



## Faculty of Applied Sciences

### AMCO2186 Design and realisation of structure

[45h] 4 credits

This course is taught in the 1st semester

**Teacher(s):** Eli Schmit  
**Language:** French  
**Level:** Second cycle

#### Aims

Provide further knowledge as to the specific technology of each structure (steel, concrete, wood), especially for joints and design of elements.

#### Main themes

From the basic knowledge of mechanics, structure, computer material and design, develop the methods of analysis of steel, composite and wood structures.

#### Content and teaching methods

Part 1 : Design of steel and composite structures.

Materials - Sizing of elements - Joint design - Composite structures.

Part 2 : Design of steel and composite structures.

Fatigue - Fire resistance of steel structures - Design of building frames - Shells - Beams of bridge cranes - Hollow sections.

Part 3 : Design of wood structures.

Materials: wood - Reliability - Sizing of building elements - Fire resistance of wood elements - Load-bearing structures.

#### Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Fundamentals of statics - Mechanics of solids and materials - Structural analysis - Fundamentals of reinforced concrete.  
 Available only in French.

Evaluation of the exercises done during the semester. At the end of the semester, oral examination devoted to practical applications and theoretical aspects.

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#### Other credits in programs

<b>ARCH23</b>	Troisième année du programme conduisant au grade d'ingénieur civil architecte	(4 credits)
<b>FSA3DS/GC</b>	Diplôme d'études spécialisées en sciences appliquées (génie civil)	(4 credits)
<b>GC22</b>	Deuxième année du programme conduisant au grade d'ingénieur civil des constructions	(4 credits)
<b>GC23</b>	Troisième année du programme conduisant au grade d'ingénieur civil des constructions	(4 credits)