



**UNIVERSITA' DEGLI STUDI DI MILANO**  
**PROGRAMME DESCRIPTION - ACADEMIC YEAR 2024/25**  
**IN**  
**ENVIRONMENTAL CHANGE AND GLOBAL SUSTAINABILITY**  
**(Classe LM-75)**  
**Enrolled from 2022/23 academic year**

### **HEADING**

<b>Degree classification - Denomination and code:</b>	LM-75
<b>Degree title:</b>	Dottore Magistrale
<b>Curricula currently available:</b>	Environmental Systems: Management and Sustainability / Technological Processes and Environmental Sustainability
<b>Length of course:</b>	2 years
<b>Credits required for admission:</b>	180
<b>Total number of credits required to complete programme:</b>	120
<b>Course years currently available:</b>	1st , 2nd
<b>Access procedures:</b>	open, subject to entry requirements
<b>Course code:</b>	F6B

### **PERSONS/ROLES**

#### **Head of Study Programme**

Prof. Roberto Confalonieri

#### **Tutors - Faculty**

Dott.ssa Elisa De Marchi - Erasmus and International mobility tutor  
Prof. Giangiacomo Beretta - Academic guidance tutor and Study plan tutor  
Dott. Mattia Brambilla - Academic guidance tutor and Study plan tutor  
Prof. Daniele Curzi - Academic guidance tutor and Study plan tutor  
Prof. Caterina La Porta - Academic guidance tutor and Study plan tutor  
Prof. Stefano Trasatti - Internship tutor

#### **Degree Course website**

<https://ecgs.cdl.unimi.it/en>

<https://www.unimi.it/en/education/faculties-and-schools/science-and-technology/environmental-science-and-sustainability>

#### **ECGS Secretariat**

Milano - Via Celoria 2, 2nd floor Tel. +39 02502 16501/16475 Contact us via InformaStudenti [https://informastudenti.unimi.it/saw/ess?](https://informastudenti.unimi.it/saw/ess?AUTH=SAML)  
AUTH=SAML

#### **International Students Office - Welcome Desk**

Milan - Via S. Sofia, 9/1 <https://www.unimi.it/en/international/coming-abroad/international-students-office-welcome-desk>

#### **Student administrative office**

Milan - Via Celoria 18 Tel. +39 02503 25032 <https://www.unimi.it/it/node/360> <https://informastudenti.unimi.it>

#### **link to degree course regulations**

<https://www.unimi.it/en/education/master-programme/environmental-change-and-global-sustainability-ecgs>

### **CHARACTERISTICS OF DEGREE PROGRAMME**

#### **General and specific learning objectives**

Environmental change plays a central role in modern societies, to the point that a sustainable management of the environment currently represents one of the most important open challenges for humanity. Addressing this challenge requires a multidisciplinary approach that overcomes the usual boundaries of scientific disciplines. In this context, the Master program in Environmental Change and Global Sustainability (ECGS) provides advanced expertise in the hard- and life-science components of environmental studies as well as in their economic- and social-science components. The general goal is to train students to tackle environmental change and sustainability in a multidisciplinary perspective. Students will

therefore be provided with both a solid knowledge of the dynamics of the different components of the environment and a deep understanding of the tools required to promote its sustainable management and protection.

The Master degree in Environmental Change and Global Sustainability represents a novelty in the Italian university system, not only for its marked multidisciplinary approach, but also for being taught entirely in English.

### **Expected learning outcomes**

In the spirit of harmonization of education within the European Union, graduates from this Master program are expected to achieve the following standards according to the so-called Dublin Descriptors:

#### **A. Knowledge and understanding**

Graduates will gain advanced theoretical knowledge and expertise in the following fields: Mathematics and Statistics; Chemistry, Physics, Earth Sciences and Engineering; Life Sciences; Economics and the Social Sciences. As to Mathematics and Statistics, the courses offered include: i) Quantitative Methods; ii) Statistical Methods in Environmental Studies. These courses will strengthen the students familiarity with this subject-area, providing them with knowledge and skills that will help them to understand the mathematical and statistical methods which are used in many of the courses of the Master program. Moreover, they will allow students to get acquainted with many software packages that are currently used in environmental sciences.

