



UNIVERSITÀ
DEGLI STUDI
DI MILANO

LA STATALE



Studying in Milan, Italian capital of innovation

BIOINFORMATICS AND COMPUTATIONAL GENOMICS

COURSE DURATION: 2 years

CREDITS: 120 ECTS

The Master's degree in Bioinformatics and Computational Genomics (BCG) is organized in collaboration with the Politecnico di Milano. It provides students with up-to-date knowledge and the multi-disciplinary skills necessary to pursue a career in bioinformatics and genomics in basic or applied modern biological research.

Master's students will learn basic and advanced techniques in the bioinformatic analysis of genomic big data sets, and will be able to apply them to the interpretation of biomolecular data. Applicants are required to have a background in biomolecular sciences or in computer science/mathematics.

Career prospects

Graduates in BCG will be qualified to assume positions of high responsibility in:

- biotechnological, pharmaceutical and biomedical industries and research teams
- service centres for collection, management and analysis of biological big data sets, including National Health Service facilities
- service centres for the application of computing to "-omic" sciences, in public and private research laboratories.

In addition, they will be able to determine the subjects of their further studies, by choosing from a variety of disciplines, focused either on genetics and genomics, or in computational approaches for the collection, storage, retrieval and analysis of big data. BCG

enables the graduates to apply for Ph.D programs and other higher education courses, both in Italy and abroad.

Admission criteria

Admission is open to students with a solid background in either biomolecular sciences or computer science/mathematics, and in particular with:

- a Bachelor's degree from an accredited college or University
- basic knowledge in either genetics, molecular biology, and biochemistry, OR computer/information science and mathematics (programming, data bases, statistics)
- a good knowledge of spoken and written English (B2 level at the admission stage).

Subjects and Methodology

You will acquire a broad theoretical and practical background in the acquisition and analysis of different types of "-omic" big data, with a strong problem-solving approach, and an up-to-date knowledge in:

- analysis and characterization of genomes and genomic variants
- analysis and characterization of gene expression and its regulation
- collection, storage and retrieval of "-omic" big data sets
- computational and statistical approaches to the analysis of big data.

Why the University of Milan, Italy

By studying at the University of Milan you will:

- join in the only Italian institution of the League of European Research Universities (LERU)
- live in Milan, the exciting city of finance, fashion, design and art
- experience the thrill of a unique insightfulness for innovation.

Incentive grants and Italian language classes

Being an international student you can apply for special incentive grant programmes - *Exploit your Talent and Excellence Scholarships* - and learn the Italian language while studying, through our beginners and intermediate intensive courses.

Contact details

For any further information, please contact us at bcgenomics@unimi.it