



## Faculty of Applied Sciences

### AMCO2101 ELEMENTS OF PROJECT OF CIVIL ENGINEERING I

[30h] 2 credits

This course is taught in the 2nd semester

**Teacher(s):** Jean-Louis Hilde  
**Language:** French  
**Level:** Second cycle

#### Aims

To allow the students to establish the complete plans of execution of the simple elements of structure most frequently met in the professional life of an engineer of construction

#### Main themes

- Recall of the basic concepts of the statics and the passages of efforts in the structures.
- Exhaustive Study of the structural elements constituting the traditional reinforced concrete works:
  - \* isostatic beam,
  - \* column,
  - \* direct foundation slab on ground,
  - \* foundation slab on piles,
  - \* short console.

#### Content and teaching methods

- Presentation by the holder of teaching:
  - \* particular concepts relating to the studied element,
  - \* assumptions relating to the actions and the supports retained for the studied element,
  - \* method of resolution of the problem arising.
- Work to be carried out in the room of diagram, by group of 3 or 4 students:
  - \* determination of the actions and reactions of supports,
  - \* calculation of the efforts intern with the element (M, NR, T),
  - \* dimensioning of the sections of concrete and reinforcements,
  - \* layout of the complete plans of the element including the bill of quantities of the various components.

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

##### Pre-necessary

- Geometry: characteristics of the plane surfaces
- Stability: isostatic structures; calculation of the internal efforts;
- Materials: concrete and steel;
- Geotechnics: bearing pressure of the ground.

##### Evaluation

- Each element of project gives place to the drafting of a full report (assumptions, actions, calculations, plans) submitted one or two weeks after the last meeting in room of diagram which is devoted to him.
- To the reception of the report/ratio, the holder of the course gives to each student a complete model document such as it would be established in the professional life.
- Each report is corrected and noted to be submitted to the students as early as possible.
- An individual oral examination makes it possible to check the asset.

**Other credits in programs**

<b>GC21</b>	Première année du programme conduisant au grade d'ingénieur (2 credits) civil des constructions	Mandatory
-------------	--	-----------