UNIVERSITY of DEBRECEN

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Name of the course:	**Air distribution systems in buildings**
Course type:	Optional
Responsible lecturer:	Dr. Imre Csáky.
Content:	Nowadays, in buildings (comfort/industrial) it is essential to design and implement air conditioning systems and then to operate them in a long-term period economically. In the frame of the course students will get knowledge about the system elements built in the air conditioning systems. One of the system elements, in which we carry out numerous measurements, is air grilles distributed by various manufactures, based on our own design. The requirements for inflating and air grilles are the followings: uniform air introduction; air flow controllability; air jet control; noiseless plant; low resistance; easy to use; low maintenance requirements. The analysis of air conditioning systems and the determination of the state indicators of the ventilation air, are important in order to choose the appropriate air handling unit
Literature:	• 2015 ASHRAE Handbook HVAC Applications, ASHRAE, 1791 Tullie Circle, N.E., Atlanta, GA 30329, • 2015 C., Ihle–R., Bader–M., Golla: Épülettechnikai tudástár, ISBN 978-3-441-92162-2, Budapest: TGA Consult Kft • 2001 Industrial Ventilation Design Guidebook, Goodfellow, H., Tahti, E., ISBN: 0-12-289676-9 • P. Antoniadou, Agis M. Papadopoulos (2017). Occupants' thermal comfort: State of the art and the prospects of personalized assessment in office buildings, Journal of Energy and Buildings, • J. Hummelgaard, P. Juhl, K. O. Sæbjörnsson, G. Clausen, J. Toftum, G. Langkilde (2007). Indoor air quality and occupant satisfaction in five mechanically and four naturally ventilated open-plan office buildings, Journal of Building and Environmant, • R. Forgiarini Rupp, R. de Dear, E. Ghisi (2017). Field study of mixed-mode office buildings in Southern Brazil using an adaptive thermal comfort framework, Journal of Energy and Buildings, • S. Ezzeldin, S. J. Rees (2013). The potential for office buildings with mixed-mode ventilation and low energy cooling systems in arid climates, Journal of Energy and Buildings,