

## RENOVATION ENGINEERING

<b>General information</b>	
<i>Subject</i>	Renovation Engineering
<i>Faculty</i>	Faculty of Civil Engineering, Architecture and Environmental Engineering
<i>Course of study</i>	Architecture
<i>Profile</i>	General academic
<i>Type of study</i>	I level with the degree of Eng. Arch.
<i>Starting semester</i>	Winter semester

<b>Information about the subject</b>	
<i>Semester</i>	5
<i>Number of ECTS points</i>	5
<i>Subject type</i>	obligatory
<i>Language of instruction</i>	English
<i>Syllabus prepared by</i>	Dr hab. inż. Beata Nowogońska, prof. UZ

<b>Type of class</b>					
<i>Course type</i>	<i>Number of classes per semester (full time studies)</i>	<i>Number of classes per week (full time studies)</i>	<i>Number of classes per semester (part time studies)</i>	<i>Number of classes per week (part time studies)</i>	<i>Credit type</i>
Lecture	30	2	-	-	Exam
Project	30	2	-	-	Credit with a grade

<b>Subject objective</b>
Skills and competence in the knowledge of the design and execution of conservation works in construction.

<b>Initial requirements</b>
Formal: History of architecture, Building engineering, Building materials, Technology and structural repair.

<b>Subject scope</b>
<p>Methodology of conservation. Research program. Preparatory work - documentation of inventory, opinions, evaluations, expert. Scientific research - archival research, field studies. Historical documentation - the object of restoration. Applications conservation.</p> <p>Building materials past and today.</p> <p>The principles of conservation work in construction. Land and foundations. The walls and pillars. Insulation. Floors and ceilings. Timber structures. Roofing. Carpentry, ironwork. Plasters. Floors and floors. The walls in historic buildings. Test methods.</p> <p>The principle of conservation of the walls of brick and stone architectural details. Methods and means used in the maintenance of the walls of brick and stone architectural details.</p> <p>Maintenance and preservation of wooden elements.</p> <p>Maintenance of the ruins.</p>

The stages of the proceedings in the protection of the ruins. Terms of survival. The Building and maintenance of monuments. Working with conservation departments. Legal and technical rules for the premises demanding cultural heritage preservation.

### Educational methods

Explanation methods: Lecture - conventional problem, with the text program.

Research methods: Project - the design method of problem-study sample/study-practical methods-observation method, measuring in the field.

### Education results and verification methods

<i>Description</i>	<i>Symbol</i>	<i>Verification method</i>	<i>Type of class</i>
The student knows the principles of conservation work in the construction industry relating to the land, foundations, walls, pillars, insulation, floors, ceilings, wooden structures, roofing, carpentry, plastering.	K_W02 K_W03 K_W04 K_W05 K_W07	– test with points	Lecture
The student is able to perform an assessment of the technical condition of the building.	K_U01 K_U03 K_U05 K_U06 K_U07 K_U12	– preparation of tasks	Project
The student is able to identify the importance of maintenance of building components in the protection of historic buildings.	K_K01 K_K02 K_K03 K_K04 K_K05	– observation and evaluation of participation in the classes – observation and evaluation of the student's practical skills	Lecture project

### Requirements to obtain a credit

Lecture with the thresholds on the basis of the Credit test point:

50%-60% positive response-dst,

61%-70% of the dst plus,

71%-80% db,

81%-90% of db +,

91%-100%.

The project provided the pass mark is getting positive reviews from all design (2 projects) and exercises of a written test with the criteria of assessment.

Passing the course: The rating is the average of the ratings:  $O = (W + P)/2$

### Student's work

<i>Student's work</i>	<i>Full time study (h)</i>
Interaction with the teacher (classes; consultations; exam, etc.)	75
Student's individual work (preparation for the classes, test exam; literature research preparation of: written paper, project, presentation, report, speech; etc.)	50
<i>Total</i>	125
<i>ECTS points</i>	<i>Full time study</i>
Work with a teacher	3
Work without a teacher	2
<i>Total</i>	5

**Basic literature**

1. Borusiewicz W.: Konserwacja zabytków budownictwa murowanego. Arkady, Warszawa 1985.
2. Kadłuczka A.: Konserwacja zabytków i architektoniczne projektowanie konserwatorskie. Wydawnictwo Politechniki Krakowskiej, Kraków 1999.
3. Małachowicz E.: Konserwacja i rewaloryzacja architektury w zespołach i krajobrazie. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 1994.
4. Materiały konferencyjne VII Forum Konserwatorów „Konserwacja Architektury ceglanej i kamiennego detalu architektonicznego”, Toruń 2004.
5. Borusiewicz W.: Budownictwo murowane w Polsce. PWN, Warszawa 1985.
6. Zin W. praca zbiorowa: Zabytki urbanistyki i architektury w Polsce . Odbudowa i konserwacja. Arkady, Warszawa 1986.

**Complementary literature**

1. Inżynieryjne Problemy Odnowy Staromiejskich Zespołów Zabytkowych, Konferencja Naukowo-Techniczna, Kraków, Politechnika Krakowska.
2. Czasopismo Renowacje.

**Notes**