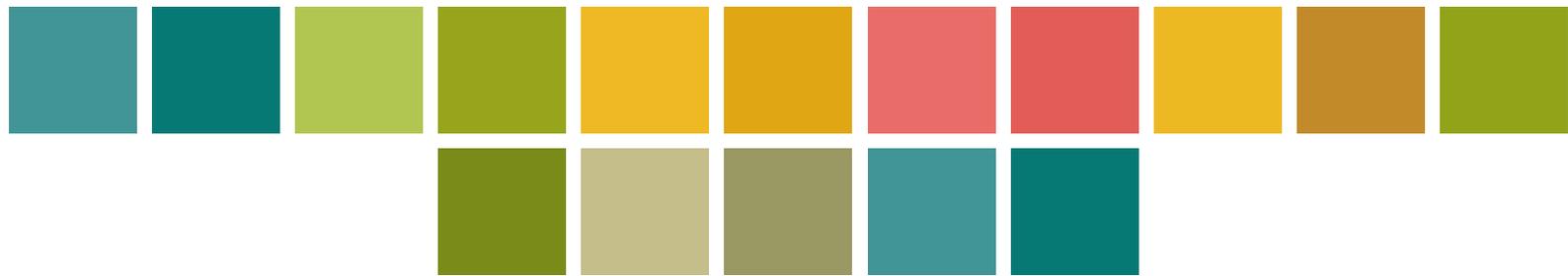




UNIVERSITÀ  
DEGLI STUDI  
DI TORINO

010095

# COURSES BROCHURE



Master di II livello in "Innovation in Food Science and Technology –  
Michele Ferrero"

# Animal products supply chain - Eggs

## *Filiere di approvvigionamento dei prodotti di origine animale (Uova)*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Achille Schiavone (Lecturer)
Teacher contacts:	+39 0116709208, achille.schiavone@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/18 - nutrizione e alimentazione animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=cml5](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=cml5)

# Animal products supply chain - Milk

## *Filiere di approvvigionamento dei prodotti di origine animale (Latte)*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Riccardo Fortina (Lecturer)
Teacher contacts:	0116708580, riccardo.fortina@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/18 - nutrizione e alimentazione animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

The course is aimed at providing the student with a general knowledge of the milk supply chain, from farmer to consumer. The bases for proper feeding and rationing of dairy cattle are also provided. Videos or, if possible, a visit to a dairy cattle farm and an interview to the breeder will provide the informations for understanding the main opportunities and constraints of dairy sector.

### **COURSE AIMS**

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The student will be able to understand the main characteristics, opportunities and problems of the milk supply chain in Italy, and the organization of a dairy cattle farm. The course will also deepen the links between animal feeding and quality of products.

### **COURSE DELIVERY**

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Lessons will be delivered with slides of the lessons and links to videos will be given to students.

If possible and in accordance with personal safety restrictions, the course include a visit to a dairy farm

### **LEARNING ASSESSMENT METHODS**

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The final exam will be a written test; students will be asked to answer to an appropriate number of

questions

## **PROGRAM**

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- 1) General data on milk production, composition and quality
- 2) The milk supply chain in Italy: from farm to consumer
- 3) Breeding techniques: extensive and intensive. Animal grouping in dairy cattle farms.
- 4) Dairy cattle nutrition: effects of diet composition on milk quality
- 5) Videos or visit to farms and interview to breeder

## **SUGGESTED TEXTBOOKS AND READINGS**

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Links to the main topics of the course will be given to students

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=7zbn](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=7zbn)

# Basics and sustainable nutrition

## *Elementi di nutrizione e nutrizione sostenibile*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof.ssa Simona Bo (Lecturer) Prof. Giovanni Abbate Daga (Lecturer)
Teacher contacts:	0116335543/6036, simona.bo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	3
Course SSD (disciplinary sector):	MED/49 - scienze tecniche dietetiche applicate
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=n0oq](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=n0oq)

