AGENDA OF THE COURSE -GREEN BUILDINGS INTRODUCTION and ENVELOPES two day course

nb	Title	Contents	Time	
		DAY 1		
	Introduction to day 1		5	9:30
1.Bad	ckground and main princip	bles	1 hour 45	
1.1	Why green buildings?	Short introduction on the environmental impacts of buildings and green buildings economics and development	5	
1.2	What are green building	Workshop "Please discuss what are the possible design features of green buildings?	10	
1.3	Energy	For each section:		
1.4	Water	- description of each issue - why is it important ?		
1.5	Materials and waste	- How can the building be improved	90	
1.0	Pollution	-	30	
1.8	Ecology and the green			
	infrastructure			
		BREAK	15	11:20
2. Gr	een building design		30 min	11:35
2.1	What is a green		5	
2.2	building?	How buildings upp anargy and recourses, sirgular		
2.2	huildings	concepts and biomimetic approach	5	
23	Designing Green	Using targets and environmental ratings systems		
2.0	Buildings		10	
2.4		WORKSHOP: groups are asked to put together an environmental design system	15	
3. Pa	ssive and Bioclimatic Des	ign	1 hour 30	12:05
3.1	Insulation of buildings	U-values, thermal bridging, air-tightness	10	12.00
3.1 3.2	Insulation of buildings The passivhaus	U-values, thermal bridging, air-tightness Description	10 10	
3.1 3.2	Insulation of buildings The passivhaus Standard	U-values, thermal bridging, air-tightness Description	10 10	
3.1 3.2 3.3	Insulation of buildings The passivhaus Standard Envelopes and green buildings	U-values, thermal bridging, air-tightness Description Workshop "Please discuss the role of the envelope in the design of a (green) building"	10 10 5	
3.1 3.2 3.3 3.4	Insulation of buildings The passivhaus Standard Envelopes and green buildings Introduction to passive.	U-values, thermal bridging, air-tightness Description Workshop "Please discuss the role of the envelope in the design of a (green) building" Introduction to bioclimatic / passive design concepts.	10 10 5	
3.1 3.2 3.3 3.4	Insulation of buildings The passivhaus Standard Envelopes and green buildings Introduction to passive, bioclimatic and low	U-values, thermal bridging, air-tightness Description Workshop "Please discuss the role of the envelope in the design of a (green) building" Introduction to bioclimatic / passive design concepts. A definition of bioclimatic / and passive buildings.	10 10 5	
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3.1 3.2 3.3 3.4 3.5	Insulation of buildings The passivhaus Standard Envelopes and green buildings Introduction to passive, bioclimatic and low energy building design Site and climate	U-values, thermal bridging, air-tightness Description Workshop "Please discuss the role of the envelope in the design of a (green) building" Introduction to bioclimatic / passive design concepts. A definition of bioclimatic / and passive buildings. The relationship between bioclimatic design and envelopes Climate analysis and climate files. Software	10 10 5 15 15	
3.1 3.2 3.3 3.4 3.5 3.6	Insulation of buildings The passivhaus Standard Envelopes and green buildings Introduction to passive, bioclimatic and low energy building design Site and climate Workshop	U-values, thermal bridging, air-tightness Description Workshop "Please discuss the role of the envelope in the design of a (green) building" Introduction to bioclimatic / passive design concepts. A definition of bioclimatic / and passive buildings. The relationship between bioclimatic design and envelopes Climate analysis and climate files. Software Workshop Climate analysis using a local climate file (20 minutes)	10 10 5 15 15 20	
3.1 3.2 3.3 3.4 3.5 3.6 3.7	Insulation of buildings The passivhaus Standard Envelopes and green buildings Introduction to passive, bioclimatic and low energy building design Site and climate Workshop Modelling bioclimatc	U-values, thermal bridging, air-tightness Description Workshop "Please discuss the role of the envelope in the design of a (green) building" Introduction to bioclimatic / passive design concepts. A definition of bioclimatic / and passive buildings. The relationship between bioclimatic design and envelopes Climate analysis and climate files. Software Workshop Climate analysis using a local climate file (20 minutes) Introduction to dynamic thermal analysis software	10 10 5 15 15 20	
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	Examples		
	BREAK	15	
4.3 Sunlight and passive	The sun, and how it works		
solar design	The sunpath diagram in detail		
_	Sunlight and passive solar design		
	Masterplanning and layout		
	Design solutions		
	Location of glazing		
	Software		
	Examples		
4.4 Workshop	Workshop / interactive discussion contents -discussion in		
-	relation to solar design using the local climate analysis	20	
END OF DAY 1			

17:00

5. Wind and ventilation 1 hour 30 9:00 5.1 Principles of natural ventilation The principles of wind flows around buildings 60 Ventilation Wind speed 60 The basics of natural ventilation. Building form / design rules 60 Openings / windows design for natural ventilation 60 5.2 Natural ventilation systems and design Chimneys, solar towers, wind-catchers and other designs 60 Software for design Examples 30 5.3 Workshop Workshop / interactive discussion contents –discussion in relation to natural ventilation using the local climate analysis 30 BREAK 4. Dynamic and multipurpose envelopes 1 hour 4.1 Double skin facades Principles Design 20 Examples 20 20 4.2 Green roofs and walls Principles Benefits 20 Examples 20 20 4.3 Integrated renewable energy Solar air collectors Domestic hot water Wind turbines 20 5.1 Introduction Principles, what can be done, life cycle 10 5.2 Some technical soft materials and envelope design 30 min 11:45 5.3 Examples Examples o			DAY 2		
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LUNCH BREAK 1h 12:45		alternative materials	projects	10	
			LUNCH BREAK	1h	12:45
7. The green building design process 30 13:45	7. Th	e green building design p	rocess	30	13:45

8. Projects	15	14:45
Test	30	15:00
END OF DAY 2		15:30