



**UNIVERSITÀ DEGLI STUDI
DELL'INSUBRIA**

**DEPARTMENT OF BIOTECHNOLOGIES
AND LIFE SCIENCES - DBSV**

COURSE TEACHING REGULATIONS

**MASTER DEGREE COURSE in
BIOTECHNOLOGY FOR THE BIO-BASED AND HEALTH INDUSTRY**

ay 2022-2023

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I. GENERAL INFORMATION

NAME OF THE STUDY COURSE (CDS)	BIOTECHNOLOGY FOR THE BIO-BASED AND HEALTH INDUSTRY
CLASS	LM-8 - Industrial biotechnologies
TYPE	2-year study course
VENUE OF THE COURSE	Varese
INTERNET ADDRESS OF THE STUDY COURSE (CDS)	For information on the educational objectives of the CdS, on employment opportunities, access requirements, admission procedures, expected learning outcomes, training path / study plan, final exam, it is possible to consult the Single Annual Form (SUA-CdS), published on the webpage of the degree program at the following address: www.uninsubria.it/magistrale-bbhi
DEPARTMENT OF AFFERENCE OF THE COURSE OF STUDY	Department of Biotechnology and Life Sciences - DBSV
HEAD OF THE STUDY COURSE	Prof. Gianluca Molla
SECRETARIAT OF REFERENCE FOR THE STUDY COURSE and OTHER CONTACTS	The teaching secretariat is located at the headquarters in Via Dunant, 3 - Varese The didactic secretariat and the other offices of the University (Student Secretariat, Right to Study and Student Services, Orientation and Placement, International Relations) can be contacted through the INFOSTUDENTI SERVICE . (www.uninsubria.it/servizi/infostudenti-servizio-informazioni-gli-studenti). In case of questions about the course of study, students can also contact the LISTENING SERVICE OF QUALITY EDUCATIONAL MANAGERS - EDUCATIONAL SECRETARIAT



<p>CALENDAR OF EDUCATIONAL ACTIVITIES</p>	<p>The didactic calendar of the course is six months, within the dates shown in the calendar the didactic activities can start later or finish earlier than indicated. Exams are scheduled at the end of the semesters. Students can access the exams only after having attended attendance, although not necessarily in presence.</p> <p>I SEMESTER:</p> <ul style="list-style-type: none">• Lessons: 26 September 2022 - 1 January 3 2022;• Exams - Autumn session (teaching break): November 14-18, 2022 (excluding students enrolled in the 1st year);• Exams - Winter session: January 23, 2023 - February 24 2023. <p>II SEMESTER:</p> <ul style="list-style-type: none">• Lessons: February 27, 2023 - June 10, 2023;• Exams - Spring session (teaching break): 12 - 18 April 2023• Exams - summer session: 20 June - 17 September 2023 (excluding the month of August).• <p>To find out the dates of suspension of teaching activities and the closure of the University structures for national and local holidays and for other closures (Christmas Holidays, Easter Holidays, University closures), the student is required to consult the University Academic Calendar</p>
<p>FURTHER INFORMATION</p>	<p>The course is open to access Language in which the teaching is delivered: ENGLISH The course is organized in two curricula: BIOTECHNOLOGY FOR THE HEALTH INDUSTRY (RED) BIO-BASED INDUSTRY (WHITE) DOUBLE DEGREE: The course provides the opportunity to obtain, for those who participate in the second year in the Double Degree program, the title in Master of Sciences in Biotechnology and Food Science with the Department of Biotechnology of the University of Chemistry and Technology of Prague.</p>
<p>VERIFICATION OF THE POSSESSION OF THE CURRICULAR REQUIREMENTS AND THE ADEQUACY OF THE PREPARATION STAFF</p>	<p>To access the course it is required to possess a three-year degree in Biotechnology L-2 or in Biological Sciences L-13 (DM 270/04 or, in the equivalent classes 1 or 12 of DM 509/99). Alternatively, it is possible to access the course if in possession of another qualification, obtained in Italy or abroad, recognized as suitable according to current legislation. In this case, the student will be admitted only if in possession of an adequate number of credits (CFU) in the scientific-disciplinary sectors as indicated below:</p>



- at least 12 credits (CFU) in area 01 of Mathematical and Computer Sciences, area 02 of the Physical Sciences and in the SSD MED / 01 (Medical Statistics) of the 06 area of the Medical Sciences; - at least 12 credits (CFU) in the 03 area of the Chemical Sciences; - at least 36 credits (CFU) in the 05 of the Sciences Biological and SSD MED / 03 (Medical Genetics), MED / 04 (General Pathology), MED / 07 (Microbiology and Clinical Microbiology), MED / 08 (Pathological Anatomy), MED / 42 (General and Applied Hygiene) of the area 06 of the Medical Sciences The student must be in possession of the curricular requirements before the verification of personal preparation which takes place through an interview carried out by a special Commission and the contextual compilation of a questionnaire.

