GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

| | | | |
|---|---|---|---|
| Subject name and code | COSMETIC INNOVATIONS, PG_00064326 | | |
| Field of study | Chemical Technology | | |
| Date of commencement of studies | February 2025 | Academic year of realisation of subject | 2025/2026 |
| Education level | second-cycle studies | Subject group | Optional subject group<br>Specialty 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 | 2 | ECTS credits | 3.0 |
| Learning profile | general academic profile | Assessment form | assessment |
| Conducting unit | Department of Biotechnology and Microbiology -> Faculty of Chemistry -> Wydziały Politechniki Gdańskiej | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Ilona Kłosowska-Chomiczewska | |
| | Teachers | dr inż. Ilona Kłosowska-Chomiczewska<br>dr inż. Aneta Pacyna-Kuchta | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 0.0 | 0.0 | 0.0 | 30.0 | 15.0 | 45 |

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 | 45 | 5.0 | 25.0 | 75 |

**Subject objectives**

The aim of the course is to prepare students to independently design prototypes of simple products in the field of cosmetic and cosmeceutical technology, with particular emphasis on product innovation including the selection of raw materials, manufacturing technologies, and the resulting microstructure of the cosmetic product. The course also highlights environmental aspects and guides students in preparing preliminary materials required for a patent application or a know-how description.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K7_W02] selects appropriate apparatus and materials for the manufacture and processing of consumer goods | The student is able to select an appropriate methodology, assemble the necessary equipment, and gather materials required to prepare a workstation for manufacturing a chosen cosmetic product. | [SW3] Assessment of knowledge contained in written work and projects<br>[SW1] Assessment of factual knowledge |
| [K7_K01] critically evaluates the content of cognitive and practical problems | The student is able to apply technological knowledge specific to their field of study to design prototypes of simple cosmetic products. | [SK5] Assessment of ability to solve problems that arise in practice |
| [K7_U08] assesses the potential for commercialisation of a product or technology based on an analysis of scientific publications and patents | The student is able to assess the commercialization potential of a product or technology based on the analysis of scientific publications and patents. | [SU2] Assessment of ability to analyse information |

**Subject contents**

Design of innovative products and their trademarks (logos), preparation of a review of the state of technology based on scientific publications and patents, including a statement justifying the introduction of the innovation; development of the steps for prototype creation or production/synthesis process; description of necessary raw materials and methods for testing and evaluating the prototype; preparation of a mini business plan considering raw material costs and competing products on the market; and preparation of a patent application manuscript or a know-how description.

**Prerequisites and co-requisites**

Basic knowledge in the field of cosmetic chemistry and technology

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Final presentation</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>Partial reports</td><td>60.0%</td><td>30.0%</td></tr>
<tr><td>Group activity</td><td>60.0%</td><td>20.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Baki, Gabriella. Introduction to cosmetic formulation and technology. John Wiley & Sons, 2022.<br>Sakamoto, Kazutami, et al., eds. Cosmetic science and technology: theoretical principles and applications. Elsevier, 2017.</td></tr>
<tr><td>Supplementary literature</td><td>Barel, André O., Marc Paye, and Howard I. Maibach, eds. Handbook of cosmetic science and technology. CRC press, 2014.<br><br>Schueller, Randy, and Perry Romanowski. Beginning cosmetic chemistry: an overview for chemists, formulators, suppliers and others interested in the cosmetic industry. Allured, 1999.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Development of an innovative solution, preparation of a prototype, or improvement of existing technologies in the field of cosmetic chemistry and technology, as well as functional additives for cosmetic products.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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