

Integration



Component
École Nationale
Supérieure
d'Électrotechnique
d'Électronique

In brief

> **Code ELP:** N5EM01A

Presentation

Objectives

The purpose of the course is to become acquainted with the Lebesgue integral and the use of the theory of integration, as it is involved in the tools for signal processing regarding integral transforms. The concept of distribution is also introduced as it is essential for the generalization of basic operations as derivation, convolution or Fourier transform.

Description

Measure theory.

Measurable function, simple function integration.

Convergence theorems, Leibniz integral rule.

L_p spaces.

Distribution, derivation and convolution.

Fourier and Laplace transforms.