



1. Subject

Architectural Projection of Contemporary Construction Systems (Bachelor, 3 ECTS)

2. Goals of the Course

The aim of the course is to arm the students with general knowledge about the loads and impacts influencing the structures and the behavior of load-bearing elements of their resistive structure (strength, rigidity and stability). Another goal is to present the students peculiarities of the work of contemporary construction systems and focus on their right choice which will contribute to the reduction of the design-construction work duration, effective use of building materials as well as the development of creative thinking.

3. Expected Study Outcomes

Knowledge and Skills

Knowledge:

- the work and calculation methods of load-bearing elements and construction systems of structures, main physicomachanical properties of materials used in bearing elements, types of loads and forms of impact as well as the way they are transmitted to all parts of the structure.
- application, analysis of different construction systems and evaluation of their advantages and disadvantages.
- work analysis of non-standard structures and construction systems.
- work of the non-standard architectural structures and main calculation principles.

Skills:

1. During the creation stage of the project the architectural solutions ought to be harmonious with the effective work of construction systems of structures which will result in reduction of material costs.
2. To be able to fruitfully work with other specialists participating in the project, particularly with architectural (engineer) designers and builders. To be able to provide the specialists above mentioned with full content material as a project assignment.
3. To master the most important rules of structural systems and clearly present the students the role and significance of bearing elements and constructive system of the structure.



4. Necessary Fundamental Knowledge

The future specialists ought to have fundamental knowledge in the following disciplines -
Building Materials; Strength of Materials; Theoretical Mechanics; Structural Mechanics;
Reinforced Concrete, Steel and Wood Structures; Construction Operation and Technology;
Building Design; Architecture.

5. Teaching Methods

The course is conducted mainly in the classrooms with a projector. Visiting classes are planned at unique facilities where practical classes are to be conducted using hand-held Microsoft Surface Pro tablets so as, on the photos of the actual structures to analyse the construction systems on the spot.

In COVID-19 conditions the courses will also be conducted through the online MOODLE platform.

6. Assessment Methods

The exam tickets will be multiple choice test questions. The examination assessment methods include details of written and oral tests, project planning, team work realization, classroom presentation, etc. as well as Assessment parameters (for example, ability to organize knowledge in a discursive way, capacity to critically justify the research conducted, quality of presentation, ability to use professional vocabulary, efficiency).

7. Required References

Internet links will be provided.