



## Subject card

|   |   |  |   |                                     |                               |            |     |
|---|---|--|---|-------------------------------------|-------------------------------|------------|-----|
| Subject name and code                       | Technology and Civilization, PG_00056482  |  |   |                                     |                               |            |     |
| Field of study                              | Management and Production Engineering   |  |   |                                     |                               |            |     |
| Date of commencement of studies             | October 2022  | Academic year of realisation of subject                  |   |                                     | 2022/2023                     |            |     |
| Education level                             | first-cycle studies   | 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                           | 1   | ECTS credits   |   |                                     | 1.0                           |            |     |
| Learning profile                            | general academic profile  | Assessment form  |   |                                     | assessment                    |            |     |
| Conducting unit                             | Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology  |  |   |                                     |                               |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor  | dr inż. Wojciech Owczarzak                               |   |                                     |                               |            |     |
|   | Teachers  | dr inż. Wojciech Owczarzak                               |   |                                     |                               |            |     |
| 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                           | 0.0        | 15  |
|   | 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   | 15   |   | 1.0                                 |                               | 9.0        | 25  |
| Subject objectives                          | Presentation of the development of civilization and technology from the dawn of humanity to the present day.  |  |   |                                     |                               |            |     |
| Learning outcomes                           | Course outcome  |  | Subject outcome   |                                     | Method of verification        |            |     |
| Subject contents                            | Definitions: techniques, civilization, culture. The key invention of mankind is a container for transporting fire. Migrations. Paleolithic: first mechanical tools, first construction of seats. Neolithic: circle and circle. Bronze: mechanical processing of metals. Iron: the beginnings of metallurgy, plastic working of metals, precise tools in applied and decorative arts. Antiquity: a girder as a structural element, skeletal structures in shipbuilding, a pulley, a screw conveyor, an arch in construction, aqueducts as the first waterworks, a throwing weapon. Theodolite prototype. The development of philosophy and mathematics. Middle Ages: printing press, water wheel and windmills: mechanical gears, mechanical energy accumulators, trigger mechanisms. Artesian wells. Renaissance: da Vinci designs, the constructions of Galileo, Kepler, Gilbert, Newton. The French Revolution: The Guillotine. Industrial revolution: steam engine, mechanical spinning mill, programmable weaving machine, mines, Bessemer steel mills, riveted bridge, steel ships, railroads, tunnels, planes, tanks, telegraph, telephone, radio, internal combustion engine, car, production line, machine gun, patent law. World War I: mechanization of works, development of high-rise construction, construction of large machines (turbines), bridges, tunnels, canals; diesel engine, jet plane, rocket, tank. Present: space mechanics, nanomechanics, ecomechanics. |  |   |                                     |                               |            |     |
| Prerequisites and co-requisites             |   |  |   |                                     |                               |            |     |
| Assessment methods and criteria             | Subject passing criteria  |  | Passing threshold   |                                     | Percentage of the final grade |            |     |
|   | The presentation  |  | 50.0%   |                                     | 100.0%                        |            |     |
| Recommended reading                         | Basic literature  |  | 1. Calendar of the history of the world. PWN Encyclopedia. 2005 2. History of the world. PWN Encyclopedia. 2008 |                                     |                               |            |     |
|   | Supplementary literature  |  | 1. The Great PWN Encyclopedia, 2008   |                                     |                               |            |     |
|   | eResources addresses  |  |   |                                     |                               |            |     |

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| Example issues/<br>example questions/<br>tasks being completed | The impact of the indicated discovery / invention on the development of civilization.<br><br>The most important technical achievements of the Bronze Age<br>Stonehenge's hypothetical functions |
| Work placement   | Not applicable  |