
# PHY1223 Special Relativity

[22.5h+15h exercises] 4 credits

This course is taught in the 1st semester

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| **Teacher(s):** | Jean-Marc Gérard, Jan Govaerts |
| Language: | French |
| Level: | First cycle |

## Aims

Introduces to the basic physical concepts of special relativity as they lead to the theory of General Relativity, with, in particular, a discussion of relativistic kinematics and the Lorentz covariant formulation of Maxwell's equations of electromagnetic phenomena.

## Main themes

1. From the principle of relativity to Newton's mechanics.
2. Lorentz transformations and covariance of Maxwell's equations.
3. From the principle of relativity to Einstein's mechanics of special relativity.

## Content and teaching methods

Traditional teaching organisation, with oral presentations of the content material in a lecture theater, then followed by supervised tutorials. The detailed content of the course is structured along the above specifications. The course material is based on a syllabus, as well as further reading of course material to be specified during the semester.

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

Prerequisites
The mathematics and general physics courses of the first year of the Bachelor's degree in both the mathematical and the physical sciences.

## Other credits in programs

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| **FSA12BA** | Deuxième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil | (4 credits) | |
| **PHYS12BA** | Deuxième année de bachelier en sciences physiques | (4 credits) | Mandatory |