<table>
<tr><td>Course code</td><td></td></tr>
<tr><td>Type and description</td><td>EC Elective Course</td></tr>
<tr><td>ECTS credit</td><td>1</td></tr>
<tr><td>Course name</td><td>Multicomponent Polymeric Systems</td></tr>
<tr><td>Course name in Polish</td><td>Wielkoskładnikowe układy polimerowe</td></tr>
<tr><td>Language of instruction</td><td>English</td></tr>
<tr><td>Course level</td><td>8 PRK</td></tr>
<tr><td>Course coordinator</td><td>Dr hab. inż. Dawid Stawski</td></tr>
<tr><td>Course instructors</td><td>Dr hab. inż. Dawid Stawski</td></tr>
<tr><td>Delivery methods and course duration</td><td>
<table>
<tr><th></th><th>Lecture</th><th>Tutorials</th><th>Laboratory</th><th>Project</th><th>Seminar</th><th>Other</th><th>Total of teaching hours during semester</th></tr>
<tr><td>Contact hours</td><td>0</td><td>0</td><td>0</td><td>15</td><td>0</td><td>0</td><td>15</td></tr>
<tr><td>E-learning</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td></td></tr>
<tr><td>Assessment criteria (weightage)</td><td></td><td></td><td></td><td>100</td><td></td><td>0,00</td><td>100</td></tr>
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<tr><td>Course objective</td><td>The goal of the subject
The aim of the course is to familiarize the student with advanced knowledge in the field of obtaining and properties of multi-component polymeric materials.</td></tr>
<tr><td>Learning outcomes</td><td>A PhD student after completing the course can:
1. Classify multi-component polymer materials
2. Choose polymers for multicomponent systems due to their chemical structure and functional properties
Effects: W4, U4, K1</td></tr>
<tr><td>Assessment methods</td><td>Effects- written colloquium.
The final mark consists of a written exam covering the lecture material (100%).</td></tr>
<tr><td>Prerequisites</td><td></td></tr>
<tr><td>Course content with delivery methods</td><td>The content of education divided into forms
project
Theoretical foundations for the formation of polymer mixtures. Thermodynamics of mixing, mutual interactions of components. Miscibility of ingredients and methods of its improvement. Methods for making polymer mixtures. Composing of two and multi-element mixtures. Rheology of mixtures. Viscosity of multi-component systems. Mixtures of liquid crystal polymers with thermoplastics. Polymer blends containing a biodegradable polymer. Applications of mixtures. Examination of physicochemical parameters of polymer mixtures. Analytical techniques for multicomponent testing.</td></tr>
<tr><td>Basic reference materials</td><td>- Miles, S. Rostami: Multicomponent Polymer Systems, Longman Scientific and Technical, Essex 1992
- Multicomponent Polymer Systems, NORBERT PLATZER, Applied Polymer Science, Second Edition Edition, Chapter 10, pp 219–237, ACS Symposium Series, Vol. 285</td></tr>
<tr><td>Other reference materials</td><td></td></tr>
<tr><td>Average student workload outside classroom</td><td>15h</td></tr>
<tr><td>Comments</td><td></td></tr>
<tr><td>Last update</td><td>March 2023</td></tr>
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