As to Chemistry, Physics, Earth Sciences and Engineering, the courses offered include: i) Chemistry of Natural Processes and Technologies for the Environment; ii) Geodiversity: Theory and Applications; iii) Sedimentary successions and their natural resources for the energy transition; iv) Climate Change: Impact and Adaptation; v) Georesources and Sustainability; vi) Environmental Geochemistry; vii) Recycle and life cycle assessment (LCA) of products and processes. The knowledge and skills acquired in this area range from environmental chemistry to environmental physics; from the many aspects of the earth sciences that are relevant to the environmental issue to a number of engineering topics that are useful for a better management of the environment. The knowledge and skills acquired in this area will be very important to allow students to face the environmental issue with a quantitative approach. As to Life Sciences, the courses offered include: i) Biodiversity Dynamics and Conservation; ii) Approaches to the Study of Ecological Systems; iii) Climate Change: Impact and Adaptation; iv) Economic Botany and Zoology; v) Ecosystem Functioning and Services; vi) Bioresource and Pollution Control Technology; vii) Waste Management and Sustainability; viii) Food Industry Design, Technology and Innovation; ix) Multilevel Effects of Environmental Contamination; x) Methods in Ecotoxicology; xi) Environmental Change and Public Health. The knowledge and skills acquired in this area will first provide students an advanced understanding of:

- the dynamics regulating biodiversity and the problems connected to its conservation;
- the dynamics regulating ecological systems and the services they can provide.

Then advanced knowledge and understanding of multilevel effects of environmental contamination will be provided, ranging from the cellular scale to living beings and ecosystems, with particular emphasis on adverse effect on humans. Moreover, advanced knowledge and understanding of the economic relevance of plants and animals in a quickly changing environmental context will be provided.

Finally, students will get acquainted with several technologies relevant for environmental protection and sustainable development.

As to Economics and the Social Sciences, the courses offered include: i) Environmental Economics and Policy; ii) Statistical Methods in Environmental Studies; iii) Agricultural and Natural Resource Economics and Policy; iv) Applied Environmental and Resource Economics; v) Sustainable Development; vi) Environmental Law; vii) Green Procurement; viii) Sustainability Accounting and Management.

The knowledge and skills acquired in this area will first provide students an advanced understanding of:

- the principles of environmental economics, with a focus on policy applications;
- the principles underlying the determination of the economic value of agricultural and natural resources and the models employable for evaluating the environmental impact of economic activities and assessing the effectiveness of adaptation and mitigation policies.

Then advanced knowledge and understanding of sustainable development will be provided and students will be trained to evaluate sustainability at firm level and to plan the introduction and use of sustainable materials and processes. Finally, students will get acquainted with Environmental Law that will be examined at both a national and an international level.

#### **B. Applying knowledge and understanding**

Graduates will be able to apply the knowledge and skills acquired in the Master program to:

- properly adopt the scientific method and apply it to analyse, control and manage complex environmental problems;
- set up models, make use of quantitative tools and develop appropriate methods of analysis to investigate and understand complex environmental contexts and to propose solutions for their sustainable management;
- face all topics related to environmental protection as well as to environmental monitoring and management taking into account the issue of sustainability and considering the ethical implications of activities affecting the environment;
- consider the different spatial scales related to environmental issue, ranging from the local level to the global scale;
- set up and manage initiatives linked to environmental monitoring, control and remediation in every social and economic context;
- set up environmental impact studies as well as strategic environmental assessments and environmental risk assessments;
- contribute to plan climate change mitigation and adaption initiatives;
- promote sustainability and contribute to strengthen social awareness on environmental issues.

