

**Course title:** Recycling of plastics – selectable / regular course

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

**ETCS credits:** 2

**Course description:** The subject is devoted to the presentation of different methods of recycling and recovery of plastics. Recycling of plastics is divided into two parts on the seminary and laboratory. On the seminary part students presents information about plastics and their methods of recovery. The various aspects of the recovery of plastics, together with legislative regulations, as well as the perspectives for further development of recycling will be discussed. The laboratories consist of exercises associated with material and chemical recycling of plastics by an example of thermoplastic and hardening plastics, whose the aim is to obtain new the polymeric materials from plastics recycling.

**Education effects** (P7S\_UW, P7S\_WG):

- **knowledge:** student knows the types of plastics; knows the most important types of recycling and the methods of recovery of polymeric materials
- **skills:** student can define various types of recycling and can indicate suitable of polymeric materials which can be subjected to the selected method of recovery and knows the specific devices dedicated for recycling of plastics
- **social:** student is able to work independently and in the group both at the laboratories and during preparation of the seminar and report

**Literature:** [1 ] Scheirs J.: — Polymer recycling : Science, Technology and Applications, Chichester, 2001, John Wiley & Sons, [2 ] Goodship V.: — Introduction to Plastics Recycling, Shawbury, 2007, Smithers Rapra Technology

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

**Prerequisites:** Basic knowledge in polymer chemistry and technology

**Primary target group:** All specialties students

**Lecturer:** dr inż. S.Michałowski, Contact person: dr inż. S.Michałowski e-mail:

[slawomir.michalowski@chemia.pk.edu.pl](mailto:slawomir.michalowski@chemia.pk.edu.pl)