

Agroecology and Sustainable Food Production [LM344]

Academic Activity a.y. 2026/2027

Lecturer(s): PAOLA MIGLIORINI

Time period: Primo Ciclo Semestrale

Learning objectives:

The course Agroecology and Sustainable Food Production will prepare students to improve agriculture and food production systems using Agroecology principles and practices.

After finishing the course, students will be able to:

- recognize farming systems as complex natural/social systems
- understand the role/impacts of different agricultural managements.
- understand agroecological concepts and principles
- apply the agroecology practices in the agroecosystems
- improve their competence of exploring such systems in an experiential and action-oriented mode.

Prerequisites:

It is recommended that students attending this course should already know basic ecology.

Course contents:

Program

The course is based on experiential learning with situations “out there” placed in the centre—not as examples of theory but as starting point for the learning process, where theory and real-life experiences will be linked. The program will start with an overview of agricultural systems across the globe and the related approaches and challenges: The role of agriculture and plant production in society; Agricultural cropping systems around the world and their evolution; agricultural sustainability, Agroecology & food sovereignty, Agricultural production methods; Climate and climate change; conventional, GMO and sustainable plant breeding; natural resources management: soil, water, air, agrobiodiversity; Agroecology practices. Methods for exploring farming systems.

Agroecology in action: farm visit, analysis, reflection and restitutions. The analysis should encompass description of the: 1) present situation (what is there, a rich picture and themes), 2) an exploration of the future desired situation (what could be), 3) some initial ideas for actions that can improve the situation (how to get there). The restitution is project-work using a multi-perspective approach, as part of an effort to grasp the whole of a situation.

Teaching method

The course is based on an action learning approach. Based on agroecology theory, as well as methods for how to learn about farming systems, students will work and explore real farms. They will further sum up their experiences for presentation in the class-room.

Teaching language: English

Criteria, rules and procedures for the exam

For full-time students

The exam consists of: a group presentation in class, a group stakeholder document and an individual written reflective essay.

Exam procedures are partially differentiated according to whether students have had more or less than 30% absences (in compliance with the University regulations). In particular, for students who have exceeded this threshold an additional teaching load is envisaged, consisting of additional reading and reporting. For students who have not exceeded the 30% absences threshold, the final grade may be supplemented by the marks obtained in interim assessment tests (in accordance with the rules approved by the Academic Council).

The assessment criteria will be as follows: 50% of the grade relating to the group work, 50% of the grade relating to individual paper; participation in the planned teaching activities will also be taken into account.

For part-time students

The exam consists of a group presentation in class, a group stakeholder document and an individual written reflective essay.

The assessment criteria will be as follows: 50% of the grade relating to the group work, 50% of the grade relating to individual paper; participation in the planned teaching activities will also be taken into account.

Recommended readings:

For full-time students

The recommended text for all:

- Méndez V. Ernesto , Bacon Christopher M. , Cohen Roseann, Gliessman Stephen R. (2016), Agroecology: a Transdisciplinary, Participatory & Action-oriented Approach

The text will be supplemented by readings that will be made available to students before the respective lectures via the University's e-learning platform.

Exercises: before each lecture, the lecturer will indicate to the students the material to be studied, in order to carry out in-class exercises and/or discussions related to it.

Possible supplementary bibliography:

- Lieblein, G., E. Østergaard, and C. Francis. 2004 Becoming an Agroecologist through Action Education. Intern. Journal of Agricultural Sustainability, Vol. 2, No. 3, 1 – 7.
- Migliorini, P. and G. Lieblein. Facilitating transformation and competency development in sustainable agriculture university education: an experiential and action oriented approach. Sustainability 2016, 8(12), 1243; doi:10.3390/su8121243
- Wezel A., Bellon S., Dor'e T., Francis C., D.Vallod D., David C. (2009) Agroecology as a science, a movement and a practice. A review. Agron. Sustain. Dev. 29:503–515
- Colin Ray Anderson, Janneke Bruil, Michael Jahi Chappell, Csilla Kiss and Michel Patrick Pimbert (2019) From Transition to Domains of Transformation: Getting to Sustainable and Just Food Systems through Agroecology Sustainability, 11, 5272; doi:10.3390/su11195272
- Migliorini P, Gkisakis V, Gonzalez V, Raigón MD, Bàrberi P (2018). Agroecology in Mediterranean Europe: Genesis, State and Perspectives. SUSTAINABILITY, vol. 2724, 8, ISSN: 2071-1050, doi: <https://doi.org/10.3390/su10082724>
- Migliorini P, Wezel A (2017). Converging and diverging principles and practices of organic agriculture regulations and agroecology. A review. AGRONOMY FOR SUSTAINABLE DEVELOPMENT, p. 37-63, ISSN: 1774-0746, doi: <https://doi.org/10.1007/s13593-017-0472-4>
- Wezel A, Goris M, Bruil J, Félix GF, Peeters A, Bàrberi P, Bellon S, MIGLIORINI P (2018). Challenges and Action Points to Amplify Agroecology in Europe. SUSTAINABILITY, vol. 10, ISSN: 2071-1050, doi: 10.3390/su10051598 Available on line: <http://www.mdpi.com/2071-1050/10/5/1598/htm>
- Bassignana, C. F., Volpato, G., & Migliorini, P. (2025). Relocalising agriculture and renewing agrobiodiversity in the Western Italian Alps through co-creation of agroecological knowledge and practices. Agriculture and Human Values. <https://doi.org/10.1007/s10460-025-10730-3>
- Nyeleni Declaration <https://nyeleni.org/spip.php?article290>

For part-time students

As above

Further readings:

Learning objective

The professional figure of the “graduate in FOOD AND PLANETARY HEALTH who works in the context of Agroecology is typically entrusted with the task of:

- Agrofood systems transformation through agroecology

At the threshold level, this figure must be able to develop knowledge on farming systems.