## Basics and sustainable nutrition - Practice exercises

### *Elementi di nutrizione e nutrizione sostenibile - Esercitazioni*

Academic year:	2018/2019
Course ID:	---
Teacher:	Dott.ssa Valentina Ponso (Lecturer)
Teacher contacts:	n/d, valentina.ponso@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	MED/49 - scienze tecniche dietetiche applicate
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

#### **COURSE OBJECTIVES**

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#### **COURSE AIMS**

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#### **COURSE DELIVERY**

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#### **LEARNING ASSESSMENT METHODS**

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#### **PROGRAM**

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#### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=acx4](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=acx4)

# Cereals supply chain

## *Filiere di approvvigionamento dei prodotti cerealicoli*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Amedeo Reyneri (Lecturer)
Teacher contacts:	0116708778, amedeo.reyneri@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/02 - agronomia e coltivazioni erbacee
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=zluv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=zluv)

# Clinical Pathology: metabolic diseases

## *Patologia clinica: malattie metaboliche*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Paolo Cavallo Perin (Lecturer)
Teacher contacts:	0116708473, paolo.cavalloperin@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	MED/09 - medicina interna
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=z950](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=z950)

# Dietary supplements and functional foods

## *Integratori, prodotti dietetici e alimenti funzionali*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	CHIM/08 - chimica farmaceutica
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Oral

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof.ssa Sabine E. KULLING (5 hours) - Max Rubner-Institut - Safety and Quality of Fruit and Vegetables Department

Module Lecturer - Prof. Massimo DELLEDONNE (5 hours) - Università degli Studi di Verona,  
Dipartimento di Biotecnologie

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=t7tr](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=t7tr)

# Digestive system physiology

## *Fisiologia apparato digerente*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof.ssa Marilena Durazzo (Lecturer)
Teacher contacts:	0116335541-6708473, marilena.durazzo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	MED/09 - medicina interna
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=xddv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=xddv)

# Engineering and sensors

## *Ingegneria e sensoristica*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Paolo Gay (Lecturer)
Teacher contacts:	0116708620, paolo.gay@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/09 - meccanica agraria
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=kszq](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=kszq)

# Food Additives and Contaminants

## *Additivi e contaminanti alimentari*

Academic year:	2018/2019
Course ID:	---
Teacher:	Dott. Erica Liberto (Lecturer)
Teacher contacts:	0116707134, erica.liberto@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	CHIM/10 - chimica degli alimenti
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

The objectives of the module are designed to acquire knowledge and skills in the field of food additives and contaminants

### **COURSE AIMS**

Students acquire knowledge tools of the most important classes of chemical food additives, their technological use also driven by current EU legislation for the adding in certain food preparations and for a sustainable use. In addition students will have notions on food contaminants, their presence or delivery in food, approaches to limit and control them also from a EU legislation point of view .

### **COURSE DELIVERY**

The course will be organized in lectures and seminars delivered by experts in different fields. Visits to production plants will be also included

### **LEARNING ASSESSMENT METHODS**

Written examination on lessons topics.

Written examination on lessons topics.

Example:

1. General Question about food safety, risk management, food additives (classify colorants and

examples, positive list, safety assessment)

2. General Question about food contaminants (by process contaminants&examples of mitigation tools, discussion on food contaminants&examples)

## **SUPPORT ACTIVITIES**

Technical visit and themed seminars

## **PROGRAM**

General view on food safety. Food additives: definition, general EU framework, food colors, sweeteners, food additives other than colors and sweeteners: preservatives, emulsifiers, stabilizers, flavor enhancers. Flavoring. Food contaminants: pesticides, animal drug residues, metals, contaminants from packaging, from food contact material, by processing.

## **SUGGESTED TEXTBOOKS AND READINGS**

Teacher's lecture notes

H.D. Belitz, W. Grosh, P. Shieberle. Food Chemistry. Ed Springer (English Edition)

A.L.Branen, P.M.Davidson, Seppo Salminen, J.H. Thorngate III. Food Additives. Ed. Marcel&Dekker

## **NOTE**

Module Lecturer - Dott. Francesco CUBADDA (5 hours) - Istituto Superiore di Sanità, Roma

Module Lecturer - Prof.ssa Sabrina MORET (5 hours) - Università degli studi di Udine,  
Dipartimento di Scienze Agroalimentari, Ambientali e Animali

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=83y9](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=83y9)

# Food Chemistry

## *Chemical Analysis of Food*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Lecturer) Prof. Clara Cena (Lecturer)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	3
Course SSD (disciplinary sector):	CHIM/10 - chimica degli alimenti
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written

### **PREREQUISITES**

Chemical Analysis of Food requires basic knowledge on fundamental disciplines such as: General and Inorganic Chemistry, Organic Chemistry, Biochemistry, Analytical Chemistry and Physical Chemistry.

