DEGREE PROGRAMME

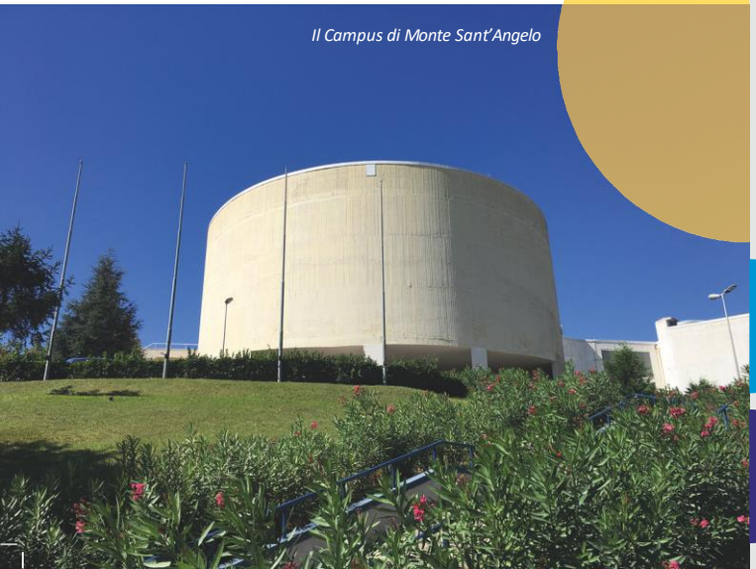
The MSc programme aims to educate graduated students for high profile positions in research centres, enterprises and industries operating in industrial biotechnology field.

The programme provides the opportunity of external activities (e.g. traineeships in companies, public or private research institutes, European universities) to strengthen skills in specific sectors of industrial biotechnology.

Potential fields of activity of MSc graduated students are biotechnological enterprises, chemical, pharmaceutical/cosmetic and nutraceutical industries, as well as the environmental technology sector.

Classe delle Lauree Magistrali: LM-8

Coordinatore del Corso di Studi
Prof.ssa Daria Maria Monti
mdmonti@unina.it



Il Campus di Monte Sant'Angelo

Education period:
I Semester – From the end of September up to the end of December
II Semester – From the end of February up to the beginning of June

Exams – January to March. June, July, September and October

Details of each course/module are reported on the webpage of the professor.

For more information:

University of Naples: www.unina.it

Polytechnic and Basic Sciences School: www.spsb.unina.it

Degree Courses in Molecular and Industrial Biotechnology:
www.biotecnologieindustriali.unina.it/en/
email: infobiotecnologieindustriali@unina.it

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June 2025

neapōlis

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II
SCUOLA POLITECNICA E DELLE SCIENZE DI BASE

COLLEGIO DEGLI STUDI DI **SCIENZE**

MASTER'S DEGREE

MOLECULAR AND INDUSTRIAL BIOTECHNOLOGY

DIPARTIMENTO DI SCIENZE CHIMICHE

BIOTECNOLOGIE INDUSTRIALI

MUR Ministero dell'Università e della Ricerca
DIPARTIMENTO DI ECCELLENZA 2023-2027

Lectures languages

PERCORSO DIDATTICO ProBio

CURRICULUM
Produzioni Biotecnologiche (ProBio)

(in corsivo gli insegnamenti specifici del curriculum)

I Anno - I semestre

Biotecnologie microbiche inłustriali

Biologia dei sistemi e bioinformatica

Biotecnologie Industriali e per la Salvaguardia dell'Ambiente

I Anno - II semestre

Fenomeni di trasporto in sistemi biologici

Biotecnologie biochimiche

Bioreattori

II Anno - I semestre

Principi di igiene nelle biotecnologie

Biochip e biosensori

Processi biotecnologici

Attività formative a scelta autonoma dello studente

II Anno - II semestre

Bioeconomia e proprietà intellettuale Attività formative a scelta autonoma dello studente

Tirocinio formativo e orientamento al mondo del lavoro

Prova finale

PROGRAMME

The programme includes two curricula:

"**ProBio** - Biotechnology productions"

"**Birre** - Biotechnology for Renewable Resources"

The curricula share 30 CFU (4 courses in Italian language) focused on some general issues of the industrial biotechnology.

The lessons of the **ProBio curriculum** are provided in **Italian**: 6 courses, for a total of 57 CFU. The topics of **ProBio** curriculum are focused on molecular and industrial issues of biotechnology to educate students to a general integrated approach to consolidated and emerging technologies (details at www.biotecnologieindustriali.unina.it/it/).

The lessons of the **Birre curriculum** are provided in **English**: 6 courses, for a total of 57 CFU spread over a period of one year. The topics of **Birre** curriculum are focused on molecular and industrial issues of biotechnology to prepare students to the construction of new products and services based on the exploitation of renewable resources. Students are provided with the interdisciplinary concepts of industrial biotechnology to convert renewable resources in consumables (e.g. energy vectors, bioplastics, pigments, nutraceuticals). Both classes of biotechnology products, i.e. high value products (e.g. antioxidants) and high massive products (e.g. energy vectors, bioplastics) are addressed (details at www.biotecnologieindustriali.unina.it/en/).

COURSE STRUCTURE BiRRe

CURRICULUM
Biotechnology for Renewable Resources (BiRRe)

(in italics the courses specific of the curriculum)

I Year - I semester (*)

Industrial microbiology & fermentation chemistry (IT)

Microalgal exploitation

Industrial biotechnologies and environment protection (IT)

I Year - II semester

Transport phenomena for biotechnological applications

Biopolymers and bioplastics

Biorefinery processes

II Year- I semester (*)

Hygiene backgrounł for biotechnologies (IT)

Biosensors and Biochips (IT)

Design of conversion processes Environmental economy

II Year - II semester

Free selection proposeł by the stułent

Practical training

Final project and exam

(IT) – course language: Italian

(*) - time schedule of the curriculum courses offered at the I semester of the years I & II are synchronized. Erasmus students may follow both groups of courses during the same academic year.