#### **C. Making judgments**

The Master program will grant its graduates the ability to make judgments and to critically investigate the effects and effectiveness of the actions and decisions related to the environment, including their ethical implications. The multidisciplinary approach of this program is designed to foster the development of independent judgment and critical thinking capabilities by offering students the opportunity to compare methodological approaches in different disciplines.

#### D. Communication Skills

ECGS graduates will be able to effectually present and communicate the results of their work (projects, reports, documents, analytical studies, research papers, etc.) within companies and institutional bodies, at both a national and an international level. They will be able to state and defend their positions and opinions and to communicate clearly and effectively in both written and oral forms, as well as to set up cooperative relationships and collaborative work within groups. The ability to competently communicate in the workplace is primarily gained through the presentation and discussion of case studies, a practice that is compulsory for several courses and during the final dissertation.

#### E. Learning skills

ECGS graduates will learn how to develop and improve their learning skills through the access to and the consultation of the scientific literature, databases and other online information, and by analysing data using econometric and statistical tools. The Master degree in Environmental Change and Global Sustainability also provides its students with the methodological skills and the knowledge foundations that make it possible for graduates to continue their studies in doctoral programs. Master students will also have the opportunity to attend the other activities organised by the Department of Environmental Science and Policy, such as applied laboratories, seminars, and workshops, so as to improve their ability to understand scientific challenges and develop new topics of research.

### **Professional profile and employment opportunities**

The main peculiar quality of ECGS graduates is their ability to tackle environmental change and sustainability in a multidisciplinary perspective. This ability benefits of advanced expertise in the hard- and life-science components of environmental studies as well as in their economic- and social-science components. In this context, five professional profiles ECGS graduates can achieve are listed below:

1. Environmental manager in agro-food, energy and green economy companies as well as in other companies in the industrial and service sectors;
2. Environmental specialist in the public administration as well as in local governments;
3. Environmental specialist in supra and international bodies as well as in national and international non-governmental organizations.
4. Specialist in environmental impact studies and strategic environmental assessments;
5. Specialist in environmental analysis and monitoring.

Further employment opportunities of ECGS graduates concern research positions at universities and research institutions as well as teaching at the secondary school level.

### **Pre-requisites for admission**

Pre-requisites for admission and assessment requires

Eligibility to the Master program in Environmental Change and Global Sustainability presupposes to possess suitable curricular qualifications and to have an adequate personal preparation, to be verified by means of an interview. As to the curricular qualifications, the ECGS program can be accessed by graduates holding an Italian three-year laurea (BA) degree (ex D.M. 270/2004 or ex D.M. 509/1999) in either the class L-32 Scienze per l'ambiente e la natura (ex D.M. 270/2004) or the class L-27 Scienze e tecnologie per l'ambiente e la natura (ex D.M. 509/1999). The ECGS programme can also be accessed by graduates holding an Italian three-year laurea (BA) degree, obtained in classes different from the above-mentioned ones, provided they have earned at least 60 ECTS (European Credit Transfer System) credits for having attended courses in the scientific-disciplinary sectors belonging to at least two of the following sets, of which at least 15 in the scientific-disciplinary sectors belonging to the first set and at least 12 in the scientific-disciplinary sectors belonging to the second set or the third set.

1. computer science, mathematics, and statistics (INF/01, MAT/01-/09, SECS-S/01, SECS-S/06);
2. chemistry, physics and Earth sciences (CHIM/01-/03, CHIM/06, CHIM/12, FIS/01, FIS/06-/07, GEO/01-/02, GEO/04-/05, GEO/10-/12);
3. life sciences (AGR/02-/03, AGR/05, AGR/08-/10, AGR/13, AGR/15, BIO/01-/07, BIO/09-/13);
4. economic and social sciences (AGR/01, ING-IND/35, IUS/01, IUS/04, IUS/09, IUS/13, SECS-P/01-/02, SPS/04, SPS/07, SPS/10).