### **COURSE OBJECTIVES**

The student-based learning objectives of this course include knowledge on the procedures and practices for reliable chemical characterization of food (raw material, semi-finished products and final products) in view of its quality assessment (sensory quality, nutritional quality and when applicable health claims) and its safety (residues and contaminants analysis).

General framework of EU legislation on food safety and quality will be also introduced providing students of practical tools for real-world application of basic concepts in the perspective of laboratory/method accreditation (according to ISO 17025) and methods validation.

### **COURSE AIMS**

Understand the chemistry underlying the principles of measurement for organic compounds in complex matrices: sample preparation (extraction, purification, pre-concentration), separation (liquid chromatography and gas chromatography) and detection (Mass Spectrometry - MS). Knowledge about principles of method validation (Commission Decision 657/2002) and accreditation according to ISO 17025.

Perspectives and new "omics" in food: foodomics and sensometabolomics (the latter explored by a dedicated course held by Prof. Schieberle). Understand the different analytical approach when risks related evaluation is involved (food-native toxicant, contaminants, residues etc.).

### **COURSE DELIVERY**

The course will be organized in lectures and seminars delivered by experts in different fields. Visits to official laboratories and private accredited laboratories will be also included.

## **LEARNING ASSESSMENT METHODS**

Written examination on lessons topics.

Example:

1. Open Question on a Course Topic - chosen by the student
2. General Question about: Accreditation, General Concepts of Method Validation, Sample Preparation Strategies, Mass Spectrometry, Foodomics, Proteomics, Hyphenated Techniques, Etc...

## **SUPPORT ACTIVITIES**

Seminars and visits to official laboratories and private accredited laboratories will be also programmed.

## **PROGRAM**

The module is organized in Units.

U1 - Introduction to Food Analysis, general concepts, classical vs. advanced food analysis methodologies. Foodomics: principles and techniques, a global perspective.

U2 - Accreditation: legislation and basic concepts. Method Validation: general aspects, specific application fields, method performance parameters, practical examples.

U3 - Food Analysis methods:

- a) Sample preparation: classical methods and miniaturized techniques.
- b) Mass Spectrometry: basic concepts, ionization modes, analyzers and tandem mass spectrometry experiments.
- c) Chromatography: overview of basic concepts, gas chromatography and liquid chromatography, instrumentation and applications.

U4 - Hyphenated techniques: GC-MS, GCXGC-MS, SPME-GC-MS, LC-MS/MS etc.. Principles and potentials in advanced food analysis applications.

U5 - Overview of applications

## **SUGGESTED TEXTBOOKS AND READINGS**

H.D. Belitz, W. Grosh, P. Shieberle. Food Chemistry. Ed Springer (English Edition)

Ed. Yolanda Picò. CHEMICAL ANALYSIS OF FOOD: TECHNIQUES AND APPLICATIONS. Elsevier, doi: 10.1016/B978-0-12-384862-8.00011-X

Edmond de Hoffmann and Vincent Stroobant MASS SPECTROMETRY. PRINCIPLES AND APPLICATIONS John Wiley & Sons Ltd Ed. 2007 (Third Edition)

## NOTE

Module Lecturer - Prof.ssa Clara CENA

Course objectives: The goal of the course is to provide students with knowledge in the field of food products, distinguished from common foods, which are intended to supplement the diet either with nutrients or with compounds with "physiological" activity, favoring the homeostasis of the organism.

Program: Information is given about the settlement of claims, that is the beneficial properties that these products can boast, and about the procedure for their approval, including an in-depth analysis of the opinions of the Panel of experts issued by the EFSA regulatory agency, especially regarding botanicals as ingredients.