This course module proposes providing at the basic level of Agroecology Competence Development: Reflection, Dialogue, Participation, Observation and Visionary Thinking.

Response to the learning objective

With the aim of demonstrating the effective preparation for the threshold competencies the student will be asked to demonstrate, before the end of this course module, that they have attained knowledge about the following points of particular importance:

- the role of agriculture;

- agroecology principles and practices

and capacity to apply knowledge:

- To apply agroecological concepts and principles to agri-food production systems;

- To improve agri-food production systems;

- To design and manage sustainable agri-food production systems.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	AGRI-02/A

Printed on: 19/02/2026

Epistemology of food and health [LM342]

Academic Activity a.y. 2026/2027

Lecturer(s): FLAVIO D'ABRAMO

Time period: Primo Ciclo Semestrale

Learning objectives:

This course prepares students to work in the field of human and planetary health promotion, with particular reference to philosophical, scientific and communication skills and gastronomic education, within contexts that require the ability to interpret the philosophical (epistemological and ethical) value of food in a non-reductionist way. At the end of the course, students will have developed the ability to analyse food practices through the epistemology of food systems and the philosophy and history of science, recognising their cultural, symbolic, operational and material meanings. They will have acquired knowledge of the interactions between epistemology, ethics and sustainability from a One Health perspective, with particular attention to the interconnections between human, animal and environmental health. They will be able to foster participatory and transformative learning processes in communities using case studies that explore the relationship between science, knowledge, culture and sustainability, and will develop skills in designing interventions, initiatives or products that promote sustainable food behaviours.

Prerequisites:

No prerequisites are required.

Course contents:

Program

This course introduces students to the fundamental concepts of the historical and political epistemology of food. It provides students with essential knowledge of the main cognitive and cultural processes related to human relationships with food and health. Drawing on philosophy, the history of science, science and technology studies, and theories that explore the connections between food, health, and the environment, the course encourages students to develop a critical understanding of the interplay between knowledge about food and knowledge about health. Through case studies and issues specifically related to the interconnections between human, animal and environmental health in food systems, the lectures introduce students to the themes of social and epistemic values, scientific controversies, health and quality of life, exploring how philosophical and scientific reflection can guide more conscious and sustainable approaches to eating.

The course covers several key topics, including:

- Introduction to the philosophy and history of science;
- Introduction to scientific controversies;
- Historical and philosophical analysis of the relationship between philosophy, individual health, public health and medicine;
- Key epistemological issues in the field of food and health;
- Historical and philosophical connections between One Health, Planetary Health and public health approaches.

Teaching method

Teaching language: English

The teaching method consists of lectures, discussions, group work and conversations about the reading material.

Criteria, rules and procedures for the exam

For full-time students

The examination consists of an oral test (which can be taken in Italian or English, at the student's choice), based on the teaching material prepared by the lecturers, lasting 20/30 minutes (without the aid of notes or books) aimed at assessing the knowledge acquired during the course.

The examination procedures are partially differentiated depending on whether students have more or less than 30% absences (in accordance with University regulations). In particular, students who have exceeded this threshold will be required to complete additional coursework, which will be agreed upon with the lecturer.

The oral interview mark will also take into account class participation, contributions to discussions and the ability to develop critical and original thinking on the topics covered.

For part-time students

The exam consists of an oral test (which can be taken in Italian or English, at the student's choice), based on the

teaching material prepared by the lecturers, lasting 20/30 minutes (without the aid of notes or books) aimed at assessing the acquisition of the knowledge developed during the course. No additional material will be required.

Recommended readings:

For full-time students

Texts prepared by lecturers

The texts that make up the handouts will be made available to students via the University's e-learning platform.

Before each lesson, the lecturer will indicate to students the material to be studied, so that related exercises and/or discussions can be carried out in class.

For part-time students

Part-time students will receive the same materials as full-time students.

Further readings:

Learning objective

The Master's Degree Course in 'Food and Planetary Health' trains professionals capable of working in the field of food sustainability and public health, with integrated approaches based on One Health and Planetary Health, which connect ecological systems, nutrition, health and food governance. This course provides the foundations for critical thinking through epistemology and the philosophy of science, adopting the systemic perspective of the degree course. Students will acquire tools to analyse complex systems and communicate effectively about food and health, contributing to the transition towards healthier, fairer and more sustainable food systems.

