



جامعة محمد الخامس بالرباط
Université Mohammed V de Rabat

Master of Science in

Computational Biology, Bioinformatics and Data Analysis

Responsible administrator : Pr. El Jaoudi Rachid

Coordinator : Pr. Douzi Samira

OVERVIEW

The Master of Science in Computational Biology, Bioinformatics, and Data Analysis (CBDA) is an interdisciplinary program that combines the application of computer technology to the management and analysis of biological data. The result is that computers are being used to organize data generated from experiments into databases, develop new algorithms and software, and use this software to interpret and analyze the data into meaningful biological information.

PROGRAM OUTLINE

Students will have the opportunity to expand their understanding of algorithms, artificial intelligence, or imagery. To help them provide original methodological contributions in these areas, they will learn how to make use of their skills in algorithmics, combinatorics, and statistics to investigate and solve biological questions. Additionally, they will manipulate and evaluate vast quantities of biological data. By working to construct a solution to a specific biological need (for instance, implementing software for the analysis of genomic sequence data), they will be able to master modeling tools and implement new methods for resolving issues in the life sciences.

- Linear Algebra and Numerical Methods for Scientific Computing
- Biostatistics and Data Visualization
- Programming in Python and Advanced Python
- Machine Learning and Deep Learning
- Advanced CNN Architectures and Biomedical Image Analysis
- Generative Models
- Molecular, Biological, and Applications Graphs
- Molecular Biology
- Applied Microbiology and Immunology
- Pharmacology and Pharmacogenetics
- Recombinant DNA techniques
- Molecular Modeling and Therapeutic Chemistry
- Cancer Genetics
- NGS in diagnosis

ADMISSIONS & PREREQUISITES

To be considered for this program, students that have :

- Fundamental Studies License (Informatics/ Mathematics / Medicine/ Pharmacy/ Medical Biology)
- License in Science and Technology (Informatics/ Mathematics / Medicine/ Pharmacy/ Medical Biology)
- Any equivalent license



CONTACTEZ-NOUS



[Avenue Mohamed
Belarbi El Alaoui, Rabat
10100](#)



fmp@um5r.ac.ma



<https://fmp.um5.ac.ma>

PRE-INSCRIPTION



<http://preins-non-salarie.um5.ac.ma/>

Last registration Date
10/10/2023