



Faculté des sciences appliquées

FSA

MECA2200 Projets en construction mécanique I

[45h] 3 credits

This course is taught in the 2nd semester

Teacher(s): David Johnson, Benoît Raucent
Language: french
Level: 2nd cycle course

Aims

Introduce students to the design process in mechanical engineering and the knowledge of mechanisms and assembly processes. Develops students' capacity to perform functional analysis and implement graphical tools.

Main themes

Dismantling and functional analysis of mechanisms.
 Measurements on mechanical parts.
 Sketching and computer-aided-drawing
 Kinematic analysis

Content and teaching methods

This course is based mainly on a practical and deductive approach. The students start by dismantling and reassembling a complex mechanical system (e.g. an automobile engine), thereby giving for-hands on experience of mechanical components, their interdependence and functional analysis. The students are then required to carry out a thorough investigation of a mechanical subsystem, involving dimensional analysis, functional analysis and component design, followed by an operational analysis and workshop drawings produced by a CAD software.

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

Prerequisites :
 basic technical drawing skills, e.g. FSAJ1631
Format :
 practicals in groups of 2 students
 1st semester: engine dismantling
 2nd semester: functional analysis and AUTOCAD drawing (half day per week)
Assessment :
 year long involvement. Reports and drawings. Final interview.
Stream : design and projects in mechanical engineering

Other credits in programs

ELME21/E	Première année du programme conduisant au grade d'ingénieur (3 credits) civil électro-mécanicien (énergie)	Mandatory
MECA21	Première année du programme conduisant au grade d'ingénieur (3 credits) civil mécanicien	Mandatory