Title:	**Transitional Project I**
Lecture hours:	30 Kon.
Study period: (summer/winter)	Winter, summer
Number of credits:	6
Assessment methods:	Written report on conducted laboratory project
Language of instruction:	English
Prerequisites:	Materials Science
Course content:	Realization of materials engineering research projects (e.g. adhesive joints of engineering materials, designing composite structural elements; metallization of polymeric materials; development of materials resistant to thermal and UV degradation; laser surface modification technique, plasma and corona discharge surface modification techniques; biodegradation of polymeric materials). The final field of the project for realization will be established individually with students.
Learning outcomes:	Student will be familiar with properties of the examined materials and many modern laboratory testing and treatment methods, e.g.: differential scanning calorimetry (DSC); dynamic mechanical analysis (DMA), thermogravimetry (TGA), tensile and impact strength measurements, laser, plasma or corona surface treatments, FTIR and UV-Vis spectroscopies.
Name of lecturer:	Dr hab. Piotr Rytlewski
Contact (email address):	prytlewski@ukw.edu.pl
Literature:	The literature will be established individually according to the selected experimental project. Some respective examples are given below: 1. Rytlewski et al.: Laser-induced surface activation and electroless metallization of polyurethane coating containing copper (II) L-tyrosine, Applied Surface Science 2020, 505, 144429 2. Rytlewski et al.: TG-FTIR coupled analysis to predetermine effective precursors for laser-activated and electroless metallized materials, Journal of Thermal Analysis and Calorimetry 2020, 141, 697–705. 3. Rytlewski et al.: Flax fibers reinforced polycaprolactone modified by triallyl isocyanurate and electron radiation, Polymer Composites 2019, 40, 481-488. 4. Rytlewski et al.: Laser-induced surface activation of biocomposites for electroless metallization, Surface and Coatings Technology 2017, 311, 104-112.