

# Physique

**Lecturer**

Alain JORISSEN (Coordinator)

**Course mnemonic**

PHYS-F103

**ECTS credits**

5 credits

**Language(s) of instruction**

French

**Course period**

Second term

## Course content

Point masses kinematics and dynamics, work, energy. Coulomb law. Electric field and potential. Current, battery. Magnetism and magnetic field. Lorentz force, electric motor and generator. Resistors, capacitors and inductors. DC and AC circuits. Electric instruments. Fresnel and phasors representations. Impedance. RC, RL, RLC circuits and quality factor.

## Objectives (and/or specific learning outcomes)

Prepare students for next courses in electronics. Get them acquainted with the scientific method and teach them rigour.

## Teaching method and learning activities

Lectures with experiments, films and computer animations. Exercises. Personal works.

## References, bibliography and recommended reading

Physique générale, by Giancoli or by Benson (the 2 first volumes), De Boeck Université.

## Other information

### Contact(s)

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## Evaluation method(s)

Other

### Evaluation method(s) (additional information)

Written examination (17 points) - Personal works (3 points). One additional point possible if the program "Objectif réussite - physique" fulfilled in time.

### Determination of the mark (including the weighting of partial marks)

See 'Method' above

### Main language(s) of evaluation

French

## Programmes

### Programmes proposing this course at the faculty of Sciences

BA-INFO | Bachelor in Computer science | unit 1 and BA-MATH | Bachelor in Mathematics | unit 3