

## Advanced algorithmics

### Introducing

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#### Description

Correction proofs  
Asymptotic analysis  
Divide and conquer  
Greedy algorithms  
Dynamic Programming  
Branch and Bound  
Problems tractability

#### Objectives

The objective of this course is to introduce the foundations of computational thinking, including complexity theory, proofs of correctness, advanced algorithmic design, and more. Throughout the course, students will learn to analyze the tractability of problems as well as the correctness and complexity of algorithms. They will be taught advanced algorithmic design techniques, such as divide and conquer, greedy algorithms, dynamic programming, and branch and bound.

#### Necessary prerequisites

Algorithms and Programming (1st and 2nd year )

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### Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

### Practical info

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#### Location(s)

 Toulouse