

Faculty of Medicine

IEPR1005 **Mechanics and biomechanics**

[52.5h+22.5h exercises] 8 credits

Teacher(s): Pierre Defrance, Patrick Willems (coord.)
Language: French
Level: First cycle

Aims

At the end of this entity of teaching, the student will be able to use mechanical principles to analyze a physical activity and the operation of the human body. Moreover, it will have the elements of mathematics and mechanics necessary to biomechanics and the analysis of the movement.

Main themes

The principal topics approached to meet these objectives will be: - mathematical bases of mechanics: algebra, vectorial algebra, trigonometry, functions, derivation, integration; - kinematics: movement with one or two dimensions; - the dynamics of the point: force, work, energy, power, linear moment, impulse oscillations and waves; - the dynamics of the solid: translation, centre of mass, rotation around a fixed axis, rotation around the centre of mass, balances, elastic properties of the solid; - the dynamics of the deformable or articulated solid; - statics and dynamics of the fluids.

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

Pre-necessary written or oral Examination Evaluation and/or elements of evaluation continue Support Syllabus and/or book Encadrement Holder and/or assistant, aidé(s) possibly by student Autres monitor

Other credits in programs

EDPH11BA	Première année de bachelier en sciences de la motricité	(8 credits)	Mandatory
KINE11BA	Première année de bachelier en kinésithérapie et réadaptation	(8 credits)	Mandatory