



## SYSTÈMES MÉCANIQUES POLYARTICULÉS

### MULTI-BODY MECHANICAL SYSTEMS

Lecturers: Emmanuel RIGAUD, Bertrand HOUX

| Lecturers : 12.0 | TC : 12.0 | PW : 14 | Autonomy : 10 | Study : 0.0 | Project : 0.0 | Language : FR

#### Objectives

---

Multibody mechanical systems represent a wide spectrum of practical applications from industrial robots to many mechanisms (connecting rod-crank, automotive suspension, wiper, catenary, etc.).

The course presents and implements the general methods of description, modelling and analysis of multibody mechanical systems, as well as the tools for the design and synthesis of these systems.

During the design office activities, the behavior of an industrial robot and an automotive wiper system are fully simulated and visualised.

**Keywords :** Robot, Mechanisms, Geometric model, kinematic model, dynamic model

---

#### Programme

#### Learning outcomes

#### Independent study

Objectifs :

Méthodes :

#### Core texts

KHALIL W., DOMBRE E., *MODÉLISATION, IDENTIFICATION ET COMMANDE DES ROBOTS* .., Hermès, 1999

#### Assessment