



Subject card

|   |   |   |                                     |            |   |         |     |
|---|---|---|-------------------------------------|------------|---|---------|-----|
| Subject name and code                       | Law and safety of flights, PG_00053256  |   |                                     |            |   |         |     |
| Field of study                              | Geodesy and Cartography   |   |                                     |            |   |         |     |
| Date of commencement of studies             | October 2021  | Academic year of realisation of subject   |                                     |            | 2023/2024   |         |     |
| Education level                             | first-cycle studies   | Subject group   |                                     |            | Optional subject group  |         |     |
| Mode of study                               | Full-time studies   | Mode of delivery  |                                     |            | at the university   |         |     |
| Year of study                               | 3   | Language of instruction   |                                     |            | Polish  |         |     |
| Semester of study                           | 5   | ECTS credits  |                                     |            | 4.0   |         |     |
| Learning profile                            | general academic profile  | Assessment form   |                                     |            | assessment  |         |     |
| Conducting unit                             | Department of Transportation Engineering -> Faculty of Civil and Environmental Engineering  |   |                                     |            |   |         |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor  | dr hab. inż. Marek Pszczoła   |                                     |            |   |         |     |
|   | Teachers  | dr hab. inż. Marek Pszczoła<br>dr inż. Karolina Makowska-Jarosik  |                                     |            |   |         |     |
| Lesson types and methods of instruction     | Lesson type   | Lecture   | Tutorial                            | Laboratory | Project   | Seminar | SUM |
|   | Number of study hours   | 30.0  | 15.0                                | 0.0        | 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  | 4.0                                 |            | 51.0  | 100     |     |
| Subject objectives                          | The purpose of the course is to provide students the knowledge of the legal basis of flights performed with unmanned aerial vehicles.   |   |                                     |            |   |         |     |
| Learning outcomes                           | Course outcome  | Subject outcome   |                                     |            | Method of verification  |         |     |
|   | [K6_W06] has a well-grounded knowledge and understands geodesy concepts including the main methods of obtaining data about space together with the surveying and computational methods, which from the one hand are compatible with the current legal status and from the other hand refer to measurements on the plane and cover the use of modern geodetic instruments, with taking into account the curvature of the Earth and the impact of gravity on the manner of measurements and results | Student possess the knowledge and uses the legal acts which regard carrying out the measurements through the use of unmanned aerial vehicles. |                                     |            | [SW1] Assessment of factual knowledge<br>[SW3] Assessment of knowledge contained in written work and projects |         |     |
|   | [K6_W13] has basic knowledge and understands concepts in the field of non-technical conditions of engineering activities as well as occupational safety and health regulations in the profession of geodesy engineer  | The student possess the knowledge and is able to apply the principles of safe surveying with the use of unmanned aerial vehicles.             |                                     |            | [SW1] Assessment of factual knowledge<br>[SW3] Assessment of knowledge contained in written work and projects |         |     |
|   | [K6_K02] is ready to solve problems related to the profession of geodesy and cartography engineer and to assess risks and effects of the performed activity   | The student is able to analyze the risk associated with the use of unmanned aerial vehicles in geodetic measurements.                         |                                     |            | [SK5] Assessment of ability to solve problems that arise in practice<br>[SK2] Assessment of progress of work  |         |     |

| Subject contents   | <p>Lecture:</p> <ol style="list-style-type: none"> <li>1. Legal acts and Aviation Administration</li> <li>2. The unmanned flights in Polish airspace</li> <li>3. The human factor in aviation</li> <li>4. The structure of the airspace</li> <li>5. Counteracting threats that may affect flights safety</li> <li>6. Procedures performed in an emergency and dangerous situations</li> <li>7. Risk analysis</li> </ol> <p>Classes:</p> <ol style="list-style-type: none"> <li>1. The unmanned flights in Polish airspace</li> <li>2. Risk analysis</li> </ol>   |                               |  |                          |  |                               |                          |  |       |  |  |       |
|--|--|-------------------------------|--|--------------------------|--|-------------------------------|--------------------------|--|-------|--|--|-------|
| Prerequisites and co-requisites                          |  |                               |  |                          |  |                               |                          |  |       |  |  |       |
| Assessment methods and criteria                          | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Test</td> <td>50.0%</td> <td>60.0%</td> </tr> <tr> <td>Getting the positive evaluation from classes</td> <td>50.0%</td> <td>40.0%</td> </tr> </tbody> </table>   |                               |  | Subject passing criteria | Passing threshold  | Percentage of the final grade | Test                     | 50.0%  | 60.0% | Getting the positive evaluation from classes | 50.0%  | 40.0% |
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| Test   | 50.0%  | 60.0%                         |  |                          |  |                               |                          |  |       |  |  |       |
| Getting the positive evaluation from classes             | 50.0%  | 40.0%                         |  |                          |  |                               |                          |  |       |  |  |       |
| Recommended reading                                      | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Basic literature</td> <td colspan="2" data-bbox="799 999 1489 1272"> <ol style="list-style-type: none"> <li>1. The act of law: Ustawa z dnia 3 lipca 2002 r. Prawo lotnicze (Dz. U. 2002 Nr 130 poz 1112, with later amendments) (in Polish)</li> <li>2. The act of law: Obwieszczenie Ministra Infrastruktury z dnia 3 lipca 2019 r. w sprawie ogłoszenia jednolitego tekstu rozporządzenia Ministra Transportu, Budownictwa i Gospodarki Morskiej sprawie wyłączenia zastosowania niektórych przepisów ustawy - Prawo lotnicze do niektórych rodzajów statków powietrznych oraz określenia warunków i wymagań dotyczących używania tych statków. (in Polish)</li> </ol> </td> </tr> <tr> <td>Supplementary literature</td> <td colspan="2" data-bbox="799 1276 1489 1312">Literature recommended by a teacher during lectures.</td> </tr> <tr> <td>eResources addresses</td> <td colspan="2" data-bbox="799 1317 1489 1420">           Adresy na platformie eNauczanie:<br/>           Prawo i bezpieczeństwo wykonywania lotów (2023/2024) - Moodle ID: 30246<br/> <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30246">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30246</a> </td> </tr> </table> |                               |  | Basic literature         | <ol style="list-style-type: none"> <li>1. The act of law: Ustawa z dnia 3 lipca 2002 r. Prawo lotnicze (Dz. U. 2002 Nr 130 poz 1112, with later amendments) (in Polish)</li> <li>2. The act of law: Obwieszczenie Ministra Infrastruktury z dnia 3 lipca 2019 r. w sprawie ogłoszenia jednolitego tekstu rozporządzenia Ministra Transportu, Budownictwa i Gospodarki Morskiej sprawie wyłączenia zastosowania niektórych przepisów ustawy - Prawo lotnicze do niektórych rodzajów statków powietrznych oraz określenia warunków i wymagań dotyczących używania tych statków. (in Polish)</li> </ol> |                               | Supplementary literature | Literature recommended by a teacher during lectures. |       | eResources addresses                         | Adresy na platformie eNauczanie:<br>Prawo i bezpieczeństwo wykonywania lotów (2023/2024) - Moodle ID: 30246<br><a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30246">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30246</a> |       |
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| Example issues/ example questions/ tasks being completed | <ol style="list-style-type: none"> <li>1. Discuss the structure of the airspace.</li> <li>2. Discuss the SORA risk assessment.</li> <li>3. Discuss the role of air traffic services.</li> </ol>  |                               |  |                          |  |                               |                          |  |       |  |  |       |
| Work placement   | Not applicable   |                               |  |                          |  |                               |                          |  |       |  |  |       |