Examples of commercial products are discussed with the students to analyze the rationale underlying their formulation.

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=fmg5](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=fmg5)

# Food labelling

## *Etichettatura dei prodotti alimentari*

Academic year:	2018/2019
Course ID:	---
Teacher:	Erica Varese (Lecturer)
Teacher contacts:	011 - 670 57 91, erica.varese@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	SECS-P/13 - scienze merceologiche
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qdze](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qdze)

# Food microbiology

## *Microbiologia delle trasformazioni alimentari*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Luca Simone Cocolin (Lecturer)
Teacher contacts:	011-670 8553, lucasimone.cocolin@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/16 - microbiologia agraria
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=sxqj](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=sxqj)

# Food processing and technology I

## *Processi delle tecnologie alimentari I*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Sam SAGUY - Institute of Biochemistry, Food Science and Nutrition,  
Robert H. Smith Faculty of Agriculture, Food and Environment, Hebrew University of

Jerusalem

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qxb9](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qxb9)

# Food processing and technology II

## *Processi delle tecnologie alimentari II*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Dott.ssa Francesca FAVA (5 hours) - Fondazione Edmund Mach di San Michele all'Adige, unità di Ricerca Nutrizione e Nutrigenomica

Module Lecturer - Dott.ssa Urska VRHOVSEK (5 hours) - Fondazione Edmund Mach di San Michele all'Adige, Unità di ricerca Metabolomica

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=aev7](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=aev7)

# Food processing and technology III

## *Processi delle tecnologie alimentari III*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Luciano PIERGIOVANNI - Università degli studi di Milano, Dipartimento di Scienze per gli Alimenti, la Nutrizione e l'Ambiente

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=221a](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=221a)

# Foods from GMO

## *Alimenti da organismi geneticamente modificati*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Massimo Emilio Maffei (Lecturer)
Teacher contacts:	0116705967, massimo.maffei@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	3
Course SSD (disciplinary sector):	BIO/04 - fisiologia vegetale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=Indr](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=Indr)

# Fruits supply chain

## *Filiere di approvvigionamento dei prodotti frutticoli*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Gabriele Loris Beccaro (Lecturer)
Teacher contacts:	011 6708802, gabriele.beccaro@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/03 - arboricoltura generale e coltivazioni arboree
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=3lgp](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=3lgp)

## Integrated Course - Chemical composition and functional properties of raw material and foods

### *Caratterizzazione chimica e funzionale di materie prime e alimenti*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Coordinator)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	
Type:	Basic
Credits/recognition:	12
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari BIO/02 - botanica sistematica BIO/04 - fisiologia vegetale CHIM/08 - chimica farmaceutica CHIM/10 - chimica degli alimenti
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course modules:

- Dietary supplements and functional foods
- Food Additives and Contaminants
- Food Chemistry
- Foods from GMO
- Microbiological analysis
- Sensory analysis I

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=2qpv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=2qpv)

## Dietary supplements and functional foods

### *Integratori, prodotti dietetici e alimenti funzionali*

Academic year:	2018/2019
Course ID:	---
Teachers:	Prof. Chiara Emilia Irma Cordero (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	CHIM/08 - chimica farmaceutica
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory

Type of examination:	Oral
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## COURSE OBJECTIVES

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## COURSE AIMS

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## COURSE DELIVERY

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## LEARNING ASSESSMENT METHODS

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## PROGRAM

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## SUGGESTED TEXTBOOKS AND READINGS

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## NOTE

Module Lecturer - Prof.ssa Sabine E. KULLING (5 hours) - Max Rubner-Institut - Safety and Quality of Fruit and Vegetables Department

Module Lecturer - Prof. Massimo DELLEDONNE (5 hours) - Università degli Studi di Verona, Dipartimento di Biotecnologie

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=t7tr](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=t7tr)

# Food Additives and Contaminants

## *Additivi e contaminanti alimentari*

Academic year:	2018/2019
Course ID:	---
Teacher:	Dott. Erica Liberto (Lecturer)
Teacher contacts:	0116707134, erica.liberto@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	CHIM/10 - chimica degli alimenti
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

The objectives of the module are designed to acquire knowledge and skills in the field of food additives and contaminants

### **COURSE AIMS**

Students acquire knowledge tools of the most important classes of chemical food additives, their technological use also driven by current EU legislation for the adding in certain food preparations and for a sustainable use. In addition students will have notions on food contaminants, their presence or delivery in food, approaches to limit and control them also from a EU legislation point of view .

