



## Subject card

|   |  |  |                                    |                                     |  |            |     |
|---|--|--|------------------------------------|-------------------------------------|--|------------|-----|
| Subject name and code                       | MOLECULAR MODELLING, PG_00038906   |  |                                    |                                     |  |            |     |
| Field of study                              | Chemistry  |  |                                    |                                     |  |            |     |
| 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                             |            |     |
| 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 Pharmaceutical Technology and Biochemistry -> Faculty of Chemistry   |  |                                    |                                     |  |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   |  | prof. dr hab. inż. Maciej Bagiński |                                     |  |            |     |
|   | Teachers   |  |                                    |                                     |  |            |     |
| Lesson types and methods of instruction     | Lesson type  | Lecture  | Tutorial                           | Laboratory                          | Project  | Seminar    | SUM |
|   | Number of study hours  | 15.0   | 0.0                                | 30.0                                | 0.0  | 0.0        | 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 familiarize students with selected topics in the field of molecular modeling, which can be useful in carrying out the thesis and may also serve as the basis for specific items on the third level studies. The strategic objective will be achieved through assimilation of theoretical knowledge as well as practical execution of tasks within the project. Presented the content of education in the subject encouraged to broaden the knowledge by the use of electronic resources and indicated Recommended reading. |  |                                    |                                     |  |            |     |
| Learning outcomes                           | Course outcome   | Subject outcome  |                                    |                                     | Method of verification                             |            |     |
|   | K7_W02   | -has knowledge about the molecular properties of simple organic molecules as well as biopolymers<br>-understands the nature of interactions between biomolecules and is able to analyze these interactions |                                    |                                     | [SW1] Assessment of factual knowledge              |            |     |
|   | K7_U01   | -can find literature source information about the tested model<br>-can critically compare literature data with the results of molecular modeling simulations   |                                    |                                     | [SU2] Assessment of ability to analyse information |            |     |
|   | K7_W05   | -has knowledge about the molecular properties of simple organic molecules as well as biopolymers<br>-understands the nature of interactions between biomolecules and is able to analyze these interactions |                                    |                                     | [SW1] Assessment of factual knowledge              |            |     |



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| Example issues/<br>example questions/<br>tasks being completed | molecular dynamics<br>molecular mechanics<br>intermolecular interactions<br>molecular docking |
| Work placement   | Not applicable  |

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