Response to the learning objective

In order to demonstrate effective preparation for threshold competences, students are required to demonstrate, by the end of this teaching module, that they have acquired knowledge of the following points of particular importance:

- main processes of knowledge production in the food sector, with particular attention to the interaction between food, health and the environment;
 - interactions between the cultural, scientific and cognitive dimensions of food practices;
 - key communication strategies aimed at effectively and inclusively promoting the role of scientific knowledge and gastronomy for food sustainability and the health of the planet;
- and the ability to apply knowledge:
- to critically interpret and contextualise the role of food in the complex cultural and scientific frameworks, highlighting opportunities and critical issues;
 - to disseminate and communicate complex issues related to food and health to different audiences, using appropriate and effective language;
 - to propose innovative and sustainable approaches to food, public health and planetary practices, integrating epistemological, ethical and scientific considerations.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	PHIL-02/A

Printed on: 19/02/2026

Food Systems and Marine Ecology [LM348]

Academic Activity a.y. 2026/2027

Lecturer(s): CHIARA ROMANO

Time period: Secondo Ciclo Semestrale

Learning objectives:

The module "Food System and Marine Ecology" within the course "Blue and Green Regeneration" prepares students to:

Describe the structure and functioning of marine and coastal ecosystems.

Understand the role of marine ecosystems in climate regulation, nutrient cycling, and as a source of food resources, analyzing the connections between ecological functioning, productivity, and planetary health.

Identify and explain the main anthropogenic pressures that compromise the health of ecosystems, such as overfishing, pollution, and climate change.

Understand and discuss the concept of environmental regeneration in marine contexts, distinguishing it from sustainability and ecological restoration, and applying it to food systems and marine resource management.

At the end of the course, students will be able to:

Understand and analyze the main ecological processes underlying the functioning of marine and coastal ecosystems.

Recognize the value of biodiversity and the ecosystem services provided by the oceans.

Reflect in an interdisciplinary and critical way on topics such as human impact on ecosystems and the principle of environmental sustainability in food production.

Contribute to the design of circular and regenerative supply chains related to marine ecosystems.

Prerequisites:

It is recommended that students enrolling in this course possess basic knowledge of biology and chemistry, and an advanced knowledge of the English language in order to use the teaching materials and participate actively in the activities.

Course contents:

Program

The course provides an ecological foundation on the functioning and vulnerability of marine and coastal ecosystems, deepening the understanding of their role as vital resources for humanity. It then explores approaches and strategies that promote conservation, ecological regeneration, and sustainable food production in marine environments.

Course topics:

- Principles of marine ecology
- Marine biodiversity
- Ecosystem functions and services
- Natural capital
- Critical marine ecosystems
- Blue Food
- Multiple impacts on the marine environment
- Environmental sustainability and ecological restoration
- Governance and policies
- Renewable energy
- Blue ecosystem restoration
- Habitat restoration
- Water quality
- Control of invasive species
- Nature-based solutions
- Marine protected areas
- Innovative practices for sustainable food production

Teaching method

Lectures supported by slides, case studies, and discussions. During classes, small group activities and practical exercises on specific topics will also be carried out.

Teaching language: English

Criteria, rules and procedures for the exam

For full-time students

The exam consists of an oral test in English lasting about 15–20 minutes. Questions will cover the topics, concepts, and principles discussed during the course.

The exam aims to evaluate the knowledge acquired and the student's ability to apply it to specific cases. No notes or books may be used during the exam.

The assessment criteria will be as follows:

- Knowledge of ecological processes
- Clarity and effectiveness of presentation
- Use of appropriate scientific language
- Ability to establish connections and demonstrate critical analysis

Exam procedures vary depending on attendance (according to university regulations). Students with more than 30% absences will be required to complete an additional task: preparing and presenting a report on a topic agreed upon with the instructor.

Students with less than 30% absences may have their final grade integrated with the results of mid-term evaluations (in accordance with Academic Council regulations).

For part-time students

The exam will also be oral and will cover the same topics, concepts, and principles addressed in the course.

Assessment methods and criteria are the same as those for full-time students.

Recommended readings:

For this course, specific teaching materials have been developed that do not entirely coincide with commercially available textbooks.

These materials include slides, copies of book chapters, and/or scientific articles provided or recommended by the professors.

All materials related to lectures and/or practical exercises will be made available to students on the University's e-learning platform.

For part-time students

Part-time students will use the same teaching materials as full-time students.

Further readings:

Learning objective

Graduates in Food and Planetary Health are expected to identify and assess the environmental impacts related to food systems and critically integrate ecological knowledge to design and promote truly sustainable models and solutions for food production, distribution, and consumption.

This course, Food System and Marine Ecology, provides the essential ecological knowledge needed to understand the main marine and coastal ecological systems, the critical environmental issues affecting food production models, and the strategies to promote conservation and regeneration in marine environments.

Response to the learning objective

To demonstrate that threshold competencies have been achieved, students are expected to show, by the end of the module, knowledge of the following key points:

- Ecological systems and regenerative principles: students must possess operational knowledge of marine ecological systems, their vulnerabilities, and the fundamental principles that promote their conservation and regeneration.

Ability to apply knowledge:

- Students must demonstrate the ability to apply ecological knowledge in the development of production processes that respect and promote environmental sustainability, biological resource conservation, and ecological regeneration, as well as competence in evaluating ecosystem services and designing environmental regeneration strategies.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	BIOS-05/A

Printed on: 19/02/2026

Green and Blue Regeneration [LM346]

Academic Activity a.y. 2026/2027

Lecturer(s):

Time period: Secondo Ciclo Semestrale

Syllabus not published by lecturer.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	0	BIOS-01/C, BIOS-05/A

Printed on: 19/02/2026

Human Nutrition [LM349]

Academic Activity a.y. 2026/2027

Lecturer(s): SIMONA BO

Time period: Secondo Ciclo Semestrale

Learning objectives:

The Human Nutrition course prepares students to understand the basic principles of human nutrition, to assess nutrition as a tool for prevention and care, to promote healthy and sustainable eating habits, and to explore new frontiers in nutritional research.