### **COURSE DELIVERY**

The course will be organized in lectures and seminars delivered by experts in different fields. Visits to production plants will be also included

### **LEARNING ASSESSMENT METHODS**

Written examination on lessons topics.

Written examination on lessons topics.

Example:

1. General Question about food safety, risk management, food additives (classify colorants and

examples, positive list, safety assessment)

2. General Question about food contaminants (by process contaminants&examples of mitigation tools, discussion on food contaminants&examples)

## **SUPPORT ACTIVITIES**

Technical visit and themed seminars

## **PROGRAM**

General view on food safety. Food additives: definition, general EU framework, food colors, sweeteners, food additives other than colors and sweeteners: preservatives, emulsifiers, stabilizers, flavor enhancers. Flavoring. Food contaminants: pesticides, animal drug residues, metals, contaminants from packaging, from food contact material, by processing.

## **SUGGESTED TEXTBOOKS AND READINGS**

Teacher's lecture notes

H.D. Belitz, W. Grosh, P. Shieberle. Food Chemistry. Ed Springer (English Edition)

A.L.Branen, P.M.Davidson, Seppo Salminen, J.H. Thorngate III. Food Additives. Ed. Marcel&Dekker

## **NOTE**

Module Lecturer - Dott. Francesco CUBADDA (5 hours) - Istituto Superiore di Sanità, Roma

Module Lecturer - Prof.ssa Sabrina MORET (5 hours) - Università degli studi di Udine,

Dipartimento di Scienze Agroalimentari, Ambientali e Animali

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=83y9](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=83y9)

# Food Chemistry

## *Chemical Analysis of Food*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Lecturer) Prof. Clara Cena (Lecturer)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	3
Course SSD (disciplinary sector):	CHIM/10 - chimica degli alimenti
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written

### **PREREQUISITES**

Chemical Analysis of Food requires basic knowledge on fundamental disciplines such as: General and Inorganic Chemistry, Organic Chemistry, Biochemistry, Analytical Chemistry and Physical Chemistry.

### **COURSE OBJECTIVES**

The student-based learning objectives of this course include knowledge on the procedures and practices for reliable chemical characterization of food (raw material, semi-finished products and final products) in view of its quality assessment (sensory quality, nutritional quality and when applicable health claims) and its safety (residues and contaminants analysis).

General framework of EU legislation on food safety and quality will be also introduced providing students of practical tools for real-world application of basic concepts in the perspective of laboratory/method accreditation (according to ISO 17025) and methods validation.

### **COURSE AIMS**

Understand the chemistry underlying the principles of measurement for organic compounds in complex matrices: sample preparation (extraction, purification, pre-concentration), separation (liquid chromatography and gas chromatography) and detection (Mass Spectrometry - MS). Knowledge about principles of method validation (Commission Decision 657/2002) and accreditation according to ISO 17025.

Perspectives and new "omics" in food: foodomics and sensometabolomics (the latter explored by a dedicated course held by Prof. Schieberle). Understand the different analytical approach when risks related evaluation is involved (food-native toxicant, contaminants, residues etc.).

### **COURSE DELIVERY**

The course will be organized in lectures and seminars delivered by experts in different fields. Visits to official laboratories and private accredited laboratories will be also included.

## **LEARNING ASSESSMENT METHODS**

Written examination on lessons topics.

Example:

1. Open Question on a Course Topic - chosen by the student
2. General Question about: Accreditation, General Concepts of Method Validation, Sample Preparation Strategies, Mass Spectrometry, Foodomics, Proteomics, Hyphenated Techniques, Etc...

