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|---|-------------------------|-----------------|-----------------------|-------------------------------------|------------------|
| <b>Course title: Separation techniques</b>  |                         |                 |                       |                                     |                  |
|   | <b>Specialty</b>        | <b>Semester</b> | <b>Number of ECTS</b> | <b>Number of hours in the class</b> | <b>Form</b>      |
|   | <b>Foreign students</b> | <b>summer</b>   | <b>3</b>              | <b>30</b>                           | <b>Lab class</b> |
| <b>Name of lecturer: Prof. Piotr Stepnowski</b>   |                         |                 |                       |                                     |                  |
| <b>Objective of the course (expected learning outcomes and competences to be acquired)</b>  |                         |                 |                       |                                     |                  |
| <p>Making students familiar with the basic separation techniques,</p> <ul style="list-style-type: none"> <li>• introduce students to the basics of the calculations necessary for the proper interpretation of the results of analyzes,</li> <li>• Making students familiar with the basic chromatographic techniques, the construction of the chromatographic apparatus and the basic parameters of its work</li> <li>• introduce students to the principles of selection of analytical conditions based on the physicochemical properties of the analyzed compounds</li> <li>• gaining the skills independently design and implementation of processes for separating mixtures and the isolation and extraction of selected chemical compounds with the use of the main separation techniques,</li> <li>• getting practical skills for handling in the chromatographic laboratory.</li> </ul> |                         |                 |                       |                                     |                  |
| <b>Prerequisites:</b> Completed courses of General chemistry, Analytical chemistry, Inorganic chemistry and Organic chemistry.  |                         |                 |                       |                                     |                  |
| <b>Teaching methods:</b>  |                         |                 |                       |                                     |                  |
| Lab classes - experiments   |                         |                 |                       |                                     |                  |
| <b>Course contents</b>  |                         |                 |                       |                                     |                  |
| Lab classes: Extraction techniques, separation and analysis of chemical compounds with chromatographic methods. (GC, HPLC, TLC)   |                         |                 |                       |                                     |                  |
| <b>Recommended reading:</b>   |                         |                 |                       |                                     |                  |
| <p>A. Primary literature:</p> <p style="padding-left: 20px;">A.1.Literature used during classes:</p> <p style="padding-left: 40px;">Monographic works provided by assistants leading classes</p> <p>B. Supplementary literature:</p> <p>Various academic handbooks concerning separation techniques</p>   |                         |                 |                       |                                     |                  |
| <b>Assessment methods:</b>  |                         |                 |                       |                                     |                  |
| Mid-term tests  |                         |                 |                       |                                     |                  |
| End-term test   |                         |                 |                       |                                     |                  |
| <b>Language of instruction:</b> English   |                         |                 |                       |                                     |                  |