Students with foreign qualifications obtained from international Universities subscribing to both the European system for acknowledging university qualifications and the ECTS system for assigning university credits can also enter the ECGS program, provided that they hold first-level degrees accepted as equivalent to Italian laurea degrees by the members of a Committee appointed by the ECGS program Council, who will also ascertain that the international applicants meet curricular requirements in disciplines similar to those belonging to the scientific-disciplinary sectors listed above.

Finally, students with foreign qualifications obtained from international Universities not subscribing to the European system for acknowledging university qualifications and the ECTS system for assigning university credits can also enter the ECGS

program, provided that they hold first-level degrees accepted as equivalent to Italian laurea degrees by a Committee appointed by the ECGS program Council, and that the same Committee verifies that the international applicants meet curricular requirements similar to those required of the applicants holding qualifications awarded by Italian Universities.

Moreover, in all the above cases, knowledge of the English language is required at level B2 or higher, according to the classification provided by the Common European Framework of Reference for Languages (CEFR). The qualifications recognised by the University of Milan, with the corresponding CEFR levels, can be found at: <https://www.unimi.it/en/study/language-proficiency/placement-tests-and-english-courses/accepted-language-certificates>.

Native English speakers and graduates from university first-level programmes entirely taught in English are exempted from producing any such language qualification.

Students without a documented B2 level may be accepted on condition that their level of English proficiency, assessed during the interview, is evidently good.

In entrance, optional training activities are provided to facilitate the integration of students from different first level degrees and from different universities (see the programme website at: <https://ecgs.cdl.unimi.it/en>).

Applicants must apply for admission to the ECGS program from January 22nd to August 25th, 2024.

Non EU candidates applying for a visa must apply from January 22nd to April 30th, 2024.

Applicants will be contacted for an on-line interview.

### **Programme structure**

The first year of the ECGS Master program is built on eight required courses. Two of these courses (one in either semester) aim at strengthening students' familiarity with the mathematical and statistical topics that are used in many of the courses of the Master program. The other ones concern the six disciplinary areas that a Master program in class LM-75 (Scienze e tecnologie per l'ambiente e il territorio) must include in Italy.

The first three of these six courses are in the first semester and concern biological, ecological and economical disciplinary areas; the other three are in the second semester and concern the disciplinary areas of chemistry, earth sciences and agronomic sciences. Each of these courses allows the students to obtain eight ECTS credits, whereas either one of the two courses of the mathematical and statistical area allows the students to obtain six ECTS credits.

Therefore the first year of the ECGS Master program allows the students to obtain 60 ECTS credits. All in all, lectures and classes cover globally 512 hours.

#### Compulsory attendance

Attendance is strongly recommended.

#### Curricula

In the second year of the ECGS Master program, students have to select one of the following two curricula:

A: Environmental Systems: Management and Sustainability;

B: Technological Processes and Environmental Sustainability.

Then three courses must be selected from those associated to the chosen curriculum. These courses allow the students to obtain 18 ECTS credits, whereas further 12 ECTS credits are obtained from other two elective courses to be chosen among those offered by all the Master programmes of Milan University, with the only restriction that the study plan must be approved by a Committee appointed by the ECGS program Council. The second year of the ECGS Master program is completed by an internship or a placement period (worth 9 ECTS credits) and by the final dissertation (worth 21 ECTS credits). Over the second year, lectures and classes globally cover 240 hours.

#### Study plan definition and submission for approval

Students have to submit their study plans in the first year of course, from February 1, 2025 to February 28, 2025. Consult the website: <https://www.unimi.it/en/study/bachelor-and-master-study/following-your-programme-study/plan-study>

#### Lecture timetable

The first Semester starts on September 23, 2024 and ends on January 17, 2025

Suspension period for exam sessions and interim assessments: November 11th, 2024 - November 15th, 2024

The second Semester starts on February 24, 2025 and ends on June 13, 2025

Suspension period for exam sessions and interim assessments: May 5th, 2025 - May 9th, 2025

The timetable will be available at <https://www.unimi.it/en/node/128/>

#### Testing and assessment procedures

Each course is followed by an exam, usually in the form of a written or oral test (or a combination of the two). Exam grades are calculated on a 30-point scale, 18/30 is the minimum passing grade.

