SYLLABUS

1. Course title:

Ventilation systems

2. Code:

3. Cycle of study:

I

4. ECTS credits:

3

5. Type of course:

Elective

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester(s):

I 7

9. Weekly contact hours and student workload:

	Semester (1)	Semester (2)	(for two-semester courses)	Workload: (hours)	
9.1. Lectures	2		Classes:	33,75	
9.2. Seminars	1		Individual work:	54,75	
9.3. Laboratory / Practice classes	0		In total:	88,50	

10. Faculty:

Faculty of Mechanical Engineering

11. Department/study program:

Energetics and thermo fluid engineering

12. Lecturer:

PhD Izudin Delić, associate professor

13. Course aims:

Acquiring knowledge and skills in the field of ventilation technology - about different ventilation systems.
Mastering methods for calculating duct networks, selecting air supply and exhaust elements, and using these methods in the development of the main mechanical project for a ventilation system.

14. Learning outcomes:

The student acquires specific abilities and knowledge in ventilation technology: understands ventilation systems, knows methods for calculating duct networks and can apply them in practice. Connects basic knowledge and applies it to solving specific problems in ventilation technology.

15. Course content:

01. Introduction. Ventilation Systems - Classification.
02. Ventilation Systems, Components, Calculation of Required Air Volume.
03. Air Conditioning Processes.
04. Air Handling Unit. Air Ducts.
05. Calculation and Selection of Ventilation Plant Equipment.
06. Air Distribution Elements in Ventilation Systems.
07. Duct Calculation Methods.
08. Air Distribution in a Room.
09. Air Jet Throw.
10. Selection of Supply and Exhaust Air Opening Positions.
11. Ventilation Systems with Heat Recovery.
12. Fire Protection.
13. Regulation and Control of Ventilation Systems.
14. Ventilation of Garage Spaces.
15. Maintenance of Ventilation Systems.

16. Learning methods:

- **Lectures using multimedia tools, active learning techniques with active student participation and discussions;**
- **Preparation and presentation of group and individual seminar papers.**

17. Assessment methods:

As part of their pre-exam obligations, students are required to prepare an individual programming assignment that will cover a specific topic from the course content. The programming assignment is submitted in written form to the course instructor for review and grading, and then presented orally to other students. For a completed and defended programming assignment, students can earn from 0 to 50 points. Additionally, for continuous activity in lectures and exercises throughout the semester, students can earn from 0 to 10 points (each unjustified absence reduces the score by 1 point).
The final exam is oral. In the oral exam, students answer three randomly selected questions from the course syllabus covered in lectures. The maximum number of points a student can earn on the oral exam is 40.
Assessments in all forms of knowledge are recognized as a cumulative exam if the achieved result is positive after each individual assessment and amounts to at least 50% of the total foreseen and/or required knowledge and skills.
To pass the course, a student must achieve a minimum of 54 cumulative points. Those who do not collect 50% of the points required for passing through assessments will take the scheduled final and retake exams.

Grade (Number)	Description	Letter Grade	Points
5 (five)	Does not meet the minimum criteria	F, FX	< 54
6 (six)	Meets the minimum criteria	E	54-64
7 (seven)	Generally good, but with significant shortcomings	D	65-74
8 (eight)	Average, with noticeable errors	C	75-84
9 (nine)	Above average, with some errors	B	85-94
10 (ten)	Exceptional success without errors or with minor errors	A	95-100

18. Assessment components:

- **Class Attendance: 10 points**
- **Programming Assignment during the semester: 50 points**
- **Final Exam or Retake Exam: 40 points**
- **Total: 100 points**

19. Mandatory reading list:

1. C.A.Roulet,Ventilation and Airflow in Buildings: Methods for Diagnosis and Evaluation, Routledge, 2016
2. B.Todorović, M.Milenković, Razvod vazduha u klimatizacionih sistemima, SMEITS, 2010.

20. Additional reading list:

1. W.Corry, Fans and Ventilation: A Practical Guide, Elsevier Science, 2005.

21. Web sources:

https://ventilation-system.com/

22. Applicable from the academic year:

2025./2026

23. Adopted in the Faculty/Academy session: