

# Stochastic Processes/Queueing Systems : Modeling and Algorithms



## Présentation

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### Description

**Goal :** To provide the key concepts in terms of network planning and interoperability for service provision in the Internet context.

**List of subjects to be presented to the students :**

- # Basic queueing theory.
- # Markov Processes and Markov Chains
- # Birth-Death Processes
- # Equilibrium Solutions for M/M/-/- Queues
- # Analysis of the M/G/1 queue
  - Priorities in a M/G/1
- # Network of queues
- # Queueing theory in practice: traffic descriptors, delay and rate guarantees
- # Network optimization
  - The shortest path problem
    - # The Dijkstra Algorithm
    - # The Ford Algorithm
    - # The Floyd Algorithm
  - Flow optimization
    - # The maximum flow problem
    - # The Ford-Fulkerson Algorithm
    - # The minimum-cost maximum-flow problem