At the end of the course, students will be able to:

- Understand the biochemical and physiological foundations of nutrition
- Analyze the historical evolution of dietary habits
- Recognize the role of diet in preventing major chronic diseases and across different stages of life
- Understand the role of nutrition in linking human health and planetary health
- Promote sustainable and conscious eating practices
- Be familiar with scientific innovations in the field of personalized nutrition

Prerequisites:

No specific knowledge is required.

Course contents:

Program

Main Topics

- Fundamentals of Human Nutrition: macronutrients and micronutrients; mechanisms of digestion; macronutrient metabolism; food groups; hunger–satiety regulation; circadian rhythms.
- Historical Evolution of Human Nutrition.
- Nutrition and Health:
Role of nutrition in the prevention of chronic diseases (obesity, diabetes, cardiovascular diseases, cancer).
Nutrition during childhood, pregnancy, and aging.
Malnutrition and its impact.
- Food and Sustainability:
Healthy and sustainable diets.
Food waste and reduction strategies.
Impact of climate change on physical and mental health, with a focus on nutrition-related disorders.
- Frontiers of Nutrition:
Omics sciences.
Gut microbiota and personalized nutrition.
Artificial intelligence.
- Nutritional Labelling: role in preventing non-communicable chronic diseases.
- Qualitative and Quantitative Methods in Nutritional Research.
- Scientific Communication and Fake News in the Field of Nutrition

Teaching method

Teaching activities will consist of lectures, practical sessions, group projects, and laboratory work.

Teaching language: English

The teaching method includes the use of slides and texts in English.

Criteria, rules and procedures for the exam

For full-time students

The exam will consist of the production of a written report on a topic related to the course, to be prepared in groups.

This report will be presented orally and discussed during class sessions.

Active participation and collaboration with other students are therefore required in order to complete the group project, which will be subject to evaluation.

For full-time students

The exam consists of the production and oral presentation of the above-mentioned group report. Examination procedures vary depending on students' attendance, in accordance with university regulations.

In particular, students who exceed 30% of absences will be assigned an additional task consisting of a short written paper to be agreed upon with the instructor in advance.

Assessment criteria:

Average grade of the group written report (40% of the final mark)

Individual evaluation of the oral presentation, discussion skills, and ability to answer questions (40%)

Participation in the scheduled learning activities (20%)

For part-time students

Part-time students are required to produce and present individually a written report on one of the topics covered during the course.

Assessment criteria:

Evaluation of the individual written report (50% of the final mark)

Evaluation of the oral presentation, discussion skills, and ability to answer questions (45%)

Participation in the scheduled learning activities (5%)

Recommended readings:

For full-time students

For this course, the slides presented during lectures will be provided. In addition, reference texts will be recommended during class for further consultation.

The course materials will be supplemented by readings made available to students prior to each lecture through the university's e-learning platform.

For part-time students

For this course, the slides presented during lectures will be provided. In addition, reference texts will be recommended during class for further consultation.

The course materials will be supplemented by readings made available to students prior to each lecture through the university's e-learning platform.

Further readings:

Learning objective

This course aims to provide students with knowledge and skills related to the principles of dietetics and human nutrition, with particular attention to healthy dietary models for environmentally conscious consumers.

Response to the learning objective

In order to demonstrate their actual level of preparation, students are required, before the end of this course module, to show achievement of knowledge in the following key areas:

- The relationship between diet and human health
- The role of macro- and micronutrients in health and well-being
- Nutrition and sustainability
- Competence in using methodologies for the analysis and interpretation of data in nutritional research

Students are also expected to demonstrate the ability to apply this knowledge:

- In programs of nutrition education and the promotion of healthy lifestyles
- In projects involving collaboration with multiple professions, interacting with experts in different fields to share the knowledge acquired on diet and health.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	MEDS-08/C

Printed on: 19/02/2026

Human wisdom, food and life values [LM343]

Academic Activity a.y. 2026/2027

Lecturer(s): MADDALENA BORSATO

Time period: Primo Ciclo Semestrale

Learning objectives:

The course prepares students to work in the field of human and planetary health promotion, with particular emphasis on philosophical and communicative competencies and gastronomic education, specifically in contexts that require the ability to interpret the philosophical value (ethical, aesthetic, and ontological) of food in a non-reductionist way. At the end of the course, students will develop the ability to analyze food practices through the aesthetics of taste and the philosophy of perception, recognizing their cultural and symbolic meanings. They will acquire knowledge about the interactions between aesthetics, ethics, and sustainability within the One Health perspective, with specific attention to the interconnections among human, animal, and environmental health. They will be able to foster participatory and transformative learning processes in communities using case studies that explore the relationship between taste, perception, culture, and sustainability, and will develop skills in designing interventions, initiatives, or products that promote sustainable food behaviors.

Prerequisites:

No prerequisites are required.