## **SUPPORT ACTIVITIES**

Seminars and visits to official laboratories and private accredited laboratories will be also programmed.

## **PROGRAM**

The module is organized in Units.

U1 - Introduction to Food Analysis, general concepts, classical vs. advanced food analysis methodologies. Foodomics: principles and techniques, a global perspective.

U2 - Accreditation: legislation and basic concepts. Method Validation: general aspects, specific application fields, method performance parameters, practical examples.

U3 - Food Analysis methods:

- a) Sample preparation: classical methods and miniaturized techniques.
- b) Mass Spectrometry: basic concepts, ionization modes, analyzers and tandem mass spectrometry experiments.
- c) Chromatography: overview of basic concepts, gas chromatography and liquid chromatography, instrumentation and applications.

U4 - Hyphenated techniques: GC-MS, GCXGC-MS, SPME-GC-MS, LC-MS/MS etc.. Principles and potentials in advanced food analysis applications.

U5 - Overview of applications

## **SUGGESTED TEXTBOOKS AND READINGS**

H.D. Belitz, W. Grosh, P. Shieberle. Food Chemistry. Ed Springer (English Edition)

Ed. Yolanda Picò. CHEMICAL ANALYSIS OF FOOD: TECHNIQUES AND APPLICATIONS. Elsevier, doi: 10.1016/B978-0-12-384862-8.00011-X

Edmond de Hoffmann and Vincent Stroobant MASS SPECTROMETRY. PRINCIPLES AND APPLICATIONS John Wiley & Sons Ltd Ed. 2007 (Third Edition)

## NOTE

Module Lecturer - Prof.ssa Clara CENA

Course objectives: The goal of the course is to provide students with knowledge in the field of food products, distinguished from common foods, which are intended to supplement the diet either with nutrients or with compounds with "physiological" activity, favoring the homeostasis of the organism.

Program: Information is given about the settlement of claims, that is the beneficial properties that these products can boast, and about the procedure for their approval, including an in-depth analysis of the opinions of the Panel of experts issued by the EFSA regulatory agency, especially regarding botanicals as ingredients.

Examples of commercial products are discussed with the students to analyze the rationale underlying their formulation.

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=fmg5](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=fmg5)

# Foods from GMO

## *Alimenti da organismi geneticamente modificati*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Massimo Emilio Maffei (Lecturer)
Teacher contacts:	0116705967, massimo.maffei@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	3
Course SSD (disciplinary sector):	BIO/04 - fisiologia vegetale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=Indr](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=Indr)

# Microbiological analysis

## *Analisi microbiologiche*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Giovanna Cristina Varese (Lecturer)
Teacher contacts:	011-6705984, cristina.varese@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	BIO/02 - botanica sistematica
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=f2dc](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=f2dc)

# Sensory analysis I

## *Caratterizzazione sensoriale degli alimenti I*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Dr. Peter SCHIEBERLE - German Research Centre for Food Chemistry  
, Leibniz Institut - Professor for food chemistry at the at the Technical University of Munich

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=gik3](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=gik3)

## Integrated Course - Food Health and Food Choice

### *Salute e Scelta degli alimenti*

Academic year:	2020/2021
Course ID:	---
Teacher:	
Teacher contacts:	
Year:	
Type:	Basic
Credits/recognition:	12
Course SSD (disciplinary sector):	AGR/16 - microbiologia agraria CHIM/10 - chimica degli alimenti M-PSI/06 - psicologia del lavoro e delle organizzazioni MED/49 - scienze tecniche dietetiche applicate
Delivery:	E-learning
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=hopx](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=hopx)

## Integrated Course - Food quality and Safety

### *Qualità e Sicurezza degli alimenti*

Academic year:	2020/2021
Course ID:	---
Teacher:	
Teacher contacts:	
Year:	
Type:	Basic
Credits/recognition:	14
Course SSD (disciplinary sector):	AGR/12 - patologia vegetale AGR/16 - microbiologia agraria CHIM/10 - chimica degli alimenti
Delivery:	E-learning
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=y63s](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=y63s)

