MODÉLISATION ET CONCEPTION

MECHANICAL DESIGN

Lecturers: Olivier DESSOMBZ, Francesco FROIIO

| Lecturers : 4.0 | TC : 4.0 | PW : 0.0 | Autonomy : 0.0 | Study : 12.0 | Project : 0.0 | Language : FR

Objectives

Give more advanced notions on the mechanics of solids and structures, having a direct link with applications.

Keywords : Dimensioning, truss, static, dynamic

Programme

- Course 1 and TD 1: Calculation of isostatic and hyperstatic lattices. Buckling.
- Course 2 and TD 2: Small movements in vibration. Clean modes, free response and forced response.
- Design office 1 and 2: Calculation of the coverage of a gymnasium (static sizing and dynamic analysis)

Learning outcomes

- Apply the concepts of structural statics to the design of a truss.
- Apply the concepts of structural dynamics to the design of a truss.
- Use digital calculation platforms (Matlab, Scilab) for the analysis of structures.
- Report on the static and dynamic analysis of a structure.

Independent study

Objectifs : Finalize the work of the design office.

Méhodes : Group work: case study and report writing.

Core texts

Assessment

Score = 100% know-how
Know-how score = 100% continuous assessment