

Building Aerodynamics 2018

Final schedule

Week	Date	Time	Lecturer	Topic	Note
1	5 September 2018	8-10		Course requirements. Basics of meteorology: characteristics of atmospheric boundary layer and its modelling. Introduction of projects.	
2	12 September 2018	8-10		Basics of meteorology: characteristics of atmospheric boundary layer and its modelling.	
		10-12		45 min: ABL lecture continued. Consultation & measurement time	
3	19 September 2018	8-10		ABL example, Length scale and boundary layer parameters. Labview demo. Gustiness of wind, peak wind speed.	
4	25 September 2018	8-10		Arising of wind forces, bluff-body aerodynamics. Drag/ pressure coefficient of buildings, Building types.	
		10-12		WT lab 1: flow visualization around buildings (45 min). Consultation & measurement time	
5	3 October 2018	8-10		Static wind load on buildings and structures. mean load, peak load, building response. Prediction of static wind load by using EUROCODE and other building codes. Terrain effects. + Internal pressures. Helmholtz resonance.	
6	10 October 2018	8-10		Wind tunnels. Wind tunnel measurement of wind engineering problems. Wind tunnel models.	
		10-12		Consultation & measurement time	
7	17 October 2018	8-10		Wind tunnel measurement techniques presented. Measurement chain, calibration, dynamic calibration. Representativeness of results.	
8	24 October 2018	8-10		1. mid-term exam (60 min)	
		10-12		Consultation & measurement time	
9	31 October 2018	8-10		Stable/unstable boundary layers. Pollutant dispersion in on-site measurement and in wind tunnels. Wind comfort studies. Sand erosion.	
10	7 November 2018	8-10	Lohász, Máté, Enexio	Guest lecture: Design of cooling towers.	
		10-12		Consultation & measurement time	
11	14 November 2018	8-10		no education	
12	21 November 2018	8-10	Szabó Gergely, Pont-Terv Zrt.	Guest lecture: Dynamic wind phenomena. Bridge aerodynamics.	
		10-12		Consultation & measurement time	
13	28 November 2018	8-10	Balogh, Miklós Dept. Of Fluid Mechanics	CFD simulation of atmospheric flows	
14	5 December 2018	8-10	Christof Gromke, KIT (Germany)	Guest lecture: CFD simulation of dispersion of pollutants in urban environment	
		10-12		Presentation of projects	Invited guest: Christof Gromke