
Ventilation and Air-Conditioning Systems

AAE-E4003 (5 cr)

Course plan 2024

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Activities in the course

- Six (6) learning assignments (to be submitted via MyCourses)
- On-line learning:
 - Self-studying, "learning by doing"
 - Recordings (selected topics related to the course material)
 - Teacher's receptions
 - Familiarize yourself with the recordings/lecture slides and the learning assignment *before* each Teacher's reception!
- No examination

Learning assignments

- Each learning assignment consists of 2-3 exercises (i.e., computational problems) that are solved and reported appropriately (see: evaluation criteria).
- Learning assignments are returned via MyCourses platform by the given deadlines (submission is open by 23:59 on each day of deadline). Deadline extension is possible by permission only. Delayed submission without permission is penalized by reduction of score.
- Maximum score per assignment: 8-12 p (\rightarrow MAX 60 p). Passed (mark 1) = 50 % of the total score (= 30 p).

Assessment criteria

1. The submission is complete by the deadline. The student's contribution is original, and nothing gives a reason to suspect the student of plagiarism.
2. The results are highlighted (e.g., bold, underlined, tabulated etc.) and they are correct.
3. Calculation procedures with assumptions, equations, substitutions (including units) and intermediate results are shown and appropriate. SI units are used consistently.
4. Visualizations of the problem have been done when applicable, using standardized drawing symbols and practices. The system descriptions, graphs, figures, and schematic diagrams indicate that the problem has been understood correctly (i.e., the visualization adds value to the report).
5. The language (either English or Finnish) is good and easy to read. The terminology is correct. Good scientific reporting practices is followed, including references and citations, when applicable. If references are needed, they are listed in a separate reference list. All in all, the reporting should be brief and succinct and its appearance impeccable.

Teacher's on-line reception (TR)

- Teacher's receptions
 - is realized as a Zoom meeting (On-line workspace)
 - is open on Wednesdays at **9:15** – 12.00* (see: Timetable)
 - is an opportunity to have instruction for the learning assignments
 - is not a lecture or a mandatory activity to pass the course
- Link to the Zoom meeting is in MyCourses:
Passcode: 084335

* Teacher's receptions are open as long as needed. However, they will close no later than at 12.00.

Date	Activity
28.2.	Teacher's reception 1, Introduction + LA1 Release
6.3.	Teacher's reception 2, LA2 Release + LA1 Deadline
13.3.	Teacher's reception 3, LA3 Release + LA2 Deadline
20.3.	Teacher's reception 4, LA4 Release + LA3 Deadline
27.3.	Teacher's reception 5, LA5 Release + LA4 Deadline
3.4.	Teacher's reception 6, LA6 Release + LA5 Deadline
10.4.	LA6 Deadline

- Course material and info: MyCourses portal (mycourses.aalto.fi) → Remember to enroll!
- Basic terminology is written in underlined italics, **recommendations for extra self-learning** in blue font and **explanations** in red font.
- Further readings:
 - W.P. Jones: Air-conditioning engineering
 - J.F. Kreider et al.: Heating and Cooling of Buildings
 - O. Seppänen: Ilmastointiteknikka ja sisäilmasto
 - E. Sandberg: Sisäilmasto ja ilmastointijärjestelmät (Ilmastointitekniikka 1)
 - E. Sandberg: Ilmastointilaitoksen mitoitus (Ilmastointitekniikka 2)
 - REHVA: Displacement ventilation handbook