



Subject card

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| Subject name and code | , PG_00062292 | | | | | | |
| Field of study | Mechanical and Naval Engineering | | | | | | |
| Date of commencement of studies | October 2023 | Academic year of realisation of subject | | | 2023/2024 | | |
| Education level | first-cycle studies | Subject group | | | | | |
| Mode of study | Part-time studies | Mode of delivery | | | e-learning | | |
| Year of study | 1 | Language of instruction | | | Polish | | |
| Semester of study | 1 | ECTS credits | | | 2.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Aleksandra Suchta | | | | | |
| | Teachers | | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 18.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18 |
| | E-learning hours included: 18.0 | | | | | | |
| 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 | 18 | | 0.0 | | 0.0 | 18 |
| Subject objectives | To familiarize students with the basic concepts and principles of classical genetics. Understanding the inheritance of phenotypic traits and Mendel's laws related to them. Learning to interpret and analyze the results of genetic crosses. Preparing students to independently conduct genetic experiments and analyze data. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K6_W15] possesses a knowledge necessary to understand the ex-technical conditions of engineering activity, possesses knowledge on management, including quality management and running commercial enterprise, within the range of protection of intellectual property and patent law; knows general principles of creating and developing forms of individual entrepreneurship and basic HSE rules applicable to machine industry | [K6_W15] has the necessary knowledge for non-technical understanding business conditions engineering, has knowledge in the field management, including management quality and handling business activity, in scope of property protection intellectual and legal patent; knows the general rules creation and development of forms individual entrepreneurship and safety rules and occupational hygiene applicable in the machinery industry | [SW1] Assessment of factual knowledge |
| | [K6_K01] is aware of the need for complementing the knowledge throughout the whole life, is able to select proper methods of teaching and learning, critically assesses the possessed knowledge; is aware of the importance of professional conduct and following the rules of professional ethics; is able to show resourcefulness and innovation in the realisation of professional projects | [K6_K01] has consciousness the need to supplement knowledge throughout his life and can choose proper methods of teaching yourself and others, criticizes them knowledge; has awareness of importance professional conduct and compliance with ethical principles professional; can prove himself entrepreneurship and innovation in implementation professional projects | [SK3] Assessment of ability to organize work |
| [K6_U14] is able to analyse the operation of devices and compare the construction solutions applying usage, safety, environmental, economic and legal criteria | [K6_U14] can perform analysis device operation and compare construction solutions using performance criteria safety, environmental, economic and legal | [SU1] Assessment of task fulfilment | |
| Subject contents | 1) Explanation of basic concepts in the field of classical genetics 2) What are Mendel's Laws and what is the inheritance of monogenic traits? 3) Genetic crosses: methods and interpretation of results. 4) Inheritance of polygenic and polygenic traits. 5) Genotypes and phenotypes: gene cooperation and allele interactions. 6) Genotyping: techniques and their applications. 7) Genetic mutations and their impact on inheritance. 8) Gene mapping and crossover studies. 9) Sex inheritance and sex chromosomes. 10) Population analysis and genetic evolution. 11) Application of classical genetics in medicine and agriculture. | | |
| Prerequisites and co-requisites | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | test | 60.0% | 100.0% |

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| Recommended reading | Basic literature | <p>1. Genetics, Revised Edition. Vipond, Karen. Lantern Publishing. 2013</p> <p>2. Kapur & Suri'S Basic Human Genetics Paperback 2016 by Trivedi Dipali J (Author) Jaypee Brothers Medical Publishers; third edition (2016) ISBN-13: 978-9352500277</p> <p>3. Human Genetics Paperback Import, 23 Nov 2009 by S. D. Gangane (Author) ISBN-13: 978-8131211281</p> |
| | Supplementary literature | Genetyka medyczna; Connor, Ferguson, Tobias Edward. Wydawnictwo: PZWL; 2013. |
| | eResources addresses | Adresy na platformie eNauczenie: Podstawy genetyki klasycznej - Moodle ID: 42318 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=42318 |
| Example issues/ example questions/ tasks being completed | Explanation of basic concepts in the field of classical genetics. What are Mendel's Laws and what is the inheritance of monogenic traits? | |
| Work placement | Not applicable | |

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