<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>Fibre Physics</td></tr>
<tr><td>Course name in Polish</td><td>Fizyka włókna</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. Sławomir Sztajnowski</td></tr>
<tr><td>Course instructors</td><td>Dr inż. Waldemar Machnowski, dr hab. Michał Puchalski</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>no</td></tr>
<tr><td>Assessment criteria (weightage)</td><td>0</td><td>0</td><td>0</td><td>100%</td><td>0</td><td>0</td><td>100%</td></tr>
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<tr><td>Course objective</td><td>The aim of the course is to enable the acquisition of knowledge in the field of micro and macro structure of fibres, physical properties of fibres and their conditions, including recrystallization and reorientation of fibres</td></tr>
<tr><td>Learning outcomes</td><td>PhD student after completing the course: 1.can characterize the processes occurring during the formation of chemical fibres from the alloy and solution and the influence of process parameters on the structural structure of the fibres, 2.basic physical and functional properties of fibres
2.candescribe the theoretical basis of the physical properties of the fibres (rheological, strength, thermal, electrical)
W4, U4, K1</td></tr>
<tr><td>Assessment methods</td><td>Methods of verification of learning outcomes
effect - presentation of the project
The final grade consists of:
Presentation - 100%</td></tr>
<tr><td>Prerequisites</td><td></td></tr>
<tr><td>Course content with delivery methods</td><td>Learning content - project
1. Physical fine structure of natural and man-made fibres; semi-crystalline fibres structure, hypothesis of fibre structure
2. Physics of man - made fibres forming processes: creation of fibre internal orientation (preliminary and proper orientation), creation of semi-crystalline fibres structure (initial and re-crystallization), analysis of relationship between physical fibre structure and the factors forming processes of man-made fibres (fibers formed from melt and from polymer solution), analysis of relationship between physical fibre structure and the processes factors</td></tr>
<tr><td>Basic reference materials</td><td>1.Urbańczyk G.: Fizyka włókna, Wydawnictwo PŁ, Łódź, 2002
2.Urbańczyk G.: Mikrostruktura włókna, Badanie Orientacji wewnętrznej, WNT,Warszawa, 1988,
3.Urbańczyk G.: Mikrostruktura włókna, Badanie struktury Krystalicznej i Morfologii Włókien, WNT, Warszawa, 1988</td></tr>
<tr><td>Other reference materials</td><td></td></tr>
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Average student workload outside classroom	15
Comments	
Last update	March 2023