STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Airfields Engineering**		Code **1010125121010100237**
Field of study **Transportation Engineering Extramural Second-**	Profile of study (general academic, practical) **general academic**	Year /Semester **1 / 2**
Elective path/specialty **Road Engineering**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **25** Classes: **-** Laboratory: **-** Project/seminars: **20**		No. of credits **4**
Status of the course in the study program (Basic, major, other) **major**	(university-wide, from another field) **from field**	
Education areas and fields of science and art **technical sciences** **Technical sciences**		ECTS distribution (number and %) **4 100%** **4 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Mathematics and physics, the basics of road construction.
2	**Skills**	Able to handle a computer and knows simple commands using AutoCad Civil package.
3	**Social competencies**	Alone complements and extends knowledge in the field of modern processes and technologies. He is aware of the need to raise professional and personal competences. He is with the rules of ethics and respect for the language

Assumptions and objectives of the course:

To familiarize students with the basic facilities and equipment of airports. The acquisition of skills in the planning and design of individual elements of the maneuvering area of airport.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. He knows the currently used building materials and basic elements of manufacturing them - [K_W07]
2. He knows the classification and scope of computer programs supporting the analysis and design of structures that are useful for planning construction projects - [K_W08]

Skills:

1. Can select tools (analytical or numerical) to solve problems - [K_U13]
2. In accordance with scientific principles, he uses scientific workshop to formulate and carry out preliminary work on a research leading to solutions to the problems of engineering, technological and organizational emerging in road construction - [K_U17]

Social competencies:

1. Can formulate and present opinions on construction - [K_K07]

Assessment methods of study outcomes

In the last week of the semester is provided a written test. A test includes essential part - 12 questions and tasks to solve and an auxiliary - 12 short test questions (answers 0 or 1 point). Replies are one (response incomplete) or two points. As a minimum (satisfactory) one must get at least 19 points.

The project is evaluated separately. The prerequisite is a positive contribution to the consultation tab for each of the ten phases of the project. In the overall assessment for unconventional and original design solutions are additional points.

Course description

Aviation traffic in terms of the transport system. Historical overview and trends. Analysis of traffic and transportation needs.

Airport pavements and airport junctions, airports, maneuvering field - structure and classification. Determinants of spatial location and development.

The organization and operation of air traffic. Equipment and precision instrument

Orientation and usability of airport runways.

Fields of ups - the location and capacity of the system, equipment, and geometric conditions.

Geometric design of the runway - length declared in the classical and non-classical system, usability, shaping the surface of the runway.

Port area, commuting and facilities. Airports flights - systems connections with ground traffic and access to the airport.

Taxiways and aprons.

Load and airport pavement design.

Objects technical support. Traffic control tower. Securing supplies. MPIS base. Zone of hangars.

Design methods of terrain.

Marking and lighting of runways.

Design of the plan of the maneuvering area and runway based on forecast traffic, the situation - altitude plan, airplane of calculation and layout winds

Basic bibliography:

1. Leśko, Airports Politechnika Śląska Gliwice 1989 (in polish)
2. Araszkiewicz Airport construction t. I i II Politechnika Warszawska Warszawa 1972 (in polish)
3. Glushkow, Babkov, Goretsky, Smirnov, Airport engineering. Mir Publishers. Moscov, 1988
4. Aschford, Wright, Projektirowanie aeroportow. Transport. Moskwa 1988
5. Nita, Świątecki Airports. Askon, 1999 (in polish)

Additional bibliography:

1. Materials and polish standards and ICAO made ??available in the course of exercise
2. Nita P., Construction and maintenance of airfield pavements, WKŁ 1999 (in polish)

Result of average student's workload

Activity	Time (working hours)
1. Lectures	25
2. Project	20
3. Own work	5
4. Defense of the project and test of lectures	2

Student's workload

Source of workload	hours	ECTS
Total workload	100	4
Contact hours	54	2
Practical activities	50	2