STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Passing Project		**1010601161010630466**

Field of study	Profile of study (general academic, practical)	Year /Semester
Aerospace Engineering	**(brak)**	**3 / 6**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Aircraft Engines and Airframes	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours				No. of credits
Lecture: **-**	Classes: **-**	Laboratory: **-**	Project/seminars: **4**	**5**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**5 100%**
Technical sciences	**5 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	basic knowledge of flight theory and airplane construction. Messages from structural mechanics (statics, dynamics and stability) and strength of materials. Basics of computer-aided design
2	**Skills**	can apply the scientific method in problem solving, experiments implementation and inference
3	**Social competencies**	knows the limits of his knowledge and skills; can precisely formulate questions, understands the need for further education

Assumptions and objectives of the course:

-Designing a subassembly or airframe element, defining the basic parameters of this unit, and then performing strength and durability calculations.

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

Knowledge:

1. has knowledge of physics, including the basics of classical mechanics, optics, electricity and magnetism, solid state physics, quantum and nuclear physics, necessary to understand specialized lectures in the theory of construction materials and materials, theory of machines and mechanisms, the theory of electric drives and mechatronic systems - [[K1A_W02]]

2. has basic knowledge of electric drives in machines, including three-phase current, DC and AC motors, frequency and voltage converters, and power electronics. as well as automation systems, microcontrollers, control algorithms, automatic machines and industrial robots, electronic navigation systems used in machines - [[K1A_W05]]

3. has a structured, theoretically founded general knowledge covering key issues in the field of technical thermodynamics, i.e. the theory of thermodynamic transformations, heat transfer, thermal and cooling machines - [[K1A_W10]]

4. has detailed knowledge related to selected issues in the field of building air propulsion systems and designing their subassemblies - [[K1A_W18]]

Skills:

1. can obtain information from literature, the Internet, databases and other sources, can integrate the information obtained and interpret conclusions and create and justify opinions - [[K1A_U04]]
2. is able to create a circuit diagram, select elements and perform basic calculations of the electrical and electronic system of sets of aircraft machines or devices - [[K1A_U06]]
3. can use verbal communication in one additional foreign language at the level of everyday language, can describe issues in the field of the studied field of study in this language, can prepare technical documentation for descriptive and engineering tasks, transport and / or logistics - [[K1A_U07]]
4. can carry out elementary technical calculations in the field of fluid mechanics, and thermodynamics, such as thermal and mass balances, pressure losses in flows around technical flying objects and their modules, choose the parameters of fans, compressors and turbines for flow systems, and calculate thermodynamic waveforms in thermal machines - [[K1A_U10]]
Social competencies:
1. is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the related responsibility for decisions - [[K1A_K02]]
2. is able to properly define the priorities for the implementation of a task set by himself or others - [[K1A_K04]]
3. can think and act in an entrepreneurial way - [[K1A_K06]]

Assessment methods of study outcomes
-Assessment
Course description
-Technical design of the airframe element or subassembly, elaborated on the basis of the output data provided by the operator. The project includes: functional and strength calculations, description of the designed structure, user manual and drawing part
Basic bibliography:
1. Depending on the topic of work being solved
Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Preparation of temporary work	122
2. Assessment	2

Student's workload

Source of workload	hours	ECTS
Total workload	124	5
Contact hours	40	3
Practical activities	84	2