

# Physics Engineering and Economic Development



ECTS  
5 crédits



Hourly volume  
75h

## Introducing

- Course on "semiconductors" given in 3IMACS.
- Use of decibel units
- RF basics (noise, gain)

## Objectives

This educational unit is composed of three distinct lectures. Two of them are technological: Physics of semiconductor heterostructures and Telecommunication satellites/RF Functions, the third being centered on the impact of modern science: Nano Cultures.

Multiple objectives are targeted:

- Acquire the fundamentals of the recent innovations in semi-conductor devices for microelectronic industry
- Understanding and modelling of semiconductor heterostructures
- To be able to describe the basic Telecommunication payload architecture by understanding the functional description of a bent-pipe transponder
- To acquire good understanding of each RF equipment (Requirements, RF drivers, technologies and associated tips)
- Develop a personal thinking on the impact of sciences on society in relation with global environmental changes
- Analyse and criticize the nature of Science and technology
- Construct a research project forming sense with respect to personal values and societal challenges

## Practical info

### Location(s)

 Toulouse

## Necessary prerequisites