

The field of study «construction» is made up of 2 different approaches:

- «The art of building», linked with design
- The associated scientific knowledge:

design of building frames, mastering of physical environment; mathematics and morphological knowledge for the constructor. It is coherent and gradual: each year deals with these topics at a gradual level of

1st year: exploring the field of construction in an overall outlook

The teaching is widespread and takes the form of an active pedagogy. Priority is given to individual discovery by observation in situ, building and test with models. Practical implementation takes place in the Grands Ateliers de l'Isle d'Abeau (GAIA).

2nd year : learning basic elements

An overall approach to building and materials, in compliance with designs is taught by practical exercises. Moreover scientific basis regarding the mechanical and physical approaches of environment are dealt with together with the mathematical reasoning they request.

3rd year : «knowledge applied to design»

Practical teaching oriented to enclosure and roofing, together with visits and analysis of building yards. Digital design and modelling of structures in 2 dimensions. Design of the building in keeping with both winter and summer thermics. Mathematics and Geometry lead to morphology of space.

4th Year (compulsory) : « implementation»

Building has to comply with a design with high technical standards (seismic design is chosen for its pedagogy and its knowledge). Design of 3D structures taking into account the morphology of the structure which is dealt with in an experimental way. Designing of environment with lighting and acoustics. Teaching on overall information regarding fluids

4th year (optional) : « development»

It can be performed by multidisciplinary practical exercises at the Grands Ateliers de l'Isle d'Abeau.

5th year : « specialities »

The proposed speciality are made up of an important part of both scientific and technical knowledge.

- Architecture and heritage: technical expertise and structure modelling of ancient building.
- Architecture and « High Environmental Quality» building; project codesigned by students in engineering.

CONSTRUCTION AND ITS TEACHING AT THE LYON SCHOOL OF ARCHITECTURE

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e 1812 experimental approach to structure and environment : 50h



Bridging 1,2m with the lowest quantity of material, bearing the highest weight, with the best design. With a given material it must be achieved within one day. Recorded testing till it breaks. Then study of slow motion picture and, comparisons with digital modelling.

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e 212 over-all building and materials : 80h

e 235 Static and strength of materials : 24h

Physics of environment : 24h

e 236 Mathematics : 10h



Designing a small project and building models at 1/10 scale. Choosing the best suited material in compliance with the features of the achievements. Performing the assembling in keeping with the process of the building yard.

3rd year : « knowledge applied to design »

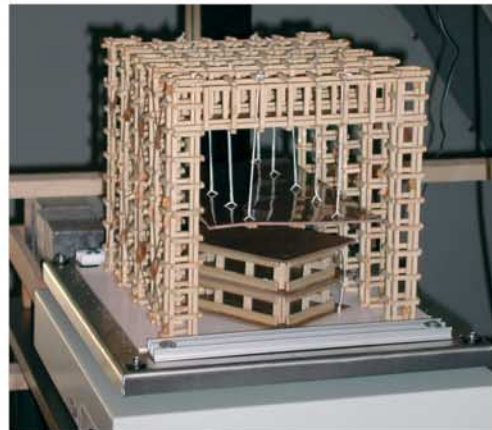
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e 312 Day to day construction: 40h

e 335 plane structures: 20h

Thermic of environment: 20h

e 336 morphology: 20h



Designing an earthquakeproof building. Building two models : one visual and one dynamic to be tested on vibrating table.

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e 412 Seismic design 48h

e 436 Spatial structures: 25h
Lighting, fluids, acoustics : 65h



Designing and building with students in engineering, art and architecture :
! pneumatic structures (aluminium)
! full size model to experiment sounding and lighting and so on

4th year (optional) : « development »

It can be performed by multidisciplinary practical exercises at the Grands Ateliers de l'Isle d'Abeau.

e 448 Experimental building GAIA: 100h

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