

Exercise 1: Setting up requirements for an office and establishing a reference room

The learning objective of this assignment is to get an understanding of the systematic approach in the gathering and setting of measurable performance demands and requirements.

Task:

A client wants a new office building. Initially the client wants a low energy building with a fairly good indoor environment. The client is asking you as the design facilitator to help establish the requirements for the building.

Discuss the setting for energy and indoor environment performance in the group. Set up requirements for an office building for 200 persons where 10% needs single offices, 20% needs double offices and the rest in landscape offices.

(Help: Look at step 1 in the note "Method for integrated design" and the appurtenant presentation)

Expected use of time for the assignment is 1 hour.

1 Type of Building		
1.1 Type	Office building	
1.2 Image	Headquarter	
1.3 Floors	No more than 3 according to local authorities	
1.4 Site Information	1.4.1 Geographical location	Copenhagen
	1.4.2 Size of site	3500 m ² , 100 x 35 m
	1.4.3 Shadows from surroundings	None
2 Use of Building		
2.1 Occupants		
2.2 Number of occupants		
2.3 Space required	2.3.1 Room types	
	2.3.2 Size of rooms	
	2.3.3 Facilities required besides the main rooms	
2.4 Interactions between rooms		
2.5 Flexibility		
2.6 Special equipment required		
2.7 Working hours		

3 Indoor Environment: Single office

3.1 Thermal comfort	Class I, II or III:
3.2 Lighting	
3.3 Air quality	
3.4 Acoustics	
3.5 Operational comfort	

3 Indoor Environment: 2-person office

3.1 Thermal comfort	Class I, II or III:
3.2 Lighting	
3.3 Air quality	
3.4 Acoustics	
3.5 Operational comfort	

3 Indoor Environment: Landscape office

3.1 Thermal comfort	Class I, II or III:
3.2 Lighting	
3.3 Air quality	
3.4 Acoustics	
3.5 Operational comfort	

4 Energy consumption	
4.1 Energy Frame / Energy Class	
5 Safety	

Exercise 2: Get an overview of the space of solutions

The learning objective of this assignment is to gain confidence with the use of parameter variations to establish room and section design proposals and to get an understanding of the purpose of a space of solutions

Task:

The requirements are set and agreed upon. The design facilitator has used experts to perform a number of parameter analyses, see the note "Examples of parameter variations in iDbuild".

Use the parameter variations to establish 4 different design proposals for a 12 m² 2-person office: 2 offices facing south and 2 offices facing north. Suggest sectional view(s).

Discuss and analyse the results of the parameter variations in the group, e.g. which and how different parameters affect the performance demands (positive and negative, relative more or less).

(Help: Look at step 2 in the note "Method for integrated design" and the appurtenant presentation)

Expected use of time for the assignment is 1 hour.

Exercise 3: Generate possible solutions

The learning objective of this assignment is to gain confidence with the use of room design proposals for the 4th part of the integrated design process: generating proposals for total building design.

Task:

Use the predefined rooms in the note "Design proposals for rooms" to establish one or two total building designs.

(Help: Look at step 4 in the note "Method for integrated design" and the appurtenant presentation)

Expected use of time for the assignment is 2 hours.