

IDENTIFICATION

Course code : E5BE9MS2
ECTS : 2

DURATION

Lectures : 4
Tutorial classes : 24
Labs : 0
Total : 28

Project :
Personnal work :

ASSESSMENT

Project report

TEACHING MATERIALS

PowerPoint presentation

LANGUAGE

English

CONTACT

Didier CALOGINE Instructor : Alain Turpin
didier.calogine@univ-reunion.fr

Modifié le : 3 août 2026

UE : Modélisation

COURSE : Finite Element Modeling of Structures

SCOPE OF THE COURSE

OBJECTIVES

The aim is to design structures using the “Robot” software.

COMPETENCE AND SKILLS

Design and verification of all elements of a typical building structure using the Robot software.

PROGRAM

The first part (8 hours) will cover the concept of the finite element method : from the basic concept to a practical example.

The second part (20 hours) will focus on using the RSA and CBS (Concrete Building Structures) software.

A range of structural problems will be addressed, emphasizing the essential information required for calculation operations :
• Model : two-dimensional (2D) and three-dimensional (3D) ;
• Structure : structural element modules (column, beam, slab, isolated footing) before addressing load-bearing building structures ;
• Load cases : static (point, uniform, and surface) and dynamic (rolling load on a bridge).

BIBLIOGRAPHY

REQUIREMENTS

Courses on static and hyperstatic structural mechanics. Courses on reinforced concrete, metal, and timber structures.