Course contents:

Program

The course is structured around several main themes:

- Introduction to aesthetics, philosophy of the senses, and ecological theories of perception
- Philosophy as exercise and school of wisdom: historical and theoretical perspectives
- The relationship between philosophy, bodily health, and mental health in the perspective of relational aesthetics
- The main ethical issues in the food domain
- The connections between philosophy, food choices, and the One Health approach through case studies: mindful eating, psychopathology of taste, dietary approaches

Teaching method

Teaching language: English

The teaching method consists of lectures, discussions, and conversations on the reading materials.

Criteria, rules and procedures for the exam

For full-time students

The exam consists of an oral interview (which can be taken in Italian or English at the student's choice), based on the teaching materials provided by the lecturer, lasting 20/30 minutes (without the aid of notes or books), aimed at assessing the acquisition of the knowledge developed during the course.

Exam procedures are partially differentiated according to whether students have had more or less than 30% absences (in compliance with the University regulations). In particular, for students who have exceeded this threshold an additional teaching load is envisaged, to be agreed upon with the lecturer.

The oral exam grade will also take into account class participation, contributions to discussions, and the ability to develop critical and original thinking regarding the topics covered.

For part-time students

The exam consists of an oral interview (which can be taken in Italian or English at the student's choice), based on the teaching materials provided by the lecturer, lasting 20/30 minutes (without the aid of notes or books), aimed at assessing the acquisition of the knowledge developed during the course. No additional materials will be required.

Recommended readings:

For full-time students

course materials prepared by the lecturer

The texts that make up the course materials will be made available to students through the University's e-learning platform.

Before each lecture, the lecturer will indicate to the students the material to be studied, in order to carry out in-class exercises and/or discussions related to it.

For part-time students

For part-time students, the same materials are provided as for full-time students.

Further readings:

Learning objective

The Master's Degree Program in "Food and Planetary Health" trains professionals capable of working in the field of food sustainability and public health, with an integrated approach based on Planetary Health, which connects ecological systems, nutrition, health, and food governance. This course provides foundations in critical thinking through food aesthetics and ethics, adopting the systemic perspective of the degree program. Students will acquire tools to analyze complex systems and communicate effectively about food and health, contributing to the transition toward healthier, more equitable, and sustainable food systems.

Response to the learning objective

With the aim of demonstrating the effective preparation for the threshold competencies the student will be asked to demonstrate, before the end of this course module, that they have attained knowledge about the following points of particular importance:

- main aesthetic and ethical processes in the food domain, with particular attention to the interaction between food, health, and environment;
 - interactions between cultural dimension, ethics, ecological sustainability, and food practices in complex systems;
 - main communication strategies aimed at effectively and inclusively promoting the role of taste and gastronomy for food sustainability and planetary health;
 - notions of philosophical wisdom applied to food decisions in complex contexts and to the interconnections among human, animal, and environmental health in food systems;
- and capacity to apply knowledge:
- to critically interpret and contextualize the role of food in the complex cultural, ethical, and environmental framework, highlighting opportunities and critical issues;
 - to disseminate and communicate complex topics related to food and health to diverse audiences, using appropriate and effective language;
 - to propose innovative and sustainable approaches to food practices, public health, and planetary health, integrating aesthetic, ethical, and scientific considerations.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	PHIL-04/A

Printed on: 19/02/2026

Italian Culture and Language [LM352]

Academic Activity a.y. 2026/2027

Lecturer(s):

Time period: Primo Ciclo Semestrale

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	2	NN

Printed on: 19/02/2026

Livestock Systems and the One Health–One Welfare Approach [LM351]

Academic Activity a.y. 2026/2027

Lecturer(s): CLAUDIO FORTE

Time period: Secondo Ciclo Semestrale

Learning objectives:

The course “Livestock Systems and the One Health–One Welfare Approach” prepares students for an integrated perspective on food production. It explores the role of livestock farming and animal sciences within the framework of Planetary Health, analysing the interconnections between animal, human, and environmental health, and addressing the three dimensions of sustainability — social, economic, and environmental. Students will acquire knowledge and skills related to sustainable production systems, animal welfare, the fight against antimicrobial resistance, nutrition, genetics and biodiversity conservation, as well as the development of short supply chains and their impact on public health and consumers.

The course focuses on the main livestock species (cattle, sheep, pigs, poultry, rabbits, including elements of aquaculture), addressing the topics in a cross-cutting and transdisciplinary manner.

At the end of the course, students will be able to understand the relationships between animal production and global health, with a particular focus on animal welfare and consumer science. Furthermore, they will gain practical skills in assessing animal welfare on farms, using tools to reduce antimicrobial use, and developing virtuous value chains that enhance the quality and value of animal-derived foods.

Prerequisites:

It is recommended that students enrolling in this course possess preliminary knowledge related to animal-derived products and their quality attributes, the principles of controlled supply chains, biodiversity, and the basics of consumer science.