Credits for a course are only granted upon passing the corresponding exam.

#### Procedures for exam registration and admittance

Exam sessions are scheduled during recess at the end of each semester. For each course, 6 tests are scheduled per academic year <https://www.unimi.it/en/study/bachelor-and-master-study/following-your-programme-study/sitting-exams/exams-calendar>

### **Campus**

Lecture rooms and laboratories are located in the “Città Studi” campus, mostly in the University buildings of Via Celoria, 20

### **Tutoring**

Each student will have an academic guidance tutor who will help him/her in defining the most appropriate study plan and in managing any issue related to his/her career. Other tutors will support students for International mobility and Erasmus programme and for external internships.

### **Internship criteria**

In the second year of the ECGS Master students have to include an internship or a placement period (worth 9 ECTS credits).

The Internship or Placement credits can be spent:

Within an external internship;

Within an internal internship;

Within the Multidisciplinary Laboratory of Environmental Change and Global Sustainability organised by ECGS Master

### **Degree programme final exam**

The Master degree in Environmental Change and Global Sustainability ends with a final exam worth 21 ECTS credits. This exam consists of the preparation and public discussion of an original thesis drawn up by each graduating student under the guidance of a thesis supervisor. The thesis must be written and discussed in English.

To be admitted to the final exam students must have earned 99 ECTS credits.

## **EXPERIENCE OF STUDY ABROAD AS PART OF THE DEGREE PROGRAM**

The University of Milan supports international mobility by providing its students with the opportunity to spend study and internship periods abroad. It is a unique chance to enrich your educational path in a new exciting environment.

The agreements entered into by the University with over 300 universities from the 27 EU member countries under the European Erasmus+ programme allow regularly enrolled students to carry out part of their studies at one of the partner universities or to undertake internships at companies, training and research centres and other organizations.

Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

### **Study and internships abroad**

In line with the nature of the ECGS programme, international mobility is highly encouraged.

Students enrolled in the programme may spend a study period abroad under the ERASMUS+ program (they can take courses, take exams, prepare theses, carry out research), obtaining recognition for their academic career from that educational experience.

Erasmus+ also provides Placements, that is, the opportunity for a traineeship in companies and other organisations abroad. The new Erasmus+ program provides the following new study and placement opportunities: a) up to 12 months abroad (study periods and placements); b) placements, including those for new graduates (within 12 months of completing a degree). Students who have already spent a period abroad under the Erasmus+ programme may still apply for an Erasmus+ educational or placement activity. Yet, the months previously spent abroad concur to the attainment of the overall maximum of 12 months for each Erasmus+ study cycle.

### **How to participate in Erasmus mobility programs**

The students of the University of Milan can participate in mobility programmes, through a public selection procedure.

Ad hoc commissions will evaluate:

- Academic career
- the candidate's proposed study programme abroad
- his/her foreign language proficiency
- the reasons behind his/her application

Call for applications and informative meetings

The public selection for Erasmus+ mobility for study generally begins around February each year with the publication of a call for applications specifying destinations and requirements. Regarding the Erasmus+ Mobility for Traineeship, the University of Milan usually publishes two calls a year enabling students to choose a destination defined by an inter-institutional agreement or to find a traineeship position on their own.

The University organizes informative meetings to illustrate mobility opportunities and rules for participation.

Erasmus+ scholarship

The European Union grants the winners of the Erasmus+ programme selection a scholarship to contribute to their mobility costs, which may be supplemented by the University funding for disadvantaged students.

Language courses

Students who pass the selections for mobility programmes can benefit from intensive foreign language courses offered each year by the University Language Centre (SLAM).

