UNIVERSITÀ DEGLI STUDI
DELL'INSUBRIA

DIPARTIMENTO DI BIOTECNOLOGIE
E SCIENZE DELLA VITA

TEACHING REGULATIONS OF THE COURSE

MASTER'S DEGREE COURSE in

BIOTECHNOLOGY FOR THE BIO-BASED AND HEALTH INDUSTRY

a.y. 2024-2025

I. GENERAL INFORMATION	
NAME OF THE DEGREE COURSE (DC)	Biotechnology for the Bio-based and HealthIndustry
CLASS	LM-8 - Industrial biotechnologies
TYPE	2-year degree course
COURSE LOCATION	Varese
DEGREE COURSE (DC) WEBSITE	For information on the learning objectives of the DC, occupational opportunities, access requirements, admission procedures, expected educational results, curriculum / study plan, final exam, you may refer to the Annual Program Report (DC-APR), published on the course website at: www.uninsubria.eu/master-bbhi
DEPARTMENT	Biotecnologie e scienze della vita - DBSV (Biotechnologies and Life Sciences - DBSV)
DEGREE COURSE COORDINATOR	Prof. Gianluca Molla
ACADEMIC OFFICE OF THE DEGREE COURSE and OTHER CONTACTS	The **academic office** is located in via Dunant, 3 - Varese The academic office and the other offices of the University (Students Services Office, Right to Study and Students Services, Orientation and Placement, International relations) may be contacted through the INFOSTUDENTI SERVICE www.uninsubria.it/infostudenti (in Italian) For questions on the degree course, students may also contact Servizio di Ascolto Manager Didattici per la Qualità - DBSV (in Italian)

LESSONS TIMETABLE	The course is organized following a semester-based calendar. Exams sessions are organized during the teaching activities suspension periods students may access the exams provided for in their study plan after having followed the course (attendance acquisition). **1st SEMESTER:** • Lectures start date: 23 September 2024 – lectures end date: 17 January 2025; • Fall exams session: 11-15 November 2024 (except first-year students); • Winter exams session: 13 January 2025 - 21 February 2025. **2nd SEMESTER:** • Lectures start date: 24 February 2025 - lectures end date 13 June 2025; • Spring exams session: 10-16 April 2025 • Summer exams session: 23 June 2025 - 19 September 2025 (except for August). For the lessons suspension dates and holidays for national, local and other festivities (Christmas break, Easter break, University holidays), students should refer to the **University's Academic Calendar** approved by the University: www.uninsubria.it/chi-siamo/sedi-e-orari/calendario-didattico-di-ateneo (in Italian)
FURTHER INFORMATION	The course is openly accessible Teaching language: English The course is organized in two curricula: BIOTECHNOLOGY FOR THE HEALTH INDUSTRY (RED)BIO- BASED INDUSTRY (WHITE) DOUBLE DEGREE: The Course offers the possibility to obtain, for those who participate in the second year to the Double Degree program, the title in Master of Sciences in Biotechnology and Food Science with the Department of Biotechnology of the Prague Chemistry and Technology University.
ASSESSMENT OF CURRICULAR REQUIREMENTS AND OF THE ADEQUACY OF THE INDIVIDUAL PREPARATION	To access the course, a bachelor's degree diploma in Biotechnologies L-2 or in Biological Sciences L-13 is required (as provided for by Ministerial Decree 270/04, or in the equivalent classes 1 or 12, as provided for by Ministerial Decree 509/99). As an alternative, students may access the course if they hold another diploma, obtained in Italy or abroad, recognized as suitable according to current regulations. In this case, access requires knowledge of the basics of mathematics, physics, chemistry, biology and have acquired at least 60 ECTS in subjects of relevance in the scientific-disciplinary areas recognizable in the areas characterizing the L-2 class in Biotechnology and the preceding class 1 Biotechnology. The candidate must obtain the title of first level by 28 February 2025.

	Candidates will have to show that they have a knowledge of the English language of at least a B2 level in the Common European Framework of Reference for Languages (CEFR). This knowledge may be documented i) by an internationally recognized certification of at least a B2 level in English or ii) by having obtained a diploma (first-level degree, Master) for a course offered entirely in English; Students without the above mentioned documents will have to attend a specific English pre-course, which will be offered in September 2024, the end of which, if they have passed the related exam, the University of Insubria will issue a certificate of knowledge of the English language of at least a B2 level. **Non-EU students**: applicants must complete the online form (https://bit.ly/BHI_application) and send to the address foreign.student.bbhi@uninsubria.it a certificate of the qualification obtained with the indication of the exams taken, a certificate of English proficiency, a photocopy of the passport and a letter of motivation. Submission of applications is permitted from 1 December 2024 to 31 May 2025. Potentially suitable candidates will be invited to a videoconference interview to assess their preparation in the fields of physiology, molecular and cellular biology, microbiology, chemistry and biochemistry. Eligible candidates will receive a letter of academic suitability, which they must present at the Italian Diplomatic Representations in the countries of residence in order to obtain a visa for study purposes. Finally, the student must pre-register for the Course of Study following the online procedure (Esse3) published on the University website. Students may enroll simultaneously in two courses of study in accordance with Law No. 33 of 12 April 2022 and its implementing decrees. The Board of Course, or appropriate Commission, will assess the requests and compliance with the constraints and requirements provided by the legislation.

