Course title: Bionanomaterials – selectable/~~regular course~~

Number of contact hours: 30 hours (15h lectures, 15h laboratories)

ETCS credits: 2

Course description: The lecture reviews different types of bionanomaterials, methods of their designing and preparation, as well as characterization of physicochemical and biological properties using various methods and instruments; applications in different branches of industry will also be discussed. The laboratories consist of exercises on bionanomaterials production using different components and methods, physicochemical characterization and biological tests.

Education effects (P7S_UW, P7S_WG)**:**

- **knowledge**: student knows the most important types of bionanomaterials; knows the methods of their preparation and analysis of physicochemical and biological properties

- **skills**: student can synthesize various types of bionanomaterials and characterize their properties; can use the specific apparatus dedicated for bionanomaterials physicochemical and biological characterization; knows how to prepare high-quality research report from performed laboratory exercises

- **social**: student is able to work independently and in the group both at the laboratories and during preparation of the report

Literature: [1] Pompe W, Rödel G, Weiss H-J, Mertig M — Bio-Nanomaterials: Designing Materials Inspired by Nature, Weinheim, 2013, Wiley-VCH; [2] Yao L — Fabrication, Characterization and Application of the Novel Bionanomaterials, Michigan USA, 2008, ProQuest LLC

Assessment method: Final test, completing the laboratories (presence and delivering of reports from each performed exercise)

Prerequisites: Basic knowledge in organic/inorganic chemistry and technology

Primary target group: All specialties students

Lecturer: Marek Piątkowski, PhD Eng

Contact person: Marek Piątkowski, PhD Eng, e-mail: mpiatkowski@chemia.pk.edu.pl