

# Advanced Methods in Bioinformatics

## Titulaires

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## Mnémonique du cours

INFO-F439

## Crédits ECTS

5 crédits

## Langue(s) d'enseignement

Anglais

## Période du cours

Deuxième quadrimestre

## Campus

Hors campus ULB

## Contenu du cours

This course will provide an introduction to computational methods applied to biological questions. After an introduction to the computational biology domain, the notion of sequence alignment, motif discovery, protein structure will be detailed. A particular emphasis will be put on notion related to protein structure prediction and methods related to Next Generation Sequencing data analysis.

## Objectifs (et/ou acquis d'apprentissages spécifiques)

This course focusses on computational biology.

The goal of this course is to provide students with the necessary skills i) to understand computational biology research, ii) to grasp the workings of some of the key algorithms that were developed to solve particular problems in molecular biology iii) to understand the role of different computational methods in solving these problems, iv) to know where certain molecular data can be found and how to combine this, v) to be able to develop a project that tries to solve some problem in this domain. In addition, this knowledge will allow you to understand the literature on bioinformatics and computational biology.

## Pré-requis et co-requis

### Cours co-requis

INFO-F409 | Learning dynamics | 5 crédits, INFO-F422 | Statistical foundations of machine learning | 5 crédits,

INFO-H410 | Techniques of artificial intelligence | 5 crédits, INFO-H415 | Advanced databases | 5 crédits, INFO-H417 | Database systems architecture | 5 crédits et INFO-H509 | Geo-Spatial and web technologies | 5 crédits

## Méthodes d'enseignement et activités d'apprentissages

Oral presentations + Assignments.

## Références, bibliographie et lectures recommandées

Provided in the slides.

## Autres renseignements

### Lieu(x) d'enseignement

Hors campus ULB

### Contact(s)

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## Programmes

### Programmes proposant ce cours à la faculté des Sciences

MA-BINF | Master en bioinformatique et modélisation | finalité Approfondie/bloc 2 et MA-INFO | Master en sciences informatiques | finalité Spécialisée/bloc 2

### Programmes proposant ce cours à l'école polytechnique de Bruxelles

MA-IRIF | Master : ingénieur civil en informatique | finalité Spécialisée/bloc 2