ORIENTATION, ENROLLMENT PROCEDURES AND OTHER ADMINISTRATIVE ASPECTS	**Incoming orientation:** The Degree Course organizes every year, in the spring/summer period, some course presentation and incoming orientation meetings for future freshmen. Informational material is published online and distributed to interested students. The admission procedures are published every year on the webpages of the Degree Course and of the students services office. Further information (for example on the curriculum, enrollment procedures) may be obtained through the Infostudenti service. www.uninsubria.it/infostudenti (in Italian)

II. STUDY PLAN

MANDATORY TEACHING ACTIVITIES - 2024/2025 COHORT

BIOTECHNOLOGY FOR THE HEALTH INDUSTRY CURRICULUM

LEC: Frontal lessons; EXE: Classroom exercitations; WRK: Workshop
Assessment method: M = exam with mark / Q = qualification / A = attendance

MANDATORY COURSES:

1st YEAR						
SEM.	**COURSE Title**	***Academic Field***	***DISCIPLINARY FIELD / Type of Teaching Activity***	**ECTS**	**HOURS**	**ASSESSMENT METHOD**
I	APPLIED GENOMICS	BIO/18	B	6	40 LEC; 12 WRK	M
I	BIOSTATISTICS AND DATA SCIENCE	SECS-S/02 BIO/18	B	6	40 LEC; 12 EXE	M
I	PHARMACEUTICAL BIOTECHNOLOGY	CHIM/11	B	6	40 LEC; 12 WRK	M
I	BIOECONOMY AND INNOVATION	SECS-P/06	B	6	48 LEC	M
II	PLANTS AS FACTORIES FOR BIOMOLECULES	BIO/04	C	6	40 LEC; 12 WRK	M
I	INFORMATION LITERACY	NN	F	2	16 LEC	M
I	SCIENTIFIC ENGLISH	L-LIN/12	F	4	32 LEC	M
II	PROTEIN ENGINEERING	BIO/10	B	6	48 LEC	M

II	DRUG SYNTHESIS AND ANALYSIS	CHIM/08	B	6	48 LEC	M
II	ANIMAL MODELS FOR BIOTECH RESEARCH	BIO/05	C	6	40 LEC; 12 WRK	M

OPTIONAL COURSES

ONE ELECTIVE COURSE BETWEEN:						
SEM.	**COURSE Title**	***Academic Field***	***DISCIPLINARY FIELD / Type of Teaching Activity***	**ECTS**	**HOURS**	**ASSESSMENT METHOD**
II	CELL MODELS AND BIOMEDICAL APPLICATIONS	MED/19 BIO/06	C	6	36 LEC; 18 WRK	M
II	NANOBIOTECHNOLOGY AND BIOMATERIALS	CHIM/03 BIO/06	C	6	44 LEC; 6 WRK	M

MANDATORY COURSES

2nd YEAR						
SEM.	**COURSE Title**	**Academic field**	**DISCIPLINARY FIELD / Type of Teaching Activity**	**ECTS**	**HOURS**	**ASSESSMENT METHOD**
I	DESIGN OF BIOPHARMACEUTICALS	BIO/10	B	6	48 LEC	M
I	PROJECT MANAGEMENT & SOFT SKILLS	FINEX_S	F	2	16 LEC	M
NN	ELECTIVE COURSES		D	12		M
I-II	CURRICULAR TRAINEESHIP	FINEX_S	E	30	240	M
II	FINAL EXAM	FINEX_S	E	4		M

OPTIONAL COURSES

ONE ELECTIVE COURSE AMONG:

SEM.	COURSE Title	Academic field	DISCIPLINARY FIELD / Type of Teaching Activity	ECTS	HOURS	ASSESSMENT METHOD*
I	MOLECULAR DIAGNOSTICS	BIO/11 BIO/18	C	6	48 LEC	M
I	APPLIED PATHOPHYSIOLOGY	MED/04 BIO/09	C	6	40 LEC; 12 WRK	M
I	NUTRACEUTICALS	CHIM/11 BIO/13	C	6	48 LEC	M

CURRICULUM BIO-BASED INDUSTRY

LEC: Frontal lessons; EXE: Classroom exercitations; WRK: Workshop
Assessment method: M = exam with mark / Q = qualification / A = attendance

MANDATORY COURSES

1st YEAR						
SEM.	**COURSE Title**	**Academic Field**	**DISCIPLINARY FIELD / Type of Teaching Activity**	**ECTS**	**HOURS**	**ASSESSMENT METHOD**
I	APPLIED GENOMICS	BIO/18	B	6	40 LEC; 12 WRK	M
I	BIOSTATISTICS AND DATA SCIENCE	SECS-S/02 BIO/18	B	6	40 LEC; 12 EXE	M
I	PHARMACEUTICAL BIOTECHNOLOGY	CHIM/11	B	6	40 LEC; 12 WRK	M
I	BIOECONOMY AND INNOVATION	SECS-P/06	B	6	48 LEC	M
II	PLANTS AS FACTORIES FOR BIOMOLECULES	BIO/04	C	6	40 LEC; 12 WRK	M
I	INFORMATION LITERACY	NN	F	2	16 LEC	M
I	SCIENTIFIC ENGLISH	L-LIN/12	F	4	32 LEC	M
II	PROTEIN ENGINEERING	BIO/10	B	6	48 LEC	M
II	BIOREFINERIES	CHIM/11	B	6	48 LEC	M
II	GREEN BIOMASSES AND BIOREMEDIATION	BIO/03	C	6	48 LEC	M

OPTIONAL COURSES

ONE ELECTIVE COURSE BETWEEN:						
SEM.	**COURSE Title**	**Academic Field**	**DISCIPLINARY FIELD / Type of Teaching Activity**	**ECTS**	**HOURS**	**ASSESSMENT METHOD**

II	INDUSTRIAL BIOCATALYSIS	CHIM/04	C	6	40 LEC; 12 WRK	M
II	TRANSGENIC ANIMALS FOR BIOTECHNOLOGY	AGR/20	C	6	40 LEC; 12 WRK	M

MANDATORY COURSES

2nd YEAR						
SEM.	**COURSE Title**	**Academic field**	**DISCIPLINARY FIELD / Type of Teaching Activity**	**ECTS**	**HOURS**	**ASSESSMENT METHOD**
I	PROTEIN ENGINEERING	BIO/10	B	6	48 LEC	M
I	PROJECT MANAGEMENT & SOFT SKILLS	NN	F	2	16 LEC	M
NN	ELECTIVE COURSES		D	12		M
I-II	CURRICULAR TRAINEESHIP	FINEX_S	E	30	750	M
II	FINAL EXAM	FINEX_S	E	4		M
I	ENZIMOLOGY	BIO/10	B	6	36 LEC; 18 WRK	M

OPTIONAL COURSES

ONE ELECTIVE COURSE AMONG:						
SEM.	**COURSE Title**	**Academic field**	**DISCIPLINARY FIELD / Type of Teaching Activity**	**ECTS**	**HOURS**	**ASSESSMENT METHOD**
I	MOLECULAR AND APPLIED MICROBIOLOGY	BIO/19	C	6	48 LEC	M
I	INDUSTRIAL PROCESSES AND SAFETY	ING-IND/24	C	6	48 LEC	M
I	RECOMBINANT PROTEINS	BIO/11	C	6	32 LEC; 24 WRK	M

III. RULES FOR THE CURRICULUM

PREREQUISITES: NOT APPLICABLE

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

The courses have different types of assisted teaching: frontal lessons, exercitations and workshops.

Each ECTS corresponds to 8 class hours, 12 workshop hours and 12 exercitations hours, besides students' individual study, research and/or group work time.

VALIDATION OF LINGUISTIC AND IT CERTIFICATIONS: NOT APPLICABLE

VALIDATION OF PROFESSIONAL ABILITIES OR EXAMS TAKEN IN A PREVIOUS CAREER.

Pursuant to article no. 4, paragraph 4 of the Ministerial Decree 1649/23, the Council of the Degree Course may validate:

- professional knowledge and skills certified pursuant to current regulations;
- knowledge and skills developed in educational activities at a post-secondary level in whose organization and implementation the university was involved.

The validation application will be assessed by the Council of the Degree Course. The validation may take place if the activity is related to the specific educational objectives of the Degree Course and of the educational activities for which the validation is being requested, also taking into consideration the content and duration in terms of hours of the activity. The maximum number of ECTS that may be validated is 12.

