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. Antonio Marzocchella antonio.marzocchella@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 at the webpage of the professor.

For more information:

University of Naples: www.unina.it

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

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







Luglio 2019



COLLEGIO **DEGLI STUDI DI SCIENZE**

MASTER'S DEGREE **MOLECULAR AND INDUSTRIAL BIOTECHNOLOGY**

Dipartimento di Scienze Chimiche

Industrial Biotechonologies

Lectures languages



PERCORSO DIDATTICO ProBio

CURRICULUM Produzioni Biotecnologiche (ProBio) (in corsivo gli insegnamenti specifici del curriculum)

I Anno - I semestre

Biotecnologie microbiche industriali *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/ien/).



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 background for biotechnologies (IT) Biosensors and Biochips (IT) Design of conversion processes Environmental economy

II Year - II semester

Free selection proposed by the student Practical training Final project and exam

(IT) – course language: Italian