

**Subject card**

|   |   |  |                            |                                     |  |            |     |
|---|---|--|----------------------------|-------------------------------------|--|------------|-----|
| <b>Subject name and code</b>  | Principles of ergonomics, PG_00054151   |  |                            |                                     |  |            |     |
| <b>Field of study</b>   | Geography   |  |                            |                                     |  |            |     |
| <b>Date of commencement of studies</b>  | October 2024  | <b>Academic year of realisation of subject</b>           |                            |                                     | 2024/2025                                      |            |     |
| <b>Education level</b>  | Bachelor's studies  | <b>Subject group</b>                                     |                            |                                     | Obligatory subject group in the field of study |            |     |
| <b>Mode of study</b>  | full-time studies   | <b>Mode of delivery</b>                                  |                            |                                     | at the university                              |            |     |
| <b>Year of study</b>  | 1   | <b>Language of instruction</b>                           |                            |                                     | Polish   |            |     |
| <b>Semester of study</b>  | 1   | <b>ECTS credits</b>                                      |                            |                                     | 0.0  |            |     |
| <b>Learning profile</b>   | academic  | <b>Assessment form</b>                                   |                            |                                     | credit   |            |     |
| <b>Conducting unit</b>  | Laboratory of Bionanotechnology -> Department of Molecular Biotechnology -> Faculty of Chemistry -> Rector  |  |                            |                                     |  |            |     |
| <b>Name and surname of lecturer (lecturers)</b>   | <b>Subject supervisor</b>   |  | mgr Ewa Sulecka-Mielewczyk |                                     |  |            |     |
|   | <b>Teachers</b>   |  | mgr Ewa Sulecka-Mielewczyk |                                     |  |            |     |
| <b>Lesson types</b>   | <b>Lesson type</b>  | Lecture  | Tutorial                   | Laboratory                          | Project  | Seminar    | SUM |
|   | <b>Number of study hours</b>  | 6.0  | 0.0                        | 0.0                                 | 0.0  | 0.0        | 6   |
|   | E-learning hours included: 0.0  |  |                            |                                     |  |            |     |
|   | Additional information:   |  |                            |                                     |  |            |     |
| 1. Lecture with multimedia presentation   |   |  |                            |                                     |  |            |     |
| 2. Presentation of selected issues from using available teaching videos and instructional |   |  |                            |                                     |  |            |     |
| <b>Learning activity and number of study hours</b>  | <b>Learning activity</b>  | Participation in didactic classes included in study plan |                            | Participation in consultation hours |  | Self-study | SUM |
|   | <b>Number of study hours</b>  | 6  |                            | 0.0                                 |  | 0.0        | 6   |
| <b>Subject objectives</b>   | <ol style="list-style-type: none"> <li>familiarizing students with all issues mentioned in the lecture program content,</li> <li>getting acquainted with the history of ergonomics and its development,</li> <li>applications of ergonomics in the work environment and at home,</li> <li>transfer of interdisciplinary knowledge about humans in the work environment</li> </ol> |  |                            |                                     |  |            |     |

| Learning outcomes               | Course outcome  | Subject outcome  | Method of verification   |
|---------------------------------|---|--|--|
|                                 | [GEOGRL3-K04] social action, including cooperation to preserve the ecological balance and protect the Earth's resources and its sustainable development, using forms of own entrepreneurship for this purpose   | is aware of the impact of the socio-economic environment on ecological balance, understands the importance of applying the principles of sustainable development                     | [SK5] implementation of a problem task   |
|                                 | [GEOGRL3-W10] principles of planning and development of individual entrepreneurship, using geographical knowledge   | 1. knows basic issues related to work organization<br>2. knows the principles of ergonomic design of the workplace   | [SW5] implementation of a problem task   |
|                                 | [GEOGRL3-K02] bear full responsibility for the actions taken and adhere to the principles of professional ethics and principles of intellectual honesty, is aware of the importance of a professional approach in professional life   | sees the connection between the principles of ergonomics and the issues of professional ethics and the protection of intellectual property   | [SK1] oral statement/conversation/discussion   |
|                                 | [GEOGRL3-K05] independently undertake and initiate professional behavior, including maintaining the principles of professional ethics in oneself and others, and care for the achievements and traditions of the geography profession   | is able to discuss existing solutions from the point of view of ergonomics and is able to apply them both in independent work and in a team  | [SK1] oral statement/conversation/discussion   |
|                                 | [GEOGRL3-U05] find and select the necessary information from professional literature and other sources, including electronic sources  | can find the necessary information about ergonomics organized Workplace,   | [SU5] implementation of a problem task   |
|                                 | [GEOGRL3-U04] plan and carry out, independently and in a team, a simple research procedure in the field of geographical sciences under the guidance of a scientific supervisor  | understands and is able to explain the relationship between measurements anthropometrics and workplace design and is able to apply ergonomic solutions at work and in everyday life. | [SU1] oral statement/conversation/discussion<br>[SU5] implementation of a problem task |
| Subject contents                | <p>History and development of ergonomics. The essence of occupational health and safety. Ergonomics tasks. The role of ergonomics in the work process i science, basic concepts. Issues of sustainable development and ecology. Conceptual ergonomics and corrective ergonomics. Physiological determinants of work efficiency. Optimal time work, rest breaks. Psychophysical properties of man. Material work environment: physical, chemical, biological factors, microclimate. The human-workplace system. Risk assessment. Organization of the workplace. Ergonomic evaluation of the materialworking environment. Ergonomic shaping of the workplace, working position. Assessment of a computer workstation with a monitor screen. Principles of ergonomic work with a portable computer. Ethics and protection of intellectual property in the context of ergonomics.</p> |  |  |
| Prerequisites and co-requisites |   |  |  |
| Assessment methods and criteria | Subject passing criteria  | Passing threshold  | Percentage of the final grade  |
|                                 | attendance  | 100.0%   | 100.0%   |

|  |   |   |
|--|---|---|
| Recommended reading  | Basic literature  | <p>1. B. Rączkowski Occupational health and safety in practice, ODDK Gdańsk,</p> <p>2. "Work science - safety, hygiene, ergonomics", Central Institute for Labor Protection, Warsaw.</p> <p>3. J. Kania "Ergonomic methods", PWE, Warsaw,</p> <p>4. Regulation of the Minister of Labor and Social Policy of December 1, 1998 on occupational health and safety at positions equipped with screen monitors.</p> |
|  | Supplementary literature  | <p>1. K. Ujma-Wąsowicz, "Ergonomics in architecture", Ed. Silesian University of Technology, Gliwice 2005,</p> <p>2. M. Kamieńska-Żyła, "Ergonomics of a computer station", AGH University of Science and Technology Publishing House, Kraków 2000</p>  |
|  | eResources addresses  |   |
| Example issues/<br>example questions/<br>tasks being completed | <p>1. Problem task related to work environment factors and occupational risk assessment<br/>2. Problem-solving task related to the ergonomics of the workstation<br/>3. First aid</p> |   |
| Work placement   | Not applicable  |   |

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