ATTENDANCE OBLIGATIONS

Attendance is mandatory for workshop courses only; an attendance of at least 75% of the educational activities provided for is required. Mandatory attendance course will have to be followed in the correct year. Exceptions may be allowed, specifically, in cases of transfers from another course or University.

CURRICULAR TRAINING

The course is completed by an experimental internship and gives rise to the recognition of 30 credits, corresponding to a minimum of 750 hours. The internship period for the preparation of the thesis must be in any case qualitatively and quantitatively adequate to achieve the objectives of an internship for a master's degree in biotechnology. A minimum period of 9 months is considered suitable, considering a weekly frequency of 30-40 hours, carried out in university laboratories, companies or institutions in Italy or abroad. The choice of the host research laboratory and the internship project is subject to the approval of the Study Course Council.

ENROLLING IN SUBSEQUENT YEARS (CAREER BLOCKS)

There are no career blocks to enroll in the second year.

TRANSFER PROCEDURES FROM OTHER DEGREE COURSES

In case of transfers from other Universities, or changes from another degree course, the Council of the Degree Course, taking into consideration the specific educational objectives of the course, in compliance with the educational obligations established by the course's own Curriculum, assesses and ensures the validation of the maximum possible number of ECTS already obtained by students. For the purposes of the validation, meetings and tests may be required in order to assess the actual level of previously acquired knowledge. In case of changes from one course to another organized by the same Class LM-8 and characterized by substantial homogeneity in the curricula, the number of automatically validated ECTS for the same academic field may not be lower than 50% of the ECTS that students have already obtained. Old ECTS, that is, those acquired more than 10 years before the validation submission date may not be validated.

The abovementioned validation is carried out as provided for in article no. 3, paragraphs 8 and 9 of the ministerial decree of Class redefinition (16 March 2007). The validation is carried out until the ECTS provided for by the curriculum are reached.

RULES FOR THE SUBMISSION OF STUDY PLANS AND INDIVIDUAL STUDY PLANS

Study Plans that conform to the regulations will be automatically approved, following the procedure provided by the Students Services Office for the submission of study plans. Students can submit an individual study plan, provided that this is coherent with the cultural project and suitable for the educational objectives and specific contents of the Master's Degree Course in Biotechnology for the Bio-based and Health Industry. Individual study plans, which will have to adhere to the minimum ECTS established by the teaching Curriculum is approved by the committee appointed by the Council of the Degree Course.

As explicitly provided for by Ministerial Decree 16.03.07, elective educational activities may be chosen among all the courses activated by the University. The committee will assess the coherence of these elective activities with the student's educational curriculum. Study plans are submitted during the first year and may be modified in the second year during the windows provided for (generally, October-December). Information on how to submit and fill in the study plan are available

on the Students Services Office webpage: www.uninsubria.it/servizi/presentazione-piano-di-studio (in Italian).

HOW TO REGISTER FOR THE INTEGRATED INTERNATIONAL COURSE (DOUBLE DEGREE)

There are two courses of Double Degree with:
Department of Biotechnology of the University of Chemistry and Technology in Prague (Czech Republic), after which the student obtains a Master's Degree in Biotechnology for the Bio-based and Health Industry (class LM-8) and the Master of Sciences in Biotechnology and Food Science of the University of Prague (Czech Republic).
Zurich University of Applied Sciences (ZHAW), School of Life Sciences and Facility Management (LSFM) (Wädenswil, Swiss Confederation) after which the student obtains a Master's Degree in Biotechnology for the Bio-based and Health Industry (class LM-8) and the Master's degree in Life Sciences, Specialization in Pharmaceutical Biotechnology.
The program is open to students selected on the basis of an annual call for applications for students enrolled in the first year, who will be able to carry out the second year at the host institution and earn the two titles.
Information on the Call for Proposals or for further information to participate in the programme can be found at the following link: https://www.uninsubria.eu/double-degree-programs

PROCEDURE FOR OBTAINING THE TITLE

The final exam consists in the production of a written report in English (thesis) prepared by the student and related to the research activity carried out in defense before a commission of teachers.

HOW TO OBTAIN DOUBLE QUALIFICATIONS

Students enrolled in our University, who hold the second year at UTC in the dual-degree path, carry out the curricular internship and prepare the thesis at the host University and discuss it at the University of Insubria according to a specific modality agreed between the University of Insubria and the host University. A lecturer from the host university will participate in the Degree Commission.

For more information and insights you can consult the webpage of the course of study:

https://www.uninsubria.it/formazione/offerta-formativa/corsi-di-laurea/biotechnology-bio-based-and-health-industry