



## Subject card

|   |  |  |                                     |            |  |         |     |
|---|--|--|-------------------------------------|------------|--|---------|-----|
| Subject name and code                       | Quality control in chemical technology , PG_00038552   |  |                                     |            |  |         |     |
| Field of study                              | Chemical Technology  |  |                                     |            |  |         |     |
| Date of commencement of studies             | February 2022  | Academic year of realisation of subject  |                                     |            | 2021/2022  |         |     |
| Education level                             | second-cycle studies   | Subject group  |                                     |            | Optional subject group<br>Subject group related to scientific research in the field of study |         |     |
| Mode of study                               | Full-time studies  | Mode of delivery   |                                     |            | at the university  |         |     |
| Year of study                               | 1  | Language of instruction  |                                     |            | Polish   |         |     |
| Semester of study                           | 1  | ECTS credits   |                                     |            | 1.0  |         |     |
| Learning profile                            | general academic profile   | Assessment form  |                                     |            | assessment   |         |     |
| Conducting unit                             | Department of Polymers Technology -> Faculty of Chemistry  |  |                                     |            |  |         |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   | prof. dr hab. inż. Janusz Datta  |                                     |            |  |         |     |
|   | Teachers   | prof. dr hab. inż. Janusz Datta<br>dr inż. Patrycja Szumała<br>dr hab. inż. Andrzej Nowak<br>dr inż. Ewa Głowińska   |                                     |            |  |         |     |
| Lesson types and methods of instruction     | Lesson type  | Lecture  | Tutorial                            | Laboratory | Project  | Seminar | SUM |
|   | Number of study hours  | 0.0  | 0.0                                 | 15.0       | 0.0  | 0.0     | 15  |
|   | E-learning hours included: 0.0   |  |                                     |            |  |         |     |
| Learning activity and number of study hours | Learning activity  | Participation in didactic classes included in study plan   | Participation in consultation hours |            | Self-study   | SUM     |     |
|   | Number of study hours  | 15   | 5.0                                 |            | 5.0  | 25      |     |
| Subject objectives                          | The aim of the course is to acquire students the ability to plan and perform the basic characteristics of physicochemical and mechanical properties of specific products in the field of polymers, cosmetics and functional materials according to standards and other regulation in quality control of particular product.  |  |                                     |            |  |         |     |
| Learning outcomes                           | Course outcome   | Subject outcome  |                                     |            | Method of verification   |         |     |
|   | K7_K01   | students are able to critically evaluate the test results  |                                     |            | [SK2] Assessment of progress of work   |         |     |
|   | K7_K04   | students are able to assign specific roles in a team in order to conduct specific research   |                                     |            | [SK1] Assessment of group work skills  |         |     |
|   | K7_U05   | students have the ability to independently carry out specific research using modern techniques in the field of chemical analysis, physical, mechanical and biological characteristics of a specific product according to the quality control requirements. |                                     |            | [SU4] Assessment of ability to use methods and tools   |         |     |
| Subject contents                            | Product quality control in industry; safety data sheet, technical approval, requirements according to the Pharmacopea, other regulations informing about the quality of the product. Products for self-testing from the group of polymer granulates, including biodegradable ones (e.g. cutlery, cups, medical equipment), polymer packaging (for contact with food, cosmetics, other technical products), polymer products and polymer composites in construction (e.g. insulation boards, pipes, paints) and medicine (dressings, stable and biodegradable implants). Products from the group of pharmaceuticals and selected drugs (anti-bullets, vitamins, ointments). Products from the group of pharmaceuticals and selected drugs (painkillers, vitamins, ointments). Products from the group of cosmetics, detergents and household chemicals (anionic and non-ionic surfactants, creams, shampoos, etc.). |  |                                     |            |  |         |     |
| Prerequisites and co-requisites             | No requirements  |  |                                     |            |  |         |     |
| Assessment methods and criteria             | Subject passing criteria   | Passing threshold  |                                     |            | Percentage of the final grade  |         |     |
|   | obligatory practical workshop  | 60.0%  |                                     |            | 50.0%  |         |     |
|   | Final presentation   | 60.0%  |                                     |            | 50.0%  |         |     |

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| Recommended reading  | Basic literature   | <p>1. Broniewski T., Kapko J., Płaczek W., Thomala J. T.: Metody badań charakterystyczne dla polimerów, WNT, W-wa 1970. 2. Łączyński B.; Tworzywa wielkocząsteczkowe, WNT W-wa 19823.</p> <p>Data sheets, technical approvals in construction (via Internet)</p> <p>Pharmacopea</p> <p>Product information leaflets</p> <p>Industry guidelines</p> |
|  | Supplementary literature   | <p>1. Przygocki W.: Metody fizyczne badań polimerów, PWN, W-wa 19904. 2.</p> <p>ASTM, DIN, EU standards</p> <p><a href="https://biotechnologia.pl/kosmetologia/kontrola-jakosci-w-produkcji-kosmetykow,10734">https://biotechnologia.pl/kosmetologia/kontrola-jakosci-w-produkcji-kosmetykow,10734</a></p>   |
|  | eResources addresses   |  |
| Example issues/<br>example questions/<br>tasks being completed | <p>Sample products analyzed:</p> <p>biodegradable filament for FDM 3D printing</p> <p>Paracetamol</p> <p>Anti-dandruff shampoo</p> |  |
| Work placement   | Not applicable   |  |