Candidates must demonstrate that they have a knowledge of the English language corresponding at least to level B2 of the Common European Framework of Reference for Knowledge of Languages (CEFR). This knowledge can be documented i) by an internationally recognized certification of a level corresponding to at least B2 of the English language or ii) by the achievement of an academic qualification (first level degree, Master) related to a course delivered entirely in English;

Students without the above documentation will be required to attend a specific English course which will be delivered in September 2021 at the end of which, upon passing the relevant exam, a certificate will be issued by the University of Insubria. knowledge of the English language corresponding at least to level B2.

Non-EU students: access to the course requires a pre-application to be sent to the e-mail address foreign.student.bbhi@uninsubria.it (by 31 May 2021), accompanied by a certification of the degree obtained with the indication of the exams taken, a certificate of knowledge of the English language, a photocopy of the passport and a letter of motivation. Candidates deemed potentially suitable on the basis of the documentation presented will be invited to take a videoconference interview, aimed at ascertaining their preparation in the fields of physiology, molecular and cellular biology, microbiology, chemistry and biochemistry. The negative outcome of the interview leads to the foreclosure access to the master's degree course for the current year. Candidates deemed eligible will receive a letter of academic eligibility, which they must show at the Italian Diplomatic Missions in the countries of residence, within the deadline published annually on the website of the Ministry of Education, University and Research, in order to obtain a visa for reasons of study and in any case according to the rules established by the competent authorities.



ORIENTATION, REGISTRATION PROCEDURES AND OTHER ADMINISTRATIVE ASPECTS	Orientation at the entrance: The course of study organizes annually, in the spring / summer period, meetings for the presentation of the course and orientation on entry, aimed at future freshmen. Information material is published and distributed to interested students. The admission procedures are published annually on the web pages of the degree program and the student secretariat. Further information (for example on the educational path, on the enrollment procedures) can be obtained through the Infostudenti service.
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II. STUDY PLAN

SCHEDULED TEACHING - COHORT 2021/2022

CURRICULUM BIOTECHNOLOGY FOR THE HEALTH INDUSTRY

LEZ: Frontal lessons; **ESE:** Classroom exercises; **LAB:** Laboratory

Assessment method *: V = exam with grade / I: suitability / F: attendance

COMPULSORY COURSES:

I YEAR						
SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	ASSESSMENT METHOD *
THE	APPLIED GENOMICS	BIO / 18	B.	6	40 LEZ; 12 LAB	V.
THE	BIostatISTICS AND DATA SCIENCE	SECS-S / 02 BIO / 18	B.	6	40 LEZ; 12 ESE	V.
THE	PHARMACEUTICAL BIOTECHNOLOGY	CHIM / 11	B.	6	40 LEZ; 12 LAB	V.
THE	PLANTS AS FACTORIES FOR BIOMOLECULES	BIO / 04	C.	6	40 LEZ; 12 LAB	V.
THE	INFORMATION LITERACY	NN	F.	2	16 LEZ	APPROVED
THE	SCIENTIFIC ENGLISH	L-LIN / 12	F.	4	32 LESS	V.
II	BIOECONOMY AND INNOVATION	SECS-P / 06	B.	6	48 LESS	V.
II	DESIGN OF BIOPHARMACEUTICALS	BIO / 10	B.	6	40 LEZ; 12 ESE	V.
II	DRUG SYNTHESIS AND ANALYSIS	CHIM / 06	B.	6	40 LEZ; 12 LAB	V.



II	ANIMAL MODELS FOR BIOTECH RESEARCH	BIO / 05	C.	6	48 LESS	V.
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OPTIONAL COURSES

ONE COURSE TO CHOOSE BETWEEN:

SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	ASSESSMENT METHOD *
II	CELL MODELS AND BIOMEDICAL APPLICATIONS	MED / 19 BIO / 06	C.	6	36 LEZ; 18 LAB	V.
II	NANOBIO TECHNOLOGY AND BIOMATERIALS	CHIM / 03 BIO / 06	C.	6	44 LEZ; 6 LAB	V.

