



INSTITUTE OF TECHNOLOGY AND BUSINESS

IN ČESKÉ BUDĚJOVICE

International Programme

List of courses taught in English

Building Construction

Academic year 2021 - 2022

Winter semester

Building Construction

Course code	Course title	Number of ECTS credits
S_POS_3	Building Construction III	6
S_TBO	Building Typology I.	6
S_DAR	History of Architecture	6
S_CED_1	Czech Language for Foreigners	6
S_ENG_3	English Language III	6
S_ENG_4	English Language IV	6
S_SAD	Modern Architecture	6
S_SRK	Static Solution of Constructions	6
S_TZB_1	Technical Building Equipment I	6

Building Construction III (Code: S POS 3) | Number of credits: 6*Course objectives*

The aim of this course is to learn how to design the structure of traditional and modern roof cladding, than to be able to model the hygrothermal loads in the roof structure including evaluation and to be able to design a flat roofs and pitched roofs, including additional design elements and details of the roof cladding. After successful completion of the course, the student is able to design the structure of traditional and modern roof cladding. S/he is able to model the hygrothermal loads in the roof structure including evaluation. S/he can design a flat roofs and pitched roofs, including additional design elements and details of the roof cladding.

Topics

1. Oblique and steep roof - a feature requirements
2. Oblique and steep roofs - design principles
3. Oblique and steep roofs - roof structure
4. Oblique and steep roofs - materials and technologies
5. Oblique and steep roofs - building physics problems
6. Oblique and steep roof - ceiling construction
7. Flat roof - a feature requirements
8. Single-and double-walled flat roof structure - function, requirements, design principles
9. Single-and double-walled flat roof construction - materials and technologies
10. Single-and double-walled flat roof construction - building physics problems
11. Green roofs - the function, requirements, design principles, building physics problems
12. Mobile and trafficable roof - features, requirements, design principles, building physics problems
13. Additional features and details of flat roof cladding, pitched roofs and steep



Building Typology I (Code: S TBO) | Number of credits: 6

Course objectives

The scope is developing an understanding of a range of technical, theoretical and professional issues and the ability to integrate this understanding into design proposals. The student will be able to evaluate, what are the qualities and what are the problems of built environment in different scales (from family house to the urban blocks).

Typology is the taxonomic classification of (usually physical) characteristics commonly found in buildings and urban places, according to their association with different categories, such as intensity of development (from natural or rural to highly urban), degrees of formality, and school of thought (for example, modernist or traditional). Individual characteristics form patterns. Patterns relate elements hierarchically across physical scales (from small details to large systems). We will discuss all the typological cases and analyse them (typological research). The norms and rules of designing should follow the thesis of St. Augustin of Hippo: “unity in necessary things; liberty in doubtful things; charity in all things”.

Topics

1. Opening to typology in building architecture.
2. Aspects of living.
3. Definition of apartment and its fragments.
4. Apartment zones, standards.
5. Historical development of the family houses
6. Family house- typological species
7. Historical development of the apartment buildings
8. Typology of the apartment building, indoor and outdoor spaces
9. Typological species of apartment buildings



History of Architecture (Code: S DAR) | Number of credits: 6

Course objectives

After completing the course, the student will be able to understand the history of architecture, especially in view of the relation of structure, spatial and architectural design in various stages of history. Architecture development is presented in the major concrete structures. The course also includes a summary of the prominent representatives of various periods and styles in the Czech Republic, with particular reference to the fund of South Bohemia. Based on acquired knowledge, students will be able to understand the value structure of historic buildings with which they will encounter in practice and to include these buildings in a development context. Course should initiate a dialogue between architecture, urbanism and art. Students will learn the basic procedures for analyzing individual buildings in terms of its development and context.

Topics

1. Concepts, categories, the beginnings of architecture
2. Antiquity
3. Greek, Etruscan and Hellenistic architecture
4. Roman and Byzantine architecture
5. Pre-Romanesque and Romanesque architecture
6. Gothic architecture
7. Renaissance architecture
8. Baroque architecture
9. Classicism
10. Romanticism, Art Nouveau 11. Modern architecture
12. Functionalism, neoclassicism 13. Postmodern and current trends



Czech Language for Foreigners (Code: S CED 1) | Number of credits: 6

Course objectives

The course is prepared for foreign students. The aim of the course is reaching of A1 level of their Czech language according to the descriptor of the Common European Framework of Reference for Languages. After the completion of the course, the students will gain the following language skills:

- the students understand basic phrases which are needed for everyday communication and can use these expressions and phrases
- can introduce themselves and other people and ask simple questions concerning well known: places, people and things and react to similar questions
- they can read simple texts (notices, signs, etc.)
- they can write a simple text in Czech language (holiday postcard, fill in a simple form, etc.)
- they are introduced with culture and everyday life in the Czech Republic
- they are able to perceive the intercultural differences between their native country and the Czech Republic

Topics

1. Who is who? Verbs: to be, to have. 2. How are you?
3. People, things, relations – nouns. 4. How much is it? Money.
5. Where am I? 6. The Czech Republic, Budweis.
7. At school, at the school canteen -prepositions, conjunctions.
8. Time, days, months. 9. My family.
10. Signs. 11. Food and drink.
12. Travel. 13. Services, shopping.



