ENVIRONMENTAL DESIGN CLASS, prof. arch. Giuseppe Ridolfi

ASSIGNMENT GUIDE

SCHEMATIC DESIGN

DEVELOPMENT | Schematic Design |

1_What to do

This credit must contain,
the preliminary design appropriately simplified according to the indications explained in this guide.

2_ How to do

To carry out the exercise it is first required that students rework synthesizing the results of the previous exercises making the necessary corrections in order to present a kind o preliminary introduction to the design proposal.

On the basis of this **introductory part**, the presentation of the **schematic design** proposal will follow.

2.1 INTRODUCTION

The **introductory part** can be summarized in the following points:

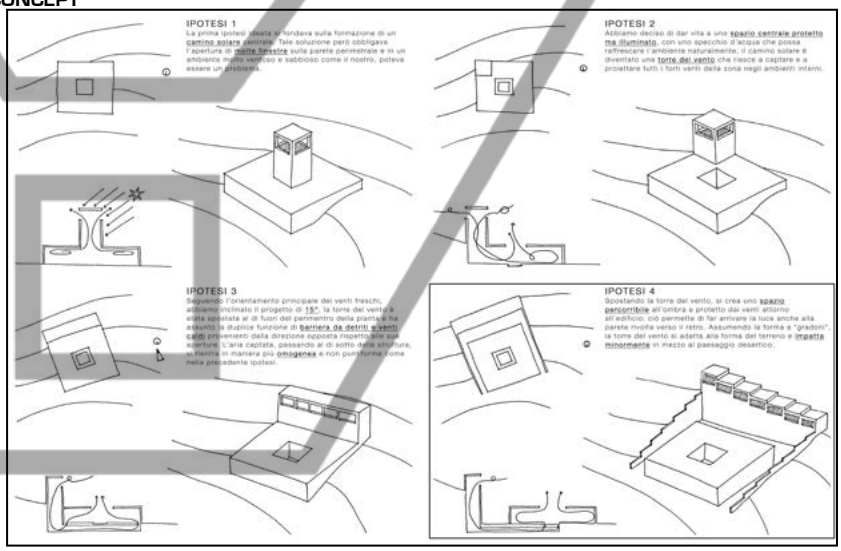
- identity and connotating purposes to be expressed through moodboards and architectural references;
- specification and quantification of users;
- consistency of the areas and functional scheme reorganized according to the thermal vocations;
- summary estimation of energy consumption with comparison to the main energy benchmarks;
- architectural concept and design recommendations from a predominantly environmental point of view as a result of climatic analyzes and comparison of design alternatives.

2.2 SCHEMATIC DESIGN

The design proposal will provide the representation of the building organism in its essential characteristics. With a purely indicative value, the aforementioned documents can be processed in the representational scales of 1: 1000 and 1: 500 for the general plan and external arrangements of **the settlement** and using the 1:200 scale for **the building**.

More appropriately and in line with the recent regulatory guidelines aimed at introducing the concept of progressive information analysis of the project in the various stages of the process, information can be prepared in the most appropriate manner and regardless of the scale of representation in a way it can be freely chosen in order to obtain the most effective communication. In this sense, a representation using a three-dimensional model and bringing together

CONCEPT



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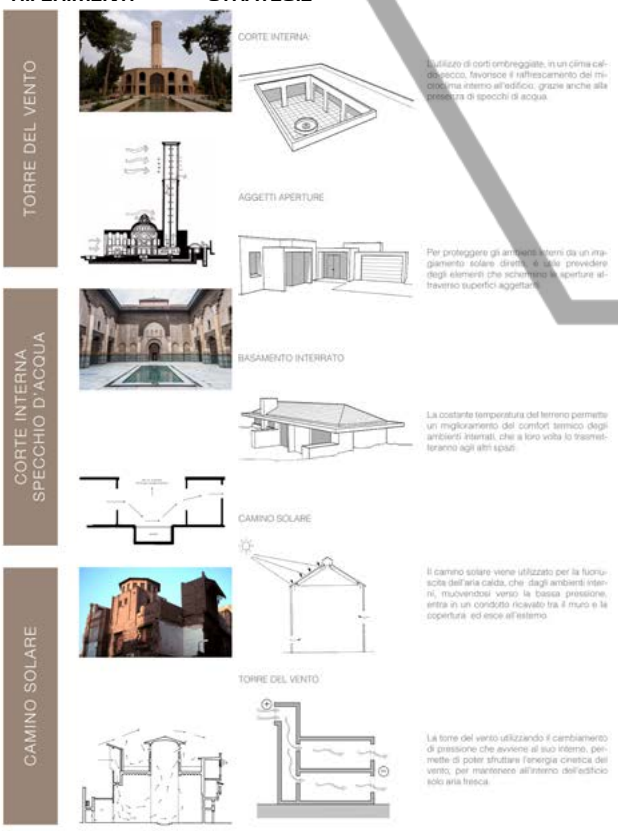