COMPULSORY COURSES

II YEAR

SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	VERIFICATION METHOD *
THE	PROTEIN ENGINEERING	BIO / 10	B.	6	48 LESS	V.
THE	PROJECT MANAGEMENT & SOFT SKILLS	PROFIN_S	F.	2	16 LEZ	APPROVED
I-II	CURRICULAR TRAINEESHIP	PROFIN_S	And	30	240	V.
II	FINAL EXAM	PROFIN_S	And	4	32	V.

OPTIONAL COURSES

ONE COURSE TO CHOOSE BETWEEN:

SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	VERIFICATION METHOD *
THE	MOLECULAR DIAGNOSTICS	BIO / 11 BIO / 18	C.	6	48 LESS	V.
THE	APPLIED PATHOPHYSIOLOGY	MED / 04 BIO / 09	C.	6	40 LEZ; 12 LAB	V.
THE	NUTRACEUTICALS	CHIM / 11	C.	6	48 LESS	V.



		BIO / 13				
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CURRICULUM BIO-BASED INDUSTRY

LEZ: Frontal lessons; ESE: Classroom exercises; LAB: Laboratory

Assessment method *: V = exam with grade / I: suitability / F: attendance

COMPULSORY COURSES

1st YEAR						
SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	VERIFICATION METHOD *
THE	APPLIED GENOMICS	BIO / 18	B.	6	40 LEZ; 12 LAB	V.
THE	BIostatISTICS AND DATA SCIENCE	SECS-S / 02 BIO / 18	B.	6	40 LEZ; 12 ESE	V.
THE	PHARMACEUTICAL BIOTECHNOLOGY	CHIM / 11	B.	6	40 LEZ; 12 LAB	V.
THE	PLANTS AS FACTORIES FOR BIOMOLECULES	BIO / 04	C.	6	40 LEZ; 12 LAB	V.
THE	INFORMATION LITERACY	NN	F.	2	16 LEZ	APPROVED
THE	SCIENTIFIC ENGLISH	L-LIN / 12	F.	4	32 LESS	V.
II	BIOECONOMY AND INNOVATION	SECS-P / 06	B.	6	48 LESS	V.
II	ENZYMOMOLOGY	BIO / 10	B.	6	36 LEZ; 18 LAB	V.
II	BIOREFINERIES	CHIM / 11	B.	6	48 LESS	V.
II	GREEN BIOMASSES AND BIOREMEDIATION	BIO / 03	C.	6	48 LESS	V.

OPTIONAL COURSES

ONE COURSE TO CHOOSE BETWEEN:						
SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	VERIFICATION METHOD
II	INDUSTRIAL BIOCATALYSIS	CHIM / 04	C.	6	36 LEZ; 18 LAB	V.
II	TRANSGENIC ANIMALS FOR BIOTECHNOLOGY	AGR / 20	C.	6	40 LEZ; 12 LAB	V.

COMPULSORY COURSES

II YEAR						
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SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	VERIFICATION METHOD
THE	PROTEIN ENGINEERING	BIO / 10	B.	6	48 LESS	V.
THE	PROJECT MANAGEMENT & SOFT SKILLS	PROFIN_S	F.	2	16 LEZ	APPROVED
I-II	CURRICULAR TRAINEESHIP	PROFIN_S	And	30	240	V.
II	FINAL EXAM	PROFIN_S	And	4	32	V.

OPTIONAL COURSES

ONE COURSE TO CHOOSE BETWEEN:						
SEM	Name TEACHING	SSD	DISCIPLINARI AREA / TAF	CFU	HOURS	VERIFICATION METHOD
THE	MOLECULAR AND APPLIED MICROBIOLOGY	BIO / 19	C.	6	48 LESS	V.
THE	INDUSTRIAL PROCESSES AND SAFETY	ING-IND / 24	C.	6	48 LESS	V.
THE	RECOMBINANT PROTEINS	BIO / 11	C.	6	32 LEZ; 24 LAB	V.

III. RULES ON THE TRAINING COURSE

PROPEDEUTICITY: NOT PROVIDED

UNIVERSITY EDUCATIONAL CREDIT (CFU)

The courses include different types of assisted teaching: frontal teaching, exercises and laboratories.

Each CFU corresponds to 8 hours of classroom teaching, 12 of laboratory and 12 of exercises, in addition to individual study, research and / or group work .

RECOGNITION OF LANGUAGE AND IT CERTIFICATIONS : NOT PROVIDED

RECOGNITION OF PROFESSIONAL SKILLS OR EXAMS OBTAINED IN PREVIOUS CAREER.

