


 Faculty of Applied Sciences

AMCO2185 DESIGN OF PRESTRESSED CONCRETE STRUCTURES

[22.5h+15h exercises] 3 credits

This course is taught in the 2nd semester

Teacher(s): Jean-François Cap
Language: French
Level: Second cycle

Aims

The course introduces to the design of prestressed and post-tensioned concrete structural elements.

Main themes

Study of prestressed concrete and its application for the civil works

Content and teaching methods

- Features and performance of prestressed concrete
- Mechanical properties of prestressing steel.
- Description of ducts, sheaths, anchorages, couplers and prestressing devices.
- Layout of cables.
- Analysis and design of prestressed beams subjected to flexure, axial force, shear and torsion.
- Hyperstaticity effects.
- Losses in cable tension.
- Design of anchorage zones of pos-tensionned members.

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

Prerequisite : Auce 1103

Other credits in programs

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| ARCH22 | Deuxième année du programme conduisant au grade d'ingénieur civil architecte | (3 credits) | |
| FSA3DS/GC | Diplôme d'études spécialisées en sciences appliquées (génie civil) | (3 credits) | |
| GC22 | Deuxième année du programme conduisant au grade d'ingénieur civil des constructions | (3 credits) | Mandatory |