Course contents:

Program

The course is organized into modules covering the following topics:

- Livestock farming, animal health and welfare (4 ECTS)
- Definition of farming systems across different production chains (cattle, sheep, poultry, pig, and rabbit sectors)
- History and assessment of animal welfare (animal-based indicators and resource- and management-based indicators)
- Principles of animal behaviour
- Principles of precision livestock farming and implications for product quality
- Principles of antimicrobial resistance and strategies for its reduction in animal production systems
- Impact of animal welfare on product quality, sustainability, and consumer choices
- Labelling and certification systems related to animal welfare and veterinary drug use
- Principles of animal nutrition, sustainability and human health (1 ECTS)
- Principles of general and applied genetics (1 ECTS)

Teaching method

Frontal lectures, on-farm practical sessions, analysis of real-life case studies, and classroom discussions on pre-assigned topics. A flipped classroom approach and collaborative group projects will also be implemented to enhance active learning.

Lingua di insegnamento: inglese

Criteria, rules and procedures for the exam

For full time and part-time students

The examination consists of an oral test in English, covering the topics included in the course programme. The exam is designed to assess the knowledge and skills acquired, including the ability to communicate using appropriate technical terminology — which is one of the key evaluation criteria.

Students will be assessed on their understanding of the functioning of different production chains, their ability to evaluate animal welfare conditions on farms, and their knowledge of animal nutrition and biodiversity conservation. The final grade will be expressed on a scale of 30 points.

Recommended readings:

All lecture materials will be made available to students on the shared online platform.

Main references:

Sandrucci, A., & Trevisi, E. (2022). Produzioni animali. EDISES.

Blokhuis, H., Miele, M., Veissier, I., & Jones, B. (Eds.). (2013). Improving Farm Animal Welfare: Science and Society Working Together – The Welfare Quality Approach. Wageningen Academic Publishers

For full time and part-time students

Specific teaching materials have been developed for this course, which do not fully correspond to commercially available textbooks.

The recommended textbook for all students is: Sandrucci, A., & Trevisi, E. (2022). Produzioni animali. EDISES.

This textbook will be supplemented by additional readings, which will be made available to students prior to each lecture through the University's e-learning platform.

Practical sessions:

Before each class, the lecturer will indicate the materials to be studied in advance, in order to carry out in-class exercises and/or discussions related to the assigned topics.

Additional bibliography (optional):

Blokhuis, H., Miele, M., Veissier, I., & Jones, B. (Eds.). (2013). Improving Farm Animal Welfare: Science and Society Working Together – The Welfare Quality Approach. Wageningen Academic Publishers.

Grandin, T. (Ed.). (2020). Improving Animal Welfare: A Practical Approach. CABI.

Further readings:

Response to the learning objective

In order to demonstrate adequate preparation and the achievement of threshold competences, by the end of this teaching module the student is expected to show knowledge and understanding (Dublin descriptors) of the following key topics:

- Assessment of animal welfare levels
- Application of Precision Livestock Farming (PLF) techniques on farms
- Impact of livestock species' nutrition and genetics on human health
- Critically evaluate livestock production models from a One Health – One Welfare perspective, and propose strategies for improvement and valorisation.

Additionally, they are expected to develop:

1) Communication skills

- Communicate scientific concepts effectively, both in professional and outreach contexts, regarding animal welfare, One Health, and livestock production chains.

2) Learning skills

Acquire the ability to independently update and expand one's knowledge in the fields of animal science, nutrition, and genetics, critically using scientific sources, experimental data, and analytical tools to address new challenges and innovations in animal production systems.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	AGRI-09/C

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Local Knowledge and Green Innovation [LM347]

Academic Activity a.y. 2026/2027

Lecturer(s): ANDREA PIERONI

Time period: Secondo Ciclo Semestrale

Learning objectives:

At the end of the course, the students will be able to:

1. Understand the conceptual and methodological foundations of Local Ecological Knowledge (LEK) in ecological and socio-cultural terms.
2. Analyse local knowledge systems within biocultural landscapes.
3. Assess the potential of ethnobotanical and ethnoecological practices for sustainable innovation and regenerative approaches.
4. Design green innovation strategies rooted in local ecological knowledge.
5. Work ethically and collaboratively with communities in intercultural contexts.

Prerequisites:

None

Course contents:

1. Fundamentals of ethnoecology; LEK: origins, meanings, contemporary relevance.
2. Biocultural landscapes and community resilience.
3. Plants as cultural indicators and regenerative resources.
4. Ethnobotanical and ethnoecological field and documentation methods.
5. Sustainable gathering, cultivation and processing practices.
6. Community health and ethnopharmacology as grassroots innovation.
7. Biodiversity-based green innovation models and case studies.
8. Territorial circular economies.
9. Ethics, reciprocity, community rights and resource governance.
10. Co-design workshop: designing a green innovation intervention based on LEK.

Teaching Methods

- Seminars
- Fieldwork
- Participatory design workshops

Teaching language: ENGLISH

For full-time students

The exam consists of a written project report, approximately 10,000 words in length, with 30 academic references (accounting for 70% of the final mark), which will be discussed orally.

Class participation accounts for 30%.

For part-time students

The exam consists of a written project report (approximately 15,000 words, with 50 academic references) to be discussed orally, while the proactive class participation counts for 30%.

Recommended readings:

Ad hoc literature prepared by the teachers

Further readings:

The professional figure of the graduate in Food and Planetary Health who works in the context of sustainable territorial development, food system & planetary health innovation and community-based resource stewardship is typically entrusted with the task of:

- Identifying and analysing socio-ecological and health contexts in which food systems, cultural practices and biodiversity interact.
- Supporting collaborative processes for sustainable development and regenerative innovation with local communities, institutions and enterprises.