<https://www.unimi.it/en/node/8/>

Learn more at <https://www.unimi.it/en/node/274/>

For assistance, please contact:

International Mobility Office

Via Santa Sofia 9 (second floor)

Tel. 02 503 13501-12589-13495-13502

Contacts: InformaStudenti; [mobility.out@unimi.it](mailto:mobility.out@unimi.it)

Student Desk booking through InformaStudenti

## ADMISSION CRITERIA: 1ST YEAR OPEN, SUBJECT TO ENTRY REQUIREMENTS

### Application and enrolment information and procedures

- Admission interviews:

Applicants will be contacted for an on-line interview.

- Enrollment procedures:

<https://www.unimi.it/en/study/enrolment>

### Links to enrolment information and procedures

<https://www.unimi.it/en/study/bachelor-and-master-study/degree-programme-enrolment/enrolment-masters-programme>

### Practical instructions

Applicants must apply for admission to the ECGS program from January, 22nd to August, 25th, 2024 (<https://www.unimi.it/en/node/92/>).

Non EU candidates applying for a visa must apply from January, 22nd to April, 30th 2024.

Admission interview:

International candidates, as well as Italian residents, will be contacted for an on-line interview.

Detailed information on the application procedures is available on the ECGS course website.

The aim of the individual interviews is to ascertain the candidates' background knowledge, their abilities and competences in the key areas of the ECGS programme.

Please consult the degree course web site for further information and updates (<https://ecgs.cdl.unimi.it/en>).

For enrolment information and procedures: <https://www.unimi.it/en/study/enrolment>

### N° of places reserved to non-EU students resident abroad

65

<b>1st COURSE YEAR Core/compulsory courses/activities common to all curricula</b>				
Scheduling	Learning activity	Module/teaching unit	Ects	Sector
1 semester	Approaches to the Study of Ecological Systems		8	BIO/07
1 semester	Biodiversity dynamics and conservation		8	BIO/05
1 semester	Environmental Economics and Policy		8	SECS-P/01
1 semester	Quantitative Methods		6	(2) MAT/06, (4) MAT/08
2 semester	Agricultural and Natural Resource Economics and Policy		8	AGR/01
2 semester	Chemistry of Natural Processes and Technologies for the Environment		8	(7) CHIM/07, (1) CHIM/06
2 semester	Statistical Methods in Environmental Studies		6	(5) SECS-S/01, (1) SECS-P/05
Total number of compulsory credits/ects			52	
<b>Elective courses common to all curricula</b>				
<b>Choose one course between:</b>				
2 semester	Geodiversity: Theory and Applications		8	GEO/04
2 semester	Sedimentary successions and their natural resources for the energy transition		8	GEO/02
<b>2nd COURSE YEAR Core/compulsory courses/activities common to all curricula</b>				
Scheduling	Learning activity	Module/teaching unit	Ects	Sector
	Final dissertation		21	ND
Total number of compulsory credits/ects			21	
<b>Elective courses common to all curricula</b>				
<b>The student:</b>				
- must attend the "Safety for field activities" course. Further information will be available by e-mail or on the course website.				

- must acquire 9 ECTS credits for Internship and Placement.

Internship and Placement credits can be spent:

Within an external internship;

Within an internal internship;

Within the Multidisciplinary Laboratory of Environmental Change and Global Sustainability organised by ECGS Master.

Open choice courses: 12 CFU

## LIST OF CURRENTLY AVAILABLE CURRICULA

Environmental Systems: Management and Sustainability Course years currently available: 1st, 2nd  
Technological Processes and Environmental Sustainability Course years currently available: 1st, 2nd

### CURRICULUM: [F6B-A] Environmental Systems: Management and Sustainability

#### Core learning objectives for the course

The general goal of ECGS Master is to train students to tackle environmental change and sustainability in a multidisciplinary perspective. Within this general goal, the curriculum Environmental Systems: Management and Sustainability specifically aims at strengthen the understanding of the tools required to promote a sustainable management and protection of the environment

#### Expected learning outcomes

The curriculum Environmental Systems: Management and Sustainability will allow students to strengthen the competences concerning Economics and the Social Sciences.