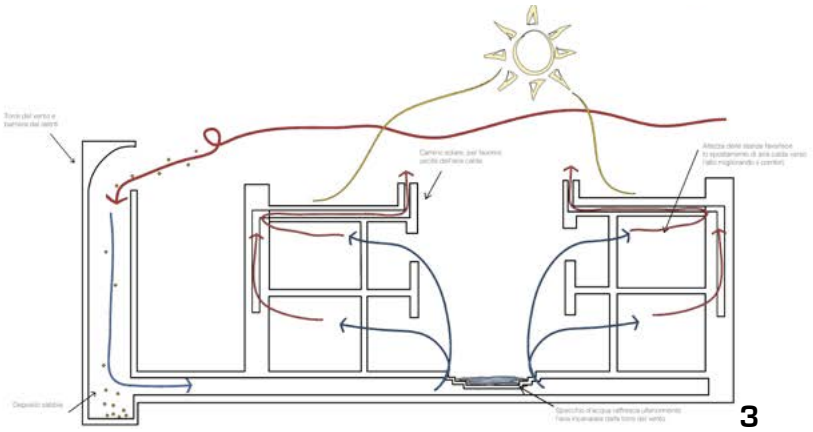

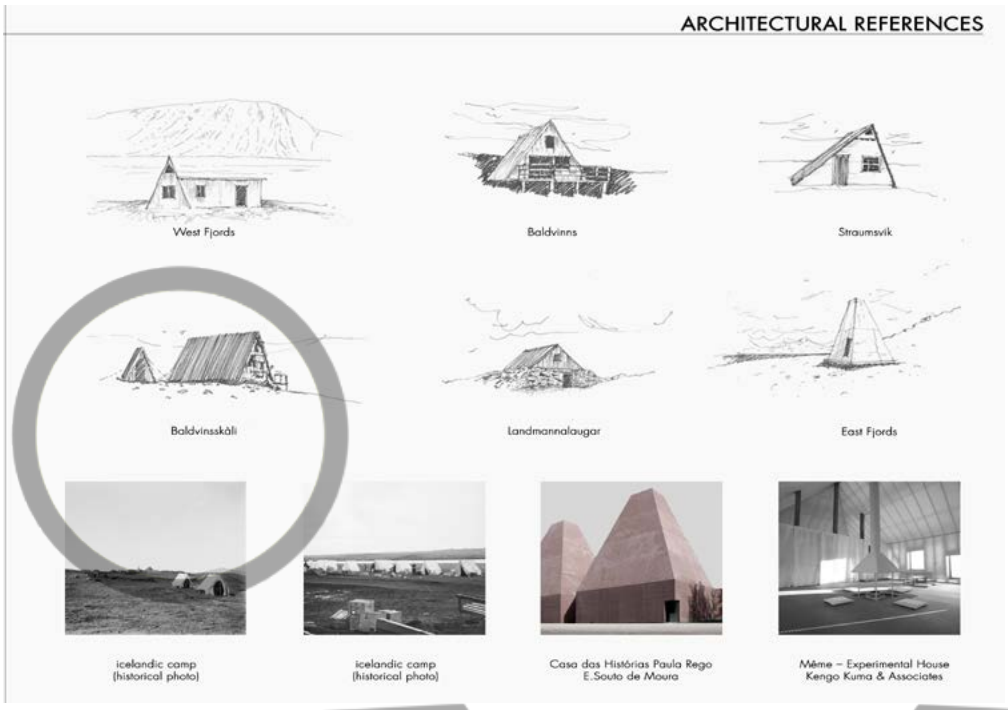
ARCHITECTURAL REFERENCES
West Fjords
Baldvinns
Straumsvik
Baldvinsskáli
Landmannalaugar
East Fjords
icelandic camp
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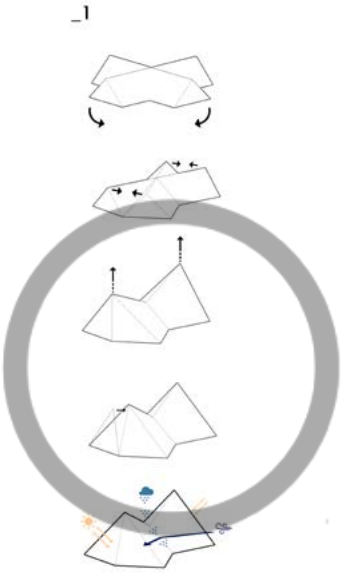
icelandic camp
(historical photo)
Casa das Histórias Paula Rego
E.Souto de Moura
Mème – Experimental House
Kengo Kuma & Associates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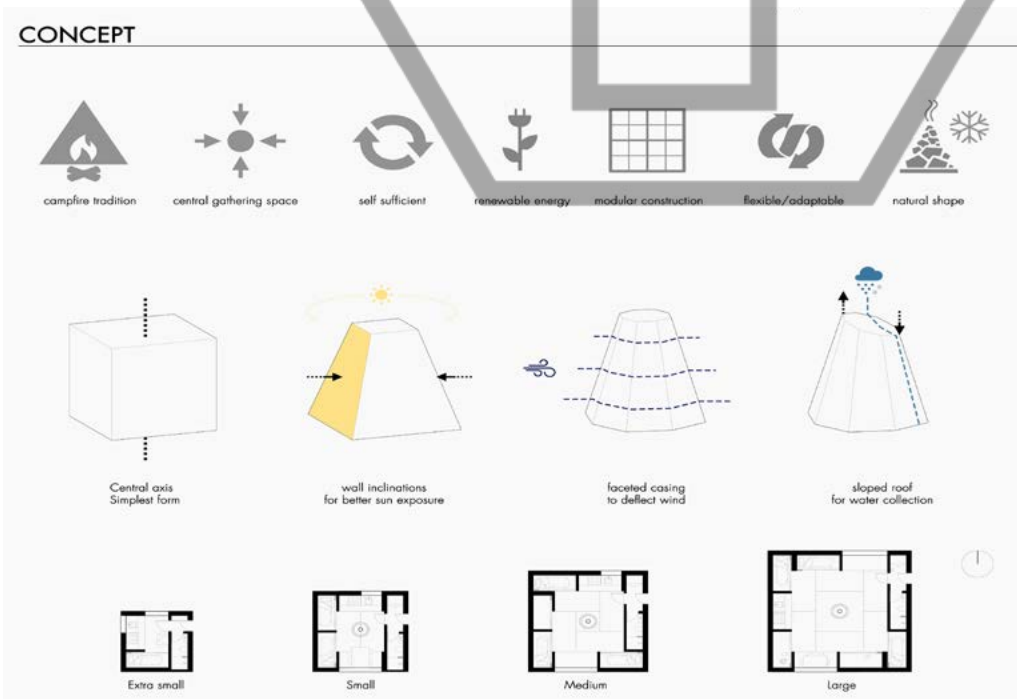

CONCEPT
campfire tradition
central gathering space
self sufficient
renewable energy
modular construction
flexible/adaptable
natural shape
Central axis
Simplest form
wall inclinations
for better sun exposure
faceted casing
to deflect wind
sloped roof
for water collection
Extra small
Small
Medium
Large


Internal circulation

all the information of the project should always be favored. As a consequence also the classic plan and elevation views can be better replaced by axonometric or perspective sections. In any case the production of render views that illustrate the environmental integration, materials and quality of the architecture is also required.

