Théorie des graphes

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

In brief

Code: N7EN14A

Presentation

Objectives

To discover basic concepts and methods of graph theory from a family of practical problems. At the end of the lecture, the student must discover ten important problems and appropriate algorithms.

Description

- Basic objects
- Shortest path: Moore-Dijkstra and Ford algorithms.
- Scheduling: PER analysis
- Hamiltonian paths: Demoucron and Kaufman methods - Malgrange
- Eulerian paths
- Maximum flows: Ford-Fulkerson algorithm
- Optimal assignments: Hungarian method

- Properties relating to cycles, trees , Spanning trees with optimal weight: Kruskal's algorithm
- Graph coloring, planar graphs: Euler's formula.