#### Professional profile and employment opportunities

The curriculum Environmental Systems: Management and Sustainability is adequate for all the five professional profiles listed for ECGS Master:

1. Environmental manager in agro-food, energy and green economy companies as well as in other companies in the industrial and service sectors;
2. Environmental specialist in the public administration as well as in local governments;
3. Environmental specialist in supra and international bodies as well as in national and international non-governmental organizations.
4. Specialist in environmental impact studies and strategic environmental assessments;
5. Specialist in environmental analysis and monitoring.

### 2nd COURSE YEAR Elective courses Curriculum-specific elective courses for Environmental Systems: Management and Sustainability

Choose three courses (18 CFU), according to the following rules:

1 - the student can choose the following course:

1 semester	Plant and animal diversity: values and risks		6	(3) BIO/05, (3) BIO/04
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2 - the student can choose the following course:

1 semester	Ecosystem Functioning and Services		6	BIO/07
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3 - the student can choose the following course:

1 semester	Recycle and life cycle assessment (LCA) of products and processes		6	CHIM/04
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4 - the student can choose the following course:

1 semester	Georesources and Sustainability		6	GEO/09
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5 - the student can choose one of the following courses:

1 semester	Applied Environmental and Resource Economics		6	AGR/01
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1 semester	Climate Change: Impact and Adaptation		6	(3) FIS/06, (3) AGR/02
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6 - the student can choose one of the following courses:

2 semester	Environmental Law		6	IUS/10
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2 semester	Green procurement		6	IUS/10
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2 semester	Sustainable Development		6	SECS-P/01
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7 - the student can choose the following course:

2 semester	Sustainability Accounting and Management		6	SECS-P/08
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### CURRICULUM: [F6B-B] Technological Processes and Environmental Sustainability

#### Core learning objectives for the course

The general goal of ECGS Master is to train students to tackle environmental change and sustainability in a multidisciplinary perspective. Within this general goal, the curriculum Technological Processes and Environmental Sustainability specifically aims at strengthen the understanding of the dynamics of the different components of the environment.

#### Expected learning outcomes

The curriculum Technological Processes and Environmental Sustainability will allow students to strengthen the competences concerning hard sciences and life sciences.

## Professional profile and employment opportunities

The curriculum Technological Processes and Environmental Sustainability is adequate for all the five professional profiles listed for ECGS Master:

1. Environmental manager in agro-food, energy and green economy companies as well as in other companies in the industrial and service sectors;
2. Environmental specialist in the public administration as well as in local governments;
3. Environmental specialist in supra and international bodies as well as in national and international non-governmental organizations.
4. Specialist in environmental impact studies and strategic environmental assessments;
5. Specialist in environmental analysis and monitoring.

<b>2nd COURSE YEAR Elective courses Curriculum-specific elective courses for Technological Processes and Environmental Sustainability</b>			
<b>Choose three courses (18 CFU), according to the following rules:</b>			
<b>1 - the student can choose the following course:</b>			
1 semester	Multilevel Effects of Environmental Contamination		6 (2) BIO/06, (2) BIO/05, (2) BIO/14
<b>2 - the student can choose the following course:</b>			
1 semester	Ecosystem Functioning and Services		6 BIO/07
<b>3 - the student can choose the following course:</b>			
1 semester	Environmental Geochemistry		6 GEO/08
<b>4 - the student can choose one or two of the following courses:</b>			
1 semester	Remote sensing of agro-environmental change		6 AGR/02
1 semester	Waste Management and Sustainability		6 (3) AGR/18, (2) AGR/10, (1) AGR/13
<b>5 - the student can choose the following course:</b>			
1 semester	Ecosustainable Materials and Processes		6 CHIM/07
<b>6 - the student can choose one or two of the following courses:</b>			
1 semester	Bioresource and Pollution Control Technology		6 AGR/09
1 semester	Environmental Change and Public Health		6 (1) MED/50, (5) MED/04
1 semester	Methods in Ecotoxicology		6 (3) VET/07, (3) BIO/07
2 semester	Food Industry Design, Technology and Innovation		6 AGR/15