a. the settlement

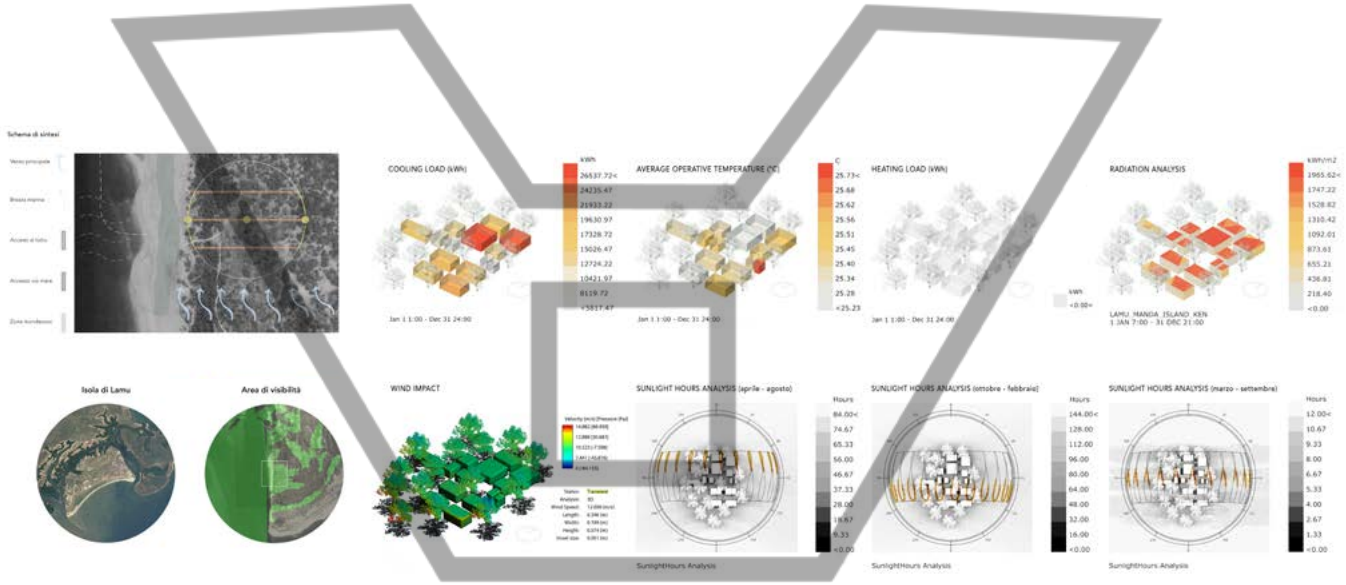
This part wil present a general framework with indication of the orientation, accessibility, polarity and suitability of the area in relation to the climatic and environmental elements (winds, irradiation, visibility, steepness, ...). This information should be represented by planimetric and ideogrammatic schemes providing:

- general data on land consistency, built volume, covered area;
- main infrastructural lines (present and planned);
- ground movements induced by the project (excavations and fillings) to be highlighted through specific territorial sections and possibly a schematic display of the final balance;
- external arrangements with identification of the different uses of the land and outdoor activities;
- devices designed to mitigate environmental impacts and to enhance the quality of the place;
- internal traffic systems, with possible differentiation by user categories (employees, visitors, suppliers, goods, emergencies, ...), and relating to mechanized flows, pedestrians, parking areas, sidewalks, squares and / or perimeter works to the building organism;
- types of green accommodation and landscape design.

For each of the aforementioned categories of work, a summary indication of construction materials and technologies is required using images of architectural works or commercial catalogs.
If the project provides some special plant systems (phytodepuration, photovoltaic cultivation, ..) their schematic location is required.
Eventually this part can include a scheme of the external lighting system to be located in the general plan.

b. the building

For this part students are required to describe the following aspect of the builidng:
- structural horizontal and vertical coordination grid with indication of any joints, nominal dimensions of the structural spans and direction of the slabs including a summary explanation of the structural technology;
- three-dimensional diagrams aimed at indicating the environmental devices adopted in the



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project as a result of the design recommendations produced in the previous exercises and other passive solutions which affect the building shape;
- detailed representation of the functional space organization with reference to the previously developed layout providing a clear evidence of their usability/regulatory compliance through the representation of the furnishings;
- sectional views and of the fronts inserted in the environmental context;
three-dimensional views with environmental insertion and any significant views of the interiors. -

