



## Subject card

|   |   |  |  |                                     |   |            |     |
|---|---|--|--|-------------------------------------|---|------------|-----|
| Subject name and code                       | Exploitation of Polymeric Materials in Construction, PG_00052985  |  |  |                                     |   |            |     |
| Field of study                              | Chemistry in Construction Engineering   |  |  |                                     |   |            |     |
| Date of commencement of studies             | February 2023   | Academic year of realisation of subject                  |  |                                     | 2022/2023   |            |     |
| Education level                             | second-cycle studies  | Subject group  |  |                                     | Obligatory subject group 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   |  |                                     | 3.0   |            |     |
| 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  |  |  |                                     |   |            |     |
| Lesson types and methods of instruction     | Lesson type   | Lecture  | Tutorial   | Laboratory                          | Project   | Seminar    | SUM |
|   | Number of study hours   | 15.0   | 0.0  | 0.0                                 | 0.0   | 15.0       | 30  |
|   | 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   | 30   |  | 4.0                                 |   | 41.0       | 75  |
| Subject objectives                          | To gain the knowledge in polymer chemistry and technology as well as their practical applications in civil engineering.   |  |  |                                     |   |            |     |
| Learning outcomes                           | Course outcome  |  | Subject outcome  |                                     | Method of verification  |            |     |
|   | K7_U06  |  | Student knows how to estimate the suitability of the materials for specific applications.  |                                     | [SU5] Assessment of ability to present the results of task<br>[SU2] Assessment of ability to analyse information<br>[SU1] Assessment of task fulfilment |            |     |
|   | K7_U01  |  | Student knows which polymers are currently applied in civil engineering, which are the current trends in the field, how to solve basic construction problems using ceramics, polymers, metals, composites. |                                     | [SU2] Assessment of ability to analyse information  |            |     |
|   | K7_W04  |  | Student knows the technology and properties of the materials applied in civil engineering.   |                                     | [SW2] Assessment of knowledge contained in presentation<br>[SW1] Assessment of factual knowledge  |            |     |
| Subject contents                            | To gain the knowledge in polymer chemistry and technology as well as their practical applications in civil engineering.   |  |  |                                     |   |            |     |
| Prerequisites and co-requisites             | Basic informations of polymer chemistry. Type of macromolecules that can be applied in technology. Polymer membranes for different applications. Biodegradable materials and their application, composites. |  |  |                                     |   |            |     |
| Assessment methods and criteria             | Subject passing criteria  |  | Passing threshold  |                                     | Percentage of the final grade   |            |     |
|   | Lecture   |  | 60.0%  |                                     | 60.0%   |            |     |
|   | Seminar   |  | 100.0%   |                                     | 40.0%   |            |     |
| Recommended reading                         | Basic literature  |  | Florjańczyk Z.: Chemia polimerów. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 1995.   |                                     |   |            |     |
|   |   |  | Żuchowska I.: Polimery konstrukcyjne. WNT, Warszawa 1992   |                                     |   |            |     |
|   | Supplementary literature  |  | Polimery, Przemysł Chemiczny   |                                     |   |            |     |

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|  | eResources addresses   | Adresy na platformie eNauczenie: |
| Example issues/<br>example questions/<br>tasks being completed | Polyesters, polyolefins, epoxy resins, polyurethanes, composites, nanocomposites |                                  |
| Work placement   | Not applicable   |                                  |