TOULOUSE INP N7

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

Recherche Opérationnelle

Component
École Nationale Supérieure d'Électrotechnique d'Électronique d'Informatique d'Hydraulique et des Télécommunications

In brief

> **Code:** N7EN12B

Presentation

Objectives

Provide the mathematical basis for modeling and solving operations research problems.

Description

The course describes the main methods for modeling and solving Operations Research problems whose objective is decision support. Five projects are proposed to the students who must program in Matlab their solution programs. The course examines in turn linear and integer programming methods (simplex algorithm), maximal flow and tension methods (Ford and Fulkerson algebra), non-zero sum game theory in a non-cooperative game context, Markov chains and trajectory planning in mobile robotics.

Pre-requisites

Basic knowledge of linear algebra, differential calculus, probability theory and programming.

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