Pursuant to art. 5 paragraph 7 of Ministerial Decree 270/04, the Degree Program Board may recognize: professional knowledge and skills certified in accordance with current legislation on the subject;



knowledge and skills gained in post-secondary level training activities which the university has contributed to the realization and design. The request for recognition will be evaluated by the Degree Program Board. Recognition may take place if the activity is consistent with the specific training objectives of the course of study and the training activities for which recognition is requested, also taking into account the content and duration in hours of the activity carried out. The maximum number of credits that can be recognized is 12 ECTS.

ATTENDANCE OBLIGATIONS.

Attendance is mandatory only for laboratory activities for which attendance is required for at least 75% of the planned teaching activities that must be followed according to the year of competence. Exceptions may be granted, in particular, in the event of transfer from another degree course.

CURRICULAR INTERNSHIP.

The training course is completed by an experimental internship lasting no less than nine months, carried out in university laboratories, companies or organizations in Italy or abroad. The choice of the host research laboratory and the internship project is subject to the approval of the Degree Program Board.

ENROLLMENT FOR YEARS SUBSEQUENT TO THE FIRST (POSSIBLE BARRINGS)

There are no barriers for enrollment in the second year.

METHOD FOR TRANSFER FROM OTHER STUDY COURSES

In the event of transfer from another Degree Course, the Degree Course Council, taking into account the specific educational objectives of the Degree Course, in compliance with the educational constraints established by the Didactic System of the Course itself, evaluates and ensures the recognition of as many as possible of CFU already accrued by the students. For the purposes of recognition, interviews or tests may be required to assess the actual level of knowledge possessed. In case of transfer of students from a degree course belonging to the same Class LM-8 and characterized by substantial homogeneity of the training courses, the share of credits relating to the same scientific-disciplinary sector recognized directly to the students cannot be less than 50% of those already accrued. Obsolete CFUs, i.e. those acquired in a period prior to 10 years with respect to the validation request, cannot be recognized.

The above recognition is carried out in accordance with the provisions of art. 3 paragraphs 8 and 9 of the ministerial decree for the redefinition of the classes (March 16, 2007). The recognition is carried out up to the amount of university training credits required by the training course.

RULES FOR PRESENTATION OF STUDY PLANS AND INDIVIDUAL STUDY PLANS

Study plans that comply with the regulations are approved automatically, according to the procedure established for the presentation of study plans by the provisions of the Student Secretariat. The student can submit an individual study plan, as long as it is consistent with the cultural project and appropriate to the educational objectives and specific contents of the Master's Degree Course in Biotechnology for the Bio-based and Health Industry. The individual study plan, which must in any case respect the minimum credits established in the didactic regulations, is approved by the commission appointed by the Degree Program Board. As expressly provided for by the Ministerial Decree of 16.03.07, the educational activities chosen by the student can be chosen from among all the courses activated in the University. The commission will evaluate the consistency of the aforementioned activities of choice with the student's educational path. The study plans are presented in the first year of the course and can be modified in the second year during the foreseen time windows (generally October-December). Information relating to submission and compilation



can be found on the web pages of the Student Secretariat: <https://www.uninsubria.it/servizi/presiliazione-piano-di-studio>.

HOW TO ENROLL IN THE INTERNATIONAL INTEGRATED EDUCATIONAL COURSE (DOUBLE TITLE)

A double degree program is active with the Department of Biotechnology of the University of Chemistry and Technology in Prague (Czech Republic), at the end of which the student obtains the 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. The program is open to students selected on the basis of an announcement that will be published annually and addressed to students enrolled in the first year, who will be able to spend the second year at the UTC in Prague and achieve the two qualifications.

Information on the Call for applications or for further information to participate in the program, you can consult the following link: <https://www.uninsubria.it/servizi/doppi-titoli-di-laurea>

To access the Double Degree program, students must have an internationally recognized certificate of a level corresponding to at least B2 of the English language or a certificate of knowledge of the English language corresponding to at least level B2 issued by the University of Insubria.

METHOD OF OBTAINING THE DOUBLE EDUCATIONAL TITLE

Students enrolled in our University, who carry out the second year at the UTC in the dual qualification course, carry out the curricular internship and prepare the thesis at the UTC in Prague and discuss it at the University of Insubria. During the graduation session, the student is asked some questions on the preparation achieved in the two-year period. The topics on which the questions will focus will be agreed with a lead professor of the University of Prague who will participate in the graduation commission.

For further information and insights, you can consult the [web page of the degree program](#).