castle rebuilt in the renaissance style in the 16th century. Then we continue to the bath town Třeboň, situated in unique Landscape of Fishponds with long-standing traditional of fish-farming, where we taste tradition and delicious Czech fish – carp.

Tuesday, 30 July

Town of Český Krumlov

Historical town of Český Krumlov is situated on the banks of the Vltava River and it is listed on the UNESCO List. It was built around a 13th-century castle with Gothic, Renaissance and Baroque elements. The town is an outstanding example of a small central European medieval town. A tour of the castle, rafting and a tour of Zlatá Koruna Monastery or Graphite's Mine are planned to take place. In the evening we take a brewery tour and taste beer.

Wednesday, 31 July

Chateau Hluboká - Prague

The national cultural monument Chateau Hluboká belongs among the most romantic and beautiful castles in the Czech Republic. The fascinating white buildings remind its visitors of the castle you read about in fairytales. A visitor will be also charmed by a beautiful park with symmetrical colourful flower gardens. In the evening we arrive to the capital city Prague.

Thursday, 1 August

Prague

PRAGUE - the capital of the Czech Republic has always played an important role in the history of the country and Europe. Since the Middle Ages Prague has been famous as one of the most beautiful cities of the world and has been attributed adjectives such as “golden”, “hundred-spired”, “the crown of the world”. First day we visit the most attractive and popular places including Prague Castle, Charles Bridge, Old Town Hall with the Horologe and much more.

Friday, 2 August

Prague

Programme will be adjusted according to the clients' wishes. Several options will be offered to choose from. Small group tours of for example, the Petřín Lookout Tower, Žižkov TV tower, Old-New Synagogue, National Theatre, Vyšehrad, museums, etc. will be available. The day will close with a farewell dinner with cultural entertainment.

Saturday, 3 August

Departure after breakfast.

Programme may be subject to change.



DEADLINE
31 May 2013

