Mathematics 2

Component
École Nationale Supérieure d'Électrotechnique d'Électronique

In brief

Code ELP: N6AM01A

Presentation

Objectives

This course is divided into two parts:
- the first part focuses on differential systems (EDO / SDO) and linear partial differential equations (PDE); the student will have to become familiar with these objects which are at the heart of the modeling of mechanical systems.
- the second part deals with the modeling of random phenomena: the objective is to allow the student to carry out basic calculations on univariate and bivariate random variables, to put into practice the tools of statistics, and to estimate laws of probability.

Description

Part 1:
- 1st and 2nd order ODE, linear ODS, representation of solutions, critical points, stability, phase portrait
- 1st and 2nd order linear PDEs (parabolic, hyperbolic, elliptic)
- Problems in unbounded domains: FT method, feature method, complex potential method
- Problems in bounded domains: boundary conditions, method of separation of variables

Part 2 :
- Elements of calculation of probabilities
- Random variables
- Couple of random variables
- Calculation of probability law by transformation of v.a.
- Elements of statistics

Non-contractual information.
Last update on 18 December 2024

- Adjustment of probability laws

Pre-requisites

Mathematics 1

Non-contractual information.
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