## Integrated Course - Food System and Regulatory

### *Sistema alimentare e Normativa di riferimento*

Academic year:	2020/2021
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Lecturer)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	
Type:	Basic
Credits/recognition:	6
Course SSD (disciplinary sector):	AGR/16 - microbiologia agraria IUS/03 - diritto agrario SECS-P/02 - politica economica
Delivery:	E-learning
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=jv40](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=jv40)

## Integrated Course - Food Technologies

### *Processi di Trasformazione*

Academic year:	2019/2020
Course ID:	---
Teacher:	Prof. Marta Bertolino (Lecturer)
Teacher contacts:	011-6708686, marta.bertolino@unito.it
Year:	
Type:	Basic
Credits/recognition:	8
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari AGR/16 - microbiologia agraria BIO/10 - biochimica
Delivery:	E-learning
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=1e4x](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=1e4x)

## Integrated Course - Food technologies

### *Corso Integrato - Processi di trasformazione*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	12
Course SSD (disciplinary sector):	AGR/09 - meccanica agraria AGR/15 - scienze e tecnologie alimentari AGR/16 - microbiologia agraria SECS-P/01 - economia politica SECS-P/13 - scienze merceologiche
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course modules:

- Engineering and sensors
- Food labelling
- Food microbiology
- Food processing and technology I
- Food processing and technology II
- Food processing and technology III
- Microbiological control of food quality
- Quality control in food processing
- Sensory analysis II

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=f64b](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=f64b)

## Engineering and sensors

### *Ingegneria e sensoristica*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Paolo Gay (Lecturer)
Teacher contacts:	0116708620, paolo.gay@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/09 - meccanica agraria
Delivery:	Formal authority
Language:	English

Attendance:	Obligatory
Type of examination:	Written and oral (optional)

#### **COURSE OBJECTIVES**

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#### **COURSE AIMS**

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#### **COURSE DELIVERY**

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#### **LEARNING ASSESSMENT METHODS**

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#### **PROGRAM**

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#### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=kszq](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=kszq)

# Food labelling

## *Etichettatura dei prodotti alimentari*

Academic year:	2018/2019
Course ID:	---
Teacher:	Erica Varese (Lecturer)
Teacher contacts:	011 - 670 57 91, erica.varese@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	SECS-P/13 - scienze merceologiche
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qdze](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qdze)

# Food microbiology

## *Microbiologia delle trasformazioni alimentari*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Luca Simone Cocolin (Lecturer)
Teacher contacts:	011-670 8553, lucasimone.cocolin@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/16 - microbiologia agraria
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=sxqj](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=sxqj)

# Food processing and technology I

## *Processi delle tecnologie alimentari I*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Sam SAGUY - Institute of Biochemistry, Food Science and Nutrition,  
Robert H. Smith Faculty of Agriculture, Food and Environment, Hebrew University of

Jerusalem

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qxb9](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qxb9)

# Food processing and technology II

## *Processi delle tecnologie alimentari II*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Dott.ssa Francesca FAVA (5 hours) - Fondazione Edmund Mach di San Michele all'Adige, unità di Ricerca Nutrizione e Nutrigenomica

Module Lecturer - Dott.ssa Urska VRHOVSEK (5 hours) - Fondazione Edmund Mach di San Michele all'Adige, Unità di ricerca Metabolomica

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=aev7](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=aev7)

# Food processing and technology III

## *Processi delle tecnologie alimentari III*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Luciano PIERGIOVANNI - Università degli studi di Milano, Dipartimento di Scienze per gli Alimenti, la Nutrizione e l'Ambiente

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=221a](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=221a)

# Microbiological control of food quality

## *Controllo della qualità microbiologica degli alimenti*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Kalliopi Rantsiou (Lecturer)
Teacher contacts:	0116708870, kalliope.rantsiou@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/16 - microbiologia agraria
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qcmv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qcmv)

# Quality control in food processing

## *Controllo di qualità nei processi di trasformazione*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Lecturer) Prof. Marta Bertolino (Lecturer)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=sxjq](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=sxjq)

# Sensory analysis II

## *Caratterizzazione sensoriale degli alimenti II*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Dr. Peter SCHIEBERLE - German Research Centre for Food Chemistry  
, Leibniz Institut - Professor for food chemistry at the at the Technical University of Munich

