

AR-302(ag)

**Théorie et critique du projet BA6 (Fröhlich M. & A.)**

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Cursus	Sem.	Type
Architecture	BA6	Obl.
HES - AR	E	Obl.
Mob. AR	E	Opt.

Langue d'enseignement	français / anglais
Crédits	12
Retrait	Non autorisé
Session	Eté
Semestre	Printemps
Examen	Pendant le semestre
Charge	360h
Semaines	14
<b>Heures</b>	<b>6 hebdo</b>
Cours	2 hebdo
Projet	4 hebdo

**Nombre de places**

**It is not allowed to withdraw from this subject after the registration deadline.**

**Remarque**

Inscription faite par la section

**Résumé**

Qu'est-ce qu'une serre sans le végétal ? Ou un jardin d'hiver sans l'hiver ? Dans le cadre de la série « Tackle The Type », le studio étudiera les serres d'un point de vue typologique et explorera l'architecture en tant qu'ensemble de conditions climatiques au-delà de ses caractéristiques formelles

**Contenu****GREENHOUSE STUDIES****On the one hand**

Conservatories, greenhouses, glasshouses, forcing houses, hothouses, invernaderos in Spanish, orangeries, jardins d'hiver or serres in French - many are the terms associated with the idea of housing plants. All of these artefacts have a common goal: to create a climate adapted to plant life. Although greenhouses were conceived with a very precise objective, this climatic space quickly became an exhibition space, a social space, and even a space for celebrations before it fell into disuse.

In the second half of the 20th century, greenhouse-based solutions made a comeback, fostering solar architecture and reinforcing the foundations of bioclimatic architecture in western societies. During this time, horticulture continued developing greenhouses as productive spaces, and innovations led to intensive fields of production. In absolute terms, it is not the form or function that characterizes the greenhouse but the definition of a space with specific climatic conditions. In most cases, using wood or metal structures and transparent materials such as glass, these structures keep a very low ratio between the material used and the enclosed space, offering the most with the least. The characterization of the greenhouse as an artefact of a climatic nature suggests that the greenhouse as a type does not depend on scale or size.

**On the other hand**

Typology is widely recognized as a fundamental concept for better understanding architecture and its history. It serves as the underlying framework, a kind of tacit backbone, for organizing architectural knowledge and can also be a tool for generating new architectural solutions. Some argue that typology is as old as architecture itself, as it involves the reproduction of dominant types and models deeply rooted in socio-cultural realities. Alternatively, it can be said that architecture responds to new social and economic needs through the invention or revision of existing types.

Typology and types have traditionally interacted with the formal dimension (buildings organized by a common form or element) and the functional dimension (buildings organized by a common function). However, this focus has often overlooked other less tangible possibilities, such as structural relationships between types and climate in architecture.

**Both hands together now**

*"According to our ideas of the enjoyments of the green-house, it is essential that it be situated close to the house; not merely near, but immediately adjoining it; and attached to it either by being placed against it, forming a part of the edifice; or by means of a corridore, viranda, or some other description of covered passage."*

John Claudius Loudon (1825)

The design studio will focus on the dynamics between greenhouses in relation to existing buildings and domestic spaces. We will study the interactions that can occur and gain a better understanding of the typological transfers and climatic synergies between different spaces.. Greenhouse-like structures will provide the opportunity to study prefabricated systems, test design for deconstruction and reversibility in design thinking, and ultimately a "lighter" way to transform existing buildings.

Through the study of greenhouses as specific built environments, the studio will aim to formulate solutions based on the concept of architecture as atmosphere while exploring their transformative potential. Additionally, by examining greenhouses as climate-responsive artefacts, the studio will explore how seasons can transform space, or, in other words, what it means to inhabit spaces seasonally. Finally, through the study of greenhouses as places of symbiotic life(s), the studio will cultivate knowledge where others would simply build.

**Practicalities**

The first part - Research on precedents - will be developed individually to expand the corpus of references. The studio will collectively build a visual atlas made of peculiar, strange or remarkable examples like recent works 'under glass' such as Martin Wagner's Wachsendes House (1932), Ib and Jørgen Rasmussen's Glasshouse prototype for 200 people (1967), the work of Cambridge students and John Hix (1969), Frei Otto's house (1967), Log ID research in Tübingen (1976), Naturhus by Bent Warne (1976), O.M. Ungers' Solar House (1980), Maison Serre by Hélène Jourda and Gilles Perraudin (1984), Anne Lacaton and Jean-Philippe Vassal's house in Coutras (1999) among other works.

In the second part - Design Studio- participants will develop their work in groups of two or three. A collective 1:1 hands-on experiment and field trip will enrich the learning experience. Autonomous group discussions and supportive roundtables are encouraged throughout the semester.

**Learning outcomes**

By the end of the course, the student must be able to:

- Apply and present research capable to inform a design project
- Analyse and interpret critically an architectural work
- Formulate a problem and provide design-based solution
- Represent accurately a design proposal with drawings and models at multiple scales
- Develop a narrative and present arguments to specialised and non-specialised audiences
- Develop awareness about the implicit and explicit messages of an architectural project
- Work collaboratively and integrate knowledge from different disciplines

**Mots-clés**

Type  
 Typology  
 Greenhouses  
 Bioclimatic Architecture  
 Climatic Types  
 Transformation  
 Energy Resources  
 Location and Context

**Acquis de formation**

A la fin de ce cours l'étudiant doit être capable de:

- Explorer - Apply and present research capable to inform a design project
- Comparer - Analyse and interpret critically an architectural work
- Formuler une hypothèse - Formulate a problem and provide design-based solution
- Visualiser - Represent accurately a design proposal with drawings and models at multiple scales
- Critiquer - Develop a narrative and present arguments to specialised and non-specialised audiences
- Evaluer - Develop awareness about the implicit and explicit messages of an architectural project
- - Work collaboratively and integrate knowledge from different disciplines

## Méthode d'enseignement

The course is designed to foster a rich learning experience by providing diverse teaching methods. The course is composed of a Seminar Day that will gather experts to tackle different dimensions of the studio's theme, a collaborative Research on precedents to study significant works that will feed a common ground of shared knowledge, the Design Studio work to give form to the intentions and thoughts of the participants, Presentations which reflect the research on the topic and development of their own project, progress reviews and constructive feedback, individual and round table presentations.

## Travail attendu

- active participation in the course, including lectures, roundtables, peer-to-peer discussions, mid-term and final presentation.
- participation in the common research and collective design survey
- develop their own design work, contribute to team's work, and collaborative hands-on construction
- presentation of the project by means of drawings, visualisations, oral presentations and models ranging from 1:200 to 1:5 scale, practical and manual skills.
- to work both independently-autonomously, and collaboratively sharing common goals

## Méthode d'évaluation

Enquiry and research phase (20%)

Design phase (60%) with a focus on design concept, graphic realisation, complex thinking

Final presentation (10%)

Engagement and participation of the student during the semester (10%)

A self-assessment form will support the evaluation.

After each phase - Research / Seminar Day / Mock-up / Design - a joint evaluation is carried out in an open dialogue with the entire group. The common goals, improvements and successes of the course are assessed and discussed.

## Encadrement

Office hours	Oui
Assistants	Oui
Forum électronique	Oui
Autres	The course is held in english. TEAM Tiago Borges Martin Fröhlich and Guests

## Ressources

### Bibliographie

will be provided with a reader in feb 2024