1. Subject name	**Aircraft design and production II.**				
2. Subject name in Hungarian	Repülőgépek tervezése, gyártása II.				
3. Code	**BMEKOVRM630**	4. Evaluation type	**exam grade**	5. Credits	**4**
6. Weekly contact hours	**2 (10) Lecture**	**0 (0) Practice**	**2 (11) Lab**		
7. Curriculum	**Vehicle Engineering MSc (J)**	8. Role	**Specialization (sp) at Vehicle Engineering MSc (J)**		
9. Working hours for fulfilling the requirements of the subject					**120**
Contact hours	56	Preparation for seminars	18	Homework	19
Reading written materials	17	Midterm preparation	0	Exam preparation	10
10. Department	**Department of Aeronautics and Naval Architectures**				
11. Responsible lecturer	Dr. Sziroczák Dávid				
12. Lecturers	Dr. Sziroczák Dávid				
13. Prerequisites	**strong: KOVRM629 - Aircraft design and production I.**				

14. Description of lectures

Aircraft development process. Conceptual level design. Requirements definition. Geometry specification. Powerplant selection. Mission specification. Mass breakdown methods (e.g. statistical). Fuel fraction method. Iterative mass determination. Aerodynamics estimation. IVHM, crashworthiness, rotor burst, lightning protection. Optimisation and applied methods. Design of special air vehicles.

15. Description of practices

16. Description of labortory practices

Presentation and use of required tools.

17. Learning outcomes

A. Knowledge

- The student knows the aircraft design process.
- The student understands the procedure of conceptual level aircraft design, the relevant fields of knowledge and tools.
- The student knows the practical application of optimisation methods.

B. Skills

- The student is able to independently complete a conceptual level aircraft design taking into account the relevant requirements and constraints.
- The student is able to link multidisciplinary processes and use optimization tools.

C. Attitudes

- The student aims to complete his/her specified simulation tasks at the highest level, under the shortest time, by providing his/her knowledge and capacity at the best to obtain knowledge for deep and independent professional work.
- The student cooperates with professors and mates during the studies.
- The student continuously increases his/her knowledge independently by having information from the external literature to complete his/her studies given by the lectures.

D. Autonomy and Responsibility

- The student takes responsibility for guiding mates by the quality of his/her work and by keeping ethic norms.
- The student takes responsibility for applying the knowledge in line with the studied conditions, limitations and constraints.
- The student can friendly accept the well-established constructive criticism and can utilize that in future.
- The student can accept the form of the cooperation; he/she can work alone or in a team member depends on the actual situation.

18. Requirements, way to determine a grade (obtain a signature)

Design task: Conceptual level design of an aircraft performed independently with weekly regular consulting support. The deadline of completing this document and delivering to the lecturer is the last week of the semester. The students will get grade to the analysis task. The requirement for the signature is the delivered and accepted analysis task. The final grade of the subject is the mathematical average of the grade given for the exam and for the analysis tasks.

19. Opportunity for repeat/retake and delayed completion

If design task is not delivered in time, it is also possible to deliver the documentation in the supplementary week besides paying administration fee.

20. Learning materials

Related national and international scientific literature

Effective date	10 October 2019	**This Subject Datasheet is valid for**	Inactive courses