

Analog electronics

Introducing

Description

This course is divided into 8 chapters :

Chapter 1: Electronics – a whole world to discover.

Chapter 2: First-year review.

Chapter 3: Diodes, Zener diodes, and LEDs.

Chapter 4: The bipolar transistor in switching applications.

Chapter 5: How to receive a light signal: the photodiode.

Chapter 6: Mathematical tools for the electronics engineer.

Chapter 7: How to filter a signal? Passive filters.

Chapter 8: How to amplify a signal? The linear operational amplifier.

- Superposition theorem.

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Objectives

This analog electronics course is intended for 2nd-year IMACS students. Its objective is to provide a foundation of knowledge and skills for students who are just beginning in this subject.

Necessary prerequisites

The required concepts are as follows :

- General laws of electrokinetics : Kirchhoff's voltage law, Kirchhoff's current law, Ohm's law, constitutive relation (current/voltage) for capacitors and inductors.
- Thévenin's and Norton's theorems.