



## PHYS2131 Spherical astronomy and mathematical astronomy

[22.5h+15h exercises] 3 credits

This course is taught in the 1st semester

**Teacher(s):** Pascale Defraigne, Jean-Pascal van Ypersele de Strihou  
**Language:** French  
**Level:** Second cycle

### Aims

This course aims to deepen certain chapters of PHYS 1120 and to give the necessary bases to pick up the more specialized courses or personal research in the fields of geodesy, geodynamics, the study of artificial satellite movement, astrophysics (star mass, light and rays).

### Main themes

The course covers the main domains of astrometry, notably:

- reference signs, movement proper to stars
- atmospheric refraction, parallaxe, aberration
- solar system movement in the Galaxy
- orbital movements in double stars, stellar evolution
- N body problems and movements of planets in the solar system

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

Prerequisites: differential and integral calculus, rational mechanics, solids rotation, course PHYS 1120.

Openings: general interest course for everybody concerned by space sciences and earth environment.

### Other credits in programs

<b>MATH21/G</b>	Première licence en sciences mathématiques (Général)	(3 credits)
<b>PHYS21/T</b>	Première licence en sciences physiques (Physique de la terre, de l'espace et du climat)	(3 credits)