

Finite Element Modeling

Numerical engineering for forming processes

IDENTIFICATION

CODE : GM-5-S1-EC-PCNUM
ECTS : 3.0

HOURS

Lectures : 0.0 h
Seminars : 32.0 h
Laboratory : 0.0 h
Project : 0.0 h
Teacher-student
contact : 32.0 h
Personal work : 25.0 h
Total : 57.0 h

ASSESSMENT METHOD

Practical work reports.

TEACHING AIDS

Manuscripts of lessons, exercice
lessons

TEACHING LANGUAGE

French

CONTACT

M. DUMONT Pierre
pierre.dumont@insa-lyon.fr

AIMS

Chaining the numerical tools for the desing of parts, starting from the choice of a forming process to the end-use properties of part.

CONTENT

Advanced simulation of forming processes for polymers and composites
- Advanced use of codes for polymer and composites processing (Polyflow, Moldflow...)
- Advanced use of structural mechanics codes (ex. Abaqus)

BIBLIOGRAPHY

- [1] Flow and Rheology in Polymer Composites Manufacturing, Volume 10, 1st Edition, Editors: S.G. Advani, Elsevier, Amsterdam, Pays-Bas, 1994.
[2] Manufacturing Techniques for Polymer Matrix Composites (PMCs), 1st Edition, Editors: Suresh Advani Kuang-Ting Hsiao, Woodhead Publishing, Cambridge, Royaume Uni, 2012.
[3] Polymer Extrusion, 4ème ed. C. Rauwendaal ; Hanser Publishers (2001)

PRE-REQUISITE

GM-4-PCPRA-S1, GM-4-PCPMF-S1, GM-4-PCPMF-S2, GM-4-PCSIM-S2, GM-4-PRM-S2