At the threshold level, this figure must be able to recognise and interpret the relationship between knowledge, ecological dynamics, and cultural practices, and to support decision-making processes that valorise biodiversity and local knowledge systems while respecting ethical and intercultural principles.

This course module proposes providing at the basic level:

- Competence aimed at understanding Local Ecological Knowledge (LEK) frameworks and their relevance for sustainable development, health, and green innovation.
- Competence in analysing biocultural diversity-based practices and designing context-sensitive innovation strategies in collaboration with communities.

The student will have to learn by the end of this module:

- The conceptual foundations and socio-ecological values of Local Ecological Knowledge systems.
- The relationships between biodiversity, cultural practices, health, and sustainable food systems.

And the capacity to apply knowledge:

- Ability to analyse and document LEK systems through ethnoecological and fieldwork approaches.
- Ability to co-design contextualised green innovation strategies that are ethically grounded, collaborative, and supportive of biocultural resilience.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	BIOS-01/C

Printed on: 19/02/2026

Microbiota and Human Health [LM350]

Academic Activity a.y. 2026/2027

Lecturer(s): STEFANO GEUNA

Time period: Secondo Ciclo Semestrale

Learning objectives:

The "Microbiota and Human Health" course prepares students to address, through an interdisciplinary approach, topics related to the interactions between diet, microbiota and the health of humans, animals and the environment, in accordance with the principles of the One Health paradigm.

The course provides theoretical and practical tools to understand how diet influences the composition and function of the gut microbiota and how this microbiota contributes to metabolic, immune and neurological health in organisms and ecosystems.

By the end of the course, students will be able to:

- analyze the main communication pathways between microbiota, metabolism and the immune system.
- evaluate the impact of specific dietary patterns on the microbiota and on health from both preventive and therapeutic perspectives.
- interpret scientific data and experimental results from clinical, nutritional and environmental studies.
- discuss, from a One Health perspective, the links between sustainable diets, human well-being and environmental protection.
- work together in multidisciplinary teams to design nutritional and environmental interventions based on scientific evidence.

Prerequisites:

There are no linguistic requirements other than those already required for admission to the program.

Course contents:

Program

At the beginning of the course, ad-hoc introductory seminars will be offered on basic concepts of general biology and microbiology, human and animal physiology and principles of biochemistry and food sciences as well as elementary concepts of epidemiology and public health.

Module 1 – Introduction to the One Health Paradigm (4 hours)

The One Health concept: integration between human, animal and environmental health.

The impact of diet on the global microbiotic ecosystem.

Module 2 – Microbiota: Composition, Functions and Determinants (8 hours)

Intestinal, oral, skin and environmental microbiota.

Factors influencing composition: genetics, diet, antibiotics, environment.

Analytical techniques: metagenomics, metabolomics and bioinformatics.

Module 3 – Diet and the Microbiota (12 hours)

Effects of macronutrients and micronutrients on microbial composition.

Fiber, polyphenols and bioactive compounds: prebiotics and key metabolites.

Dietary patterns: Mediterranean, Western, vegetarian and other models.

Module 4 – Microbiota and Human Health (12 hours)

The gut-brain axis, metabolism and immunity.

Microbiota and diseases: obesity, diabetes, chronic inflammatory diseases, neurological and psychiatric disorders.

Recent clinical and experimental evidence.

Module 5 – Microbiota, Environment and Sustainability (8 hours)

Environmental impact of food systems.

Environmental microbiome and food safety.

Food policies and One Health strategies for global health.

Module 6 – Discussion and Project Work (4 hours)

Group presentations on recent scientific articles.

Development of a multidisciplinary project (nutrition, health, sustainability).

Teaching method

Teaching language: English

Lectures with multimedia support, discussion of scientific articles and case studies, group activities and seminars.

Criteria, rules and procedures for the exam

For full-time students

The exam consists of a written test, which can be taken in Italian or English.

For part-time students

The exam consists of a written test.

Recommended readings:

For full-time and part-time students

Special teaching material has been developed for this course which does not completely correspond to texts available on the market.

Texts for all students:

- He C., Zhao J., Liu Y., et al. (2024). "Dietary fibre directs microbial tryptophan metabolism via metabolic competition." *Nature Microbiology*, 9, 1759–1773.
- Vuong H. E. & Hsiao E. Y. (2024). "Metabolite-immune-neural interfaces in the microbiota-brain axis." *Neuron*, 113, 1020–1036.
- Mackenzie J. S., Jeggo M., Daszak P., et al. (2023). "Implementing the One Health approach to improve food safety and health security." *Frontiers in Public Health*, 11, 1123456.

Further readings:

Learning objective

The "Microbiota and Human Health" course is offered in response to the growing demand from the research community, healthcare professions and the agrifood and environmental sectors for professionals capable of integrating biological, nutritional and public health expertise within a systemic framework.

The course helps train professionals who can understand and manage the interactions between diet, microbiota and human and environmental health, in alignment with the principles of the One Health paradigm.

The skills acquired are central for:

- biomedical and nutritional research focused on the study of the microbiota and diet-health relationships.
- designing sustainable nutritional and environmental interventions for the prevention of chronic diseases.
- technical-scientific consulting in the agri-food, healthcare and public health sectors.
- developing integrated policies and strategies for food safety and global health.

