



Subject card

| | | | | | | | |
|---|--|--|----------|-------------------------------------|--|------------|-----|
| Subject name and code | FUNDAMENTALS OF AIR TRANSPORT SYSTEMS, PG_00044605 | | | | | | |
| Field of study | Transport | | | | | | |
| Date of commencement of studies | October 2023 | Academic year of realisation of subject | | | 2024/2025 | | |
| Education level | first-cycle studies | Subject group | | | Obligatory subject group in the field of study | | |
| Mode of study | Full-time studies | Mode of delivery | | | at the university | | |
| Year of study | 2 | Language of instruction | | | Polish | | |
| Semester of study | 4 | ECTS credits | | | 3.0 | | |
| 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 | | | | | | |
| | Teachers | | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 30.0 | 0.0 | 0.0 | 15.0 | 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 | Obtaining knowledge in the field of air transport systems, design of airport components, air traffic organization, air traffic engineering and air traffic management. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [K6_U04] able to use transport terms properly and speak about a problem using modern audiovisual techniques | The student is able to correctly use the concepts related to air transport. Is able to speak clearly on a topic related to air transport systems using modern audiovisual techniques. | | | [SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools | | |
| | [K6_W08] understands the theoretical basis of transport processes and systems which is useful for understanding the general transport structures and transport chains | The student understands the processes related to air transport. | | | [SW2] Assessment of knowledge contained in presentation | | |
| | [K6_W09] has basic knowledge of transport traffic engineering to understand its importance for transport operation and differentiate between how it is applied in different modes of transport | Has basic knowledge in the field of air traffic engineering for understanding the functioning of air transport. | | | [SW2] Assessment of knowledge contained in presentation | | |
| | [K6_W12] has basic knowledge of the design and construction of transport infrastructure | Student assesses elements airport infrastructure. Compare airport systems used on around the world. defines pavement structures airport. Understands processes and knows the organization of air transport management. | | | [SW3] Assessment of knowledge contained in written work and projects | | |

| | | | |
|--|--|--|-------------------------------|
| Subject contents | Aviation infrastructure. Airports. Landing site. Airways. Objects. Linkaviation infrastructure with urban infrastructure. Air traffic engineering. Motion control and controlair. Flight safety. Air traffic control and management. Directions of transport developmentair. Airport pavement loads. Materials for pavement construction. | | |
| Prerequisites and co-requisites | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Project | 100.0% | 40.0% |
| | Written test passing the lecture | 60.0% | 60.0% |
| Recommended reading | Basic literature | Prawo lotnicze 2020. Malarski M., Inżynieria ruchu lotniczego, OWPW 2006. Aerodrome Design Manual, Part 1 Runways, 3rd Edition 2006, ICAO Aerodrome Design Manual, Part 2 Taxiways, Aprons and Holding Bays, 3rd Edition 2006, ICAO Aerodrome Design Manual, Part 3 Pavements, 2nd Edition 1983, ICAO Aerodrome Design Manual, Part 9 Airport Maintenance Practices, 1st Edition 1984, ICAO Horonjeff R., McKelvey F., Sproule W.J., Young S.B. Planning&Design of Airports, Fifth Edition, 2010 | |
| | Supplementary literature | Prawo lotnicze 2020. Malarski M., Inżynieria ruchu lotniczego, OWPW 2006. | |
| | eResources addresses | Adresy na platformie eNauczanie: | |
| Example issues/ example questions/ tasks being completed | PSTP issues - 2020/2021 summer semester: Explain the concepts of airport codes: a) Airport code according to ICAO, b) IATA airport code. Draw a diagram and approximate location of all elements present at the airport (runways, taxiways, aprons, terminal, etc.). Explain the concepts: runway, runway strip, runway threshold, ICAO airport reference code, internal horizontal surface (for determining obstacles at the airport), landing approach surface. Describe what type of aircraft (with which dimensions) can perform regular flight operations at airports with different ICAO reference codes (without specifying a specific model). What is the take-off reference length? Provide and describe what design factors affect the direction of the runway. What functions should taxiways perform? Name and briefly describe the concepts of organizing an airport board. What is it, what is it for and what is the structure and functions of the ILS. 10. Horizontal and vertical marking of runways, taxiways and aprons. 11. Air traffic control systems - traffic control tower. 12. For what purpose and how is the characteristic number marked as a horizontal marking on the threshold of DS being determined? 13. What does VASI mean and what does PAPI mean? 14. What are the basic functions of an airport pavement? What measures are used at airports to combat black ice in winter? What are the basic assumptions of the ICE ALERT system at airports? What do the abbreviations ACN and PCN mean? If the following information is in the runway description for the pilot: PCN 62 / F / B / W / T, what does it mean? Security systems used at airports. | | |
| Work placement | Not applicable | | |