1. Course number and name

RB-S1-19-W3D-8D, **Construction Technology, Organization and Economics I**

2. Credits and contact hours*

2 ECTS, lectures: 30 hours**, classes: 5 hours**, laboratory: 5 hours**, project: 20 hours**

3. Instructor's or course coordinator's name

Tomasz Ponikiewski PhD, DSc/University Professor

4. Text book, title, author, and year

- Leland Blank, Anthony Tarquin: Engineering Economy, ISBN-13: 978-0-07-337630-1
- Frank R. Dagostino, Leslie Feigenbaum: Estimating in Building Construction, ISBN-13: 978-0130604057
- Roy Chudley, Construction Technology, ISBN 9780131286429

a. other supplemental materials

- Chew Yit Lin, Technology for Tall Buildings, ISBN-13 978-981-281-861-4
- FIDIC, Conditions of Contract for Construction, ISBN: 83-86774-30-4

5. Specific course information

a. brief description of the content of the course (catalog description)

Lectures: Levels of estimate. Construction cost estimation. Types of estimates. Bill of materials. Bills of quantities. Methods of Preparing BoQs. The cost of production. Losses in the company. Expenditures. The price of building works. Types costs for the construction site. Direct cost.Indirect cost. Simplified or detailed method of calculation. Labour, Materials and Eguipment. Profit. Classification of construction cost estimates. Investment process. Types of cost estimates during investment process. The participants of the construction investment process.

Exercise: Bill of materials. Bills of quantities. Estimate durations and resorses for building processes for chosen building object.

Laboratory: Estimating the cost of building a structure in various technologies in a computer cost estimate program.

Project: Detail Cost Calculation. Bart chart, arrow diagrams and labours schedules for chosen object. Site management project.

b. prerequisites or co-requisites

No prerequisites and additional requirements

c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program

Required.

6. Specific goals for the course

a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic

The student knows the most commonly used building materials and the basic elements of their manufacturing technology. The student knows how to create quality management procedures for construction works. The student knows the norms and norms of work in construction as well as the organization and principles of construction management, and knows selected computer programs supporting the organization of construction works. The student has a basic knowledge of running a business in the construction industry. The student knows the impact of construction investments on the environment. The student can prepare a simple cost estimate and schedule of construction works. The student is able to assess threats in the implementation of construction works and implement appropriate safety rules. The student knows the rules of manufacturing and application, and is able to select building materials. The student is able to work independently and cooperate in a team on a given task. The student is responsible for the safety of his own work and that of the team.

b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

K1A_W09, K1A_W10, K1A_U08; K1A_U09; K1A_U11

7. Brief list of topics to be covered

- The aim of education is to familiarize with the issues of economics of construction works.

*- Consultations were not included in the contact hours
**-per semester