English Language III (Code: S ENG 3) | Number of credits: 6

Course Objectives

The course objective is to deepen B1 language skills and gradually achieve B1+ according to the Common European Framework of Reference for Languages, enlarge vocabulary and improve listening, reading, speaking and writing skills. After successful completion of the course, the students are able to understand lectures, debates and participate in discussions on general topics/topics of their interest. Students understand TV and radio news, programmes and newspaper/online articles on topical issues. They are fluent and able to express their opinion on a wide range of topics.

Topics

1. Food, meals, restaurants
2. Present simple and continuous
3. Action and non-action verbs
4. Sports and cheating
5. Past tenses
6. Family and personality
7. Future tenses
8. Money
9. Present perfect vs past simple
10. Life changes
11. Present perfect continuous
12. Strong and base adjectives
13. Comparatives and superlatives, transport, means of transport



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14. Modern manners
 15. Modal verbs for expressing recommendation and obligation
 16. Mobile phones, communication technologies
 17. Describing people
 18. Modal verbs for expressing possibility
 18. Success and failure, be able to x can, could
 19. Adjectives ended in -ed/-ing
 20. Education
 21. First conditional
 22. Time clauses 23. Houses and living
 24. Used to, usually 25. Friendship, human relations
 26. Revision.



English Language IV (Code: S ENG 4) | Number of credits: 6

Course Objectives

The course objective is to deepen student's language knowledge to the level B2- of the Common European Framework of Reference for Languages. After the successful completion of the course, students are able to: understand extended speech and follow even complex arguments, understand articles dealing with contemporary problems, present a detailed descriptions on a wide range of subjects and interact with a degree of fluency and spontaneity, write clear, detailed texts on a wide range of subjects.

Topics

1. Work-life balance
2. Gender difference
3. The world of work
4. Meetings
5. Formal letters
6. Shopping and making a complaint
7. Films
8. Famous people
9. News
10. Superstitions
11. Murder mysteries
12. Television
13. How to write an article



Modern Architecture (Code: S SAD) | Number of credits: 6

Course objectives

Initiation of dialogue between contemporary architecture, urbanism and art focusing on Czech architectural scene. After completion of the course students will be able to understand the principles of modern architectural design, and know the environmental friendly architecture+ new approaches in modern architecture. Discursus will present foundational debates about social and technological aspects of modern architecture and the continuation of those debates into contemporary architecture.

Literature

- o CIAM 1933 The Athens Charter
- o Ch. Alexander, S. Ishikawa, M. Silverstein. A Pattern Language: Towns, Buildings, Construction
- o Christopher Alexander. Notes on the synthesis of form
- o Kevin Lynch. The Image of the City , A Theory of Good City Form
- o Christian Norberg-Schulz. Genius loci
- o Jan Gehl. Life Between Buildings
- o Jan Gehl, Lars Gemzoe. New City Spaces
- o Aldo Rossi. The architecture of the City
- o Rem Koolhaas. Delirious New York
- o Manuel de Solà-Morales. A Matter of Things



Static Solution of Constructions (Code: S SRK) | Number of credits: 6

Course objectives

The aim is to familiarize students with the general principles, principles and methods of static – structural solutions supporting the construction of multi-storey buildings and hall construction, with emphasis on their layout and vertical layout loads, static systems, static analysis , design and evaluation of each beam , node, and the whole structure , with view of the critical limit states and ultimate and applicable technical standards .

Topics

1. Storey building
2. Proposal structural system
3. Special construction systems
4. The ceiling structure
5. Columns
6. The vertical stiffeners
7. Halls layout
8. Load halls
9. Territorial rigidity hall
10. Roof structures 11. Cross links
12. Pillars 13. Longitudinal vertical bracing building and perimeter wall



Technical Building Equipment I (Code: S TZB 1) | Number of credits: 6

Course objectives

The aim is to present basic knowledge of building technical services and appliances in the area of water supply, waste water and gas distribution. After successful completion of the course students can apply knowledge of terminology, technology in developing the project sewage, water and gas. The student is able to design these systems by using knowledge of water supply, waste water and gas facilities.

Topics

1. Engineering nets - indoor technical services.
2. Technical Equipment - typology and fittings.
3. Necessity of water supply water objects, water connection.
4. The internal water supply, water supply fire.
5. Calculation of internal water mains.
6. Hot water - parameters, tank heating, heat flow.
7. Waste water outside drains, sewer connections.
8. The internal drains, underground drainage, sewer fittings, overdraft effluent drainage of paved surfaces.
9. Protection of sewage from unwanted substances.
10. Design of sewer pipes, wastewater disposal