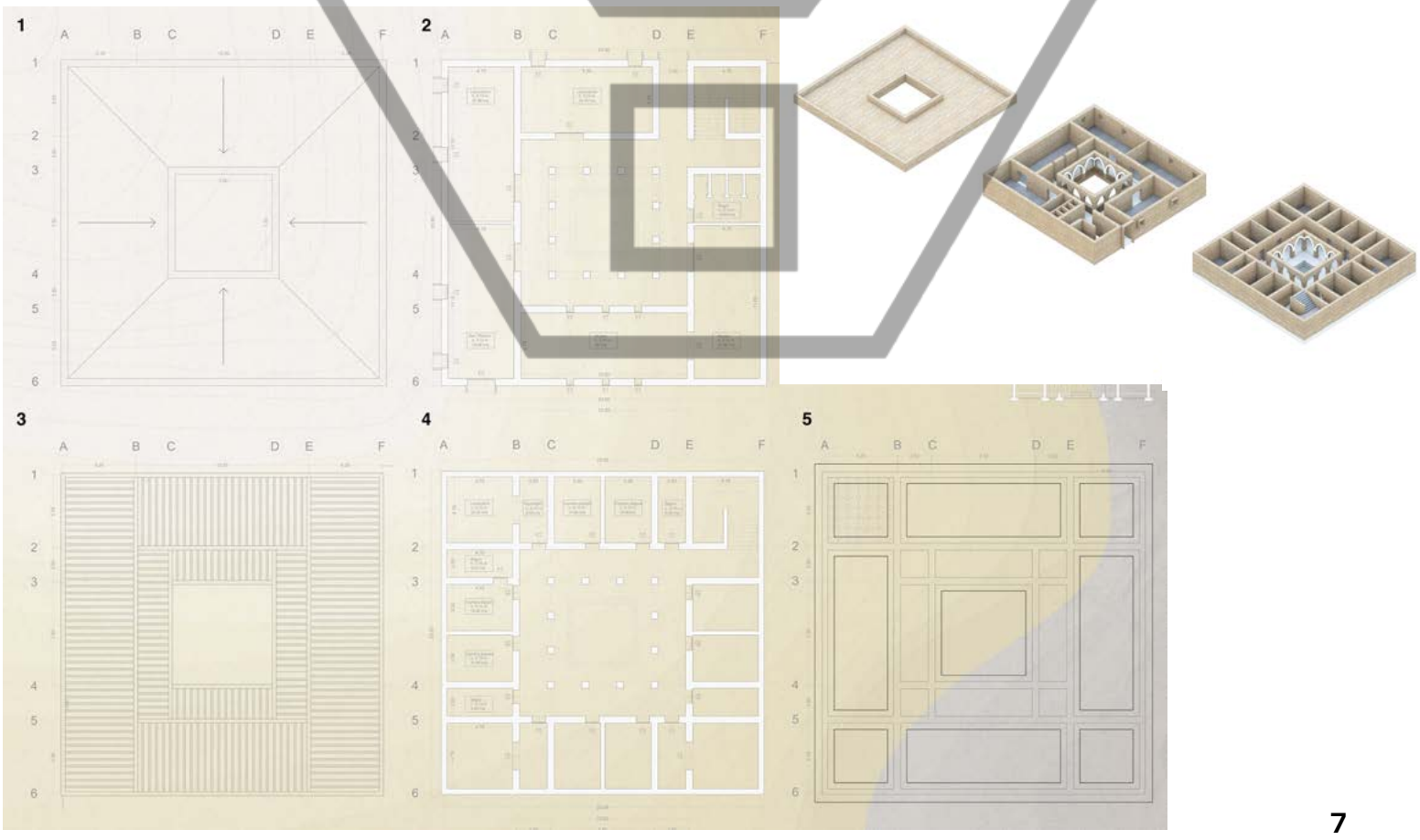
Outcomes & Evaluation

3_ Outcomes & Evaluation

Students are asked to submit 3 sheets in UNI A1 format (vertical pagination) according to the steps described in previous paragraph.
Evaluations will take place in the form of a pin-up poster presentation and discussed online.

The drawings can be integrated with study models or photos of the same, renderings and short videos to allow a better evaluation of the architectural solution.
Any assumed reference must necessarily be made explicit indicating the sources of origin, authors and subjects.

NOTE: The resolution of the files must be such as to guarantee the online transmission and safeguard quality and legibility in the printout. Avoid big file !!!



LINK

>selection of design examples and technologies
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> Green and Smart Building. Advanced technologies for sustainable architectures
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>Structural concept
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