

## Electrical phenomena

# Introducing

 Toulouse

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## Objectives

The aim of the course is to discover the way natural sciences formalize the electrical effects, linked to the electrical charges present in matter.

This formalism also makes it possible to work on the representation of space (coordinate systems) and field theory (differential operators). Time-dependent phenomena (moving charges are not covered). The different chapters of the course and the associated tutorial sessions allow students to progress towards the methods of calculating the electric field and the electrostatic potential generated by any system of charges, then towards the description of the electrification of conductive materials and thus to introduce capacitors and the associated methods of storage of electrical energy. A practical session illustrates the main effects of electrostatics (electrical forces, tip effects, electrostatic influence, etc.).

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## Necessary prerequisites

Mathematical tools of 1A : Vectors, derivatives and integrals

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## Practical info

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## Location(s)