Response to the learning objective

By the end of this course, students will have acquired knowledge and skills in line with Dublin Descriptors 1 and 2, divided as follows:

1) Knowledge (Dublin Descriptor 1)

- Understand the composition and functions of the human and environmental microbiota and the factors that affect its diversity.
- Understand the mechanisms through which diet and nutrients influence microbial physiology and human health.
- Recognize key experimental and clinical evidence linking microbiota, diet and chronic-degenerative diseases.
- Understand the conceptual foundations of the One Health paradigm and its implications for public health, veterinary medicine and food sustainability.

2) Ability to apply knowledge (Dublin Descriptor 2):

- Critically analyze literature data, scientific reports and clinical studies related to microbiota and nutrition.
- Apply scientific reading tools and multidisciplinary reasoning to interpret experimental results.
- Propose dietary interventions or strategies consistent with principles of sustainability and global health.
- Collaborate effectively within interdisciplinary teams to address complex problems at the intersection of food, health and the environment.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	6	MEDS-08/C

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One Health and Human Condition [LM341]

Academic Activity a.y. 2026/2027

Lecturer(s):

Time period: Primo Ciclo Semestrale

Syllabus not published by lecturer.

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent second cycle	Food and Planetary Health (2026)	comune	0	PHIL-02/A, PHIL-04/A

Printed on: 19/02/2026

Taste and Health [LM345]

Academic Activity a.y. 2026/2027

Lecturer(s): GABRIELLA MORINI

Time period: Primo Ciclo Semestrale

Learning objectives:

The course Taste and Health will prepare students:

- to face the nutritional sciences with knowledge on advanced sensory nutrition and a broad ecological perspective on the sense of taste-
- to operate and contribute in the food design and processing area to promote healthy and sustainable food innovation

After finishing the course, students will be able to:

- to know the main nutritive and non nutritive class of molecules in food
- to know the role of chemoreception in nutrition
- to know the role of extra-oral taste receptors on metabolism and microbiota cross talk
- to know the organization of the nervous system in relationship with food choice
- to know the role of taste education on health

Prerequisites:

No specific knowledge or prerequisite are required before starting the course.

Course contents:

Program

- Main molecules in food and their roles in food transformation
- Sensing molecules in food: chemoreception (smell, taste and chemesthesis)
- The taste of bioactive food components and the role of extraoral taste receptors in health
- From sensing to perception (food neuroscience): the organization of the nervous system and its role in food-related neural processes; sensory pathways, reward circuits, and memory systems contribution to food perception, categorization, and valuation
- What to reduce and what to increase in gastronomic preparations to improve health, bridging the gap between healthy and tasty.
- Learning to like: why and how to educate the sense of taste, theory and practice.
- At the end of the course students will design and manufacture a food product in the Pollenzo Food Lab

Teaching method

The course combines lectures in the class and lectures in the Pollenzo Food Lab with a “show and tell” approach. Students will also work in groups.

Teaching language: ENGLISH

Criteria, rules and procedures for the exam

For full-time students

0-7 points : design and project of a food product.

0-7 points : manufacturing of the designed food product

These parts will take place on the last scheduled lectures. The presentation of the projects will be done in front of the whole class.

The project/manufacturing must be presented in groups of maximum 4 people.

18 points: oral exam: oral examination on course contents

Exam procedures are partially differentiated according to whether students have had more or less than 30% absences (in compliance with the University regulations). In particular, for students who have exceeded this threshold an additional teaching load is envisaged, consisting of extra questions at the oral exam on a scientific article proposed by the student (and approved by the teacher).

For part-time students

The exam modalities will be the same than those for full time students.

Recommended readings:

For full-time students

Books:

- On Taste of humans and other animals, Columbia University Press (in press)
- School Menu Design Handbook, School Food 4 Change Project Manual (online)

Teaching material has been developed for this course and will be made available to students via the University's e-learning platform. The material will be complemented by readings that will also be made available to students via the University's e-learning platform.

For part-time students

The same than those for full time students

Further readings:

Learning objective

The professional figure of the graduate in FOOD AND PLANETARY HEALTH who works in the context of food companies is typically entrusted with the task of:

- Analyze and modify gastronomic transformation processes with specific objectives
- Predict and evaluate the effects of gastronomic transformations on sensory sensations.

At the threshold level, this figure must be able to evaluating the role of nutrients and foods on health

This course module proposes providing at the basic level the knowledge on the bioactivity of taste active compounds.

Competences in food and sensory sciences that allow for the direct or indirect design and management of production or gastronomic processes of healthy food and beverages.

Response to the learning objective

With the aim of demonstrating the effective preparation for the threshold competencies the student will be asked to demonstrate, before the end of this course module, that they have attained knowledge about the following points of particular importance:

- the main molecules in food and their roles in food transformation
- the role of chemoreception in nutrition
- the role of extra-oral taste receptors on metabolism and microbiota cross talk and capacity to apply knowledge:
- in practical application useful to design educational path
- in practical application useful to design new healthy food products

The academic activity is offered in:

Scienze Gastronomiche

Program type:	Program: (Curriculum:)	Curriculum:	Credits:	Sector:
Master or equivalent Food and Planetary Health (2026) second cycle		comune	8	CHEM-05/A

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