

Les Grands Ateliers de l' Isle d' Abeau France

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Les Grands Ateliers, proposed by researchers and professors of eleven higher education institutions and one center of research, and realised with the support of the Ministères de la Culture et de l'Équipement, and of the City Ville Nouvelle de l'Isle d'Abeau, and also from several important building materials companies, are in an extraordinary and unique position in Europe and maybe throughout the world to make progress both in training and research in construction and materials.



A good score for frequenting

After 2.5 years of activity, we will welcome
7500 days-students
(one student during one day)
for this academic year.

Their mission is to bring together artists, architects and engineers in order to conceive, elaborate and realise training modules, research projects and dissemination campaigns of their knowledge and skills within the domains of materials, construction as well as inhabited space quality.

This is an original place for training, not a new school but a common tool that is complementary to teaching and research centers.

It is an experimental space on materials and structures.

It is a dissemination space for constructive cultures

It is a space for innovation and invention.

Finally, it is a space to create meetings.

Meeting between thought and material :

We are in charge of conceiving and designing objects with the environment in mind.

Les Grands Ateliers allows students:

- to discover materials, manipulation and construction on scale 1.
- to understand, respect and know their amazing variety,
- to learn their life cycle, from resources to recycling.
- to manipulate, assemble and discover the importance of implementation and precision, and of the relation between drawings and the building site.

Acquiring working methods

- Learning how to **dismantle and reassemble** the construction (from project to parts and vice-versa),
- **giving the envy** to go deeper in the project, its details, choice of materials and assembling.

Meeting between disciplines, represented by people coming from different but complementary backgrounds and professions.

Les Grands Ateliers allows students:

To learn to work within groups and to discover collective intelligence,



To learn about other professions and to work together, to discover the advantages of interdisciplinarity, in respect of their respective competences.

Meeting between professors, researchers, and practitioners around the act of building, industrials and firms.

The main representatives of building materials companies are partners of Les Grands Ateliers : for example the CNDB, CIM-Béton, ARCELOR et ID-Inox, Syndicat des Producteurs de Matières Plastiques, and we are now beginning collaborations with companies working in other raw materials such as glass products, plaster, baked clay.

More concretely les Grands Ateliers propose:

- A space for experimentation and realisation of prototypes allowing implementation of construction at scale 1 (a 500 m² work space, a façade for experimentation, 2 workshops, an exhibition hall)



- A place for welcoming students, researchers, professionals or artists to realize their experiments or prototypes.
- International contests opened to students of several disciplines, followed by summer workshops where laureates are invited to realise large scale models of their projets (Art Nomade, Mini Maousse. Building with wood...)

The discovery of materials

- Their variety, from earth to composites
- The logic of assembling materials, the absolute necessity of precision,
- Discovering new materials and new structural forms,

- Two thematic weeks each year on a material, with exhibition, conferences and workshops (earth, concrete, wood and vegetal fibers)
- Short information and training sessions for teachers and professionals (on materials, major risks, design for antiseismic buildings, sustainability, etc)
- Projects of continuing education and specialisation post Masters for several disciplines.

Introduction

Lots of you were present during the second workshop organised last year at the Grands Ateliers. For those who do not know the project, an activity catalogue is at your disposal as well as an internet site with a new improved webcam.

Some answers

1. A probably improved efficiency of this type of training
2. The discovery of the benefits of working in groups
3. The probably good efficiency of learning by doing, by intuition, by the body,
4. The discovery of matter and materials
5. Acquiring working methods.

What's new since last year

A good score for frequenting Grands Ateliers: after 2.5 years of activity, we will welcome about 7500 day-students (ie 1 student present during 1 day) for this academic year. And we have noticeably enlarged our panel of activities (original contests, international workshops). And we now have new projects for the future, dealing with post-Master curriculum.



Learning by doing

- Learning by building
- Learning by experimenting (trial error process)
- Learning by intuition
- Learning by the body (space, ambiances, ergonomics, kinaesthetic)

Today, the main question is: In what manner the training and the teaching methods of Grands Ateliers will improve the teaching of construction, regarding the objectives and questioning of this 3rd workshop ? We have 5 answer to propose:

1. potentially improved efficiency of this type of training (you should remember that GA are not a new school, by a common tool proposing short intensive sessions dedicated to one topic).
2. the discovery of the benefits of working in groups (as we had the pleasant surprise of reading this point through the evaluation sheets distributed to every student at the end of each session) and learning from the other disciplines.
3. the efficiency of learning by doing, learning by experimenting (trial/error process), learning by intuition, and learning by the body (understanding the space occupied by the body or by the dance, discovering ergonomics by producing full scale models, touching the materials, feeling the ambiances, discovering the principles of forces in structures by kinaesthetic exercises).



4. the discovery of matter and materials :

- their variety, from earth to composites,
- the logic of assembling materials, and understanding how to put them in form, and the absolute necessity of precision),
- Discovering new materials and new structural forms, with the help of our industrial partners, and the cooperation of some research teams (high performance concrete, composites and tensegrity, light structures (Art Nomade, JM. Delarue),

Dismantling - reassembling

- This method is the essential key to understand the role and function of each part of the construction, and the importance of the transformation and the TIME,
- This method is an entry key to the major question of sustainability, and to the attention that each one must bring to every project, taking in consideration all its aspects (use, ambiance and comfort, maintenance, energy, life cycle).





5. acquiring working methods, by study sessions giving the desire to go deeper into the construction process :
- learning how to analyse and dismantle then reassemble the construction, a mental then physical exercise for going from the project to its parts and vice versa,
 - This method is the essential key to understanding the role and function of each part of the construction, its own life and life cycle, and the importance of TIME. For example, it seems impossible today to design a building without anticipating its future transformations, in particular on energy questions.
 - This method of dismantling then reassembling is an entry key to the major questions of sustainability, and to the attention that each one must bring to every project, taking into consideration all its aspects of use, ambiance and comfort, maintenance, energy and life cycle.

What are we looking for the future

To improve the capitalisation of these innovating teaching experiences, often strongly tied to research, and innovative in their didactic approach: observation, memorization (pictures, video), description of the didactic process and writing of narratives.

To develop the activities of teaching for teachers, in order to enlarge the dissemination of these teaching experiences to a larger audience (on the example of Unesco teaching chair obtained by Craterre)

To develop research and experimentation : GA are an extraordinary tool for researchers, but we would like to go further. Our objectives today are:



To create a doctoral school on the theme of "construction culture", composed by the network of the various existing research laboratories ("architecture formes et structures", Craterre, Cresson, Laboratoire d'Analyse des Formes, Structures Légères et Architecture, etc)

To develop around GA new post-Masters training (DSA) more oriented towards continuing education or specialization, at the attention of professionals architects, engineers, artist or designers, and dealing with new or rare topics like:

- Major risks,
- Building with earth (or building with local resources)
- Sustainability : materials, energy, ambiances
- New materials
- New conception methods, shared between architects and engineers

As a first step, in order to get students prepared for these two curriculae, one more doctoral or research oriented, the other shorter and more oriented for specialists, we have the project to create a shared Master curriculum on "construction culture", including courses common to several schools (workshops, seminaries, boards), and tightly linked to Grands Ateliers. The participation of foreign schools in this project, or, in a following step, its inscription in a larger project such as Erasmus Mundus, would give more critical mass and credibility to this project.

