



## PHY1111 General Physics 1

[45h+45h exercises] 8 credits

This course is taught in the 1st semester

**Teacher(s):** Denis Favart, Denis Favart (supplée Jan Govaerts), Jan Govaerts  
**Language:** French  
**Level:** First cycle

### Aims

Introduction to the basic principles of Newton's mechanics and special relativity ; their primary physical meaning and consequences ; and their actual implementation through the appropriate mathematical tools. To acquire experience in model building of realistic systems within the framework of physical phenomena of point mechanics and rigid bodies, in combination with actual experimental demonstrations and laboratory practicals. Provides the basic physics concepts necessary for the course PHY 1112, General Physics 2 (2Q), with which it constitutes a coherent curriculum, to be completed by the course PHY 1211, General Physics 3 (second year bachelor's degree).

### Main themes

Mechanics :

- . mathematics of mechanics ;
- . the laws of static equilibrium ;
- . Newton's principles ; dynamics and applications ;
- . conservation laws and applications ;
- . the two body problem, Kepler's laws, universal gravity ;
- . introduction to rigid body dynamics ;
- . introduction to fluid dynamics ;
- . introduction to special relativity.

### Other credits in programs

<b>FSA11BA</b>	Première année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(8 credits)	
<b>MATH11BA</b>	Première année de bachelier en sciences mathématiques	(8 credits)	Mandatory
<b>PHYS11BA</b>	Première année de bachelier en sciences physiques	(8 credits)	Mandatory