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=8c2y](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=8c2y)

# Integrated Course - Nutrition and diet

## *Corso Integrato - Nutrizione e alimentazione*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof.ssa Simona Bo (Coordinator)
Teacher contacts:	0116335543/6036, simona.bo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	8
Course SSD (disciplinary sector):	MED/09 - medicina interna MED/13 - endocrinologia MED/49 - scienze tecniche dietetiche applicate
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

The knowledge of:

- the diseases and conditions related to malnutrition (both excessive and defective)
- body composition and anthropometry
- the energy balance and its measurement techniques
- food allergies
- nutrition and sports

### **COURSE AIMS**

Knowledge of: body composition; nutritional and energy requirements for the adult, the child, the pregnant women, the elderly and during sports; food allergy.

### **COURSE DELIVERY**

The course will be delivered during the first semester with lectures and exercises.

### **LEARNING ASSESSMENT METHODS**

The knowledge learned will be assessed through the writing of a brief paper on a topic assigned during the course and the oral exposure of the same through slides.

### **PROGRAM**

The lessons related to the topics described above will be combined with practice to improve learning.

## SUGGESTED TEXTBOOKS AND READINGS

Slides and material provided in class.

Course modules:

- Basics and sustainable nutrition
- Basics and sustainable nutrition - Practice exercises
- Clinical Pathology: metabolic diseases
- Digestive system physiology
- Nutrition and metabolic diseases

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=ivgi](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=ivgi)

## Basics and sustainable nutrition

### *Elementi di nutrizione e nutrizione sostenibile*

Academic year:	2018/2019
Course ID:	---
Teachers:	Prof.ssa Simona Bo (Lecturer) Prof. Giovanni Abbate Daga (Lecturer)
Teacher contacts:	0116335543/6036, simona.bo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	3
Course SSD (disciplinary sector):	MED/49 - scienze tecniche dietetiche applicate
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### COURSE OBJECTIVES

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### COURSE AIMS

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### COURSE DELIVERY

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### LEARNING ASSESSMENT METHODS

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### PROGRAM

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## SUGGESTED TEXTBOOKS AND READINGS

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=n0oq](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=n0oq)

## Basics and sustainable nutrition - Practice exercises

### *Elementi di nutrizione e nutrizione sostenibile - Esercitazioni*

Academic year:	2018/2019
Course ID:	---
Teacher:	Dott.ssa Valentina Ponso (Lecturer)
Teacher contacts:	n/d, valentina.ponso@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	MED/49 - scienze tecniche dietetiche applicate
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

#### **COURSE OBJECTIVES**

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#### **COURSE AIMS**

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#### **COURSE DELIVERY**

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#### **LEARNING ASSESSMENT METHODS**

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#### **PROGRAM**

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#### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=acx4](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=acx4)

# Clinical Pathology: metabolic diseases

## *Patologia clinica: malattie metaboliche*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Paolo Cavallo Perin (Lecturer)
Teacher contacts:	0116708473, paolo.cavalloperin@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	MED/09 - medicina interna
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=z950](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=z950)

# Digestive system physiology

## *Fisiologia apparato digerente*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof.ssa Marilena Durazzo (Lecturer)
Teacher contacts:	0116335541-6708473, marilena.durazzo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	MED/09 - medicina interna
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=xddv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=xddv)

# Nutrition and metabolic diseases

## *Nutrizione e patologie metaboliche*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof.ssa Simona Bo (Coordinator) Dott. Daniela Ghirardello (Tutor)
Teacher contacts:	0116335543/6036, simona.bo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	MED/13 - endocrinologia
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Paolo AJMONE MARSAN (5 hours) - Università Cattolica del Sacro Cuore - Piacenza, Dipartimento di Scienze animali, della nutrizione e degli alimenti - Novel -

omic technologies in sustainable food production

Module Lecturer - Dott. Kieran Michael TUOHY (5 hours) - Fondazione Edmund Mach di San Michele all'Adige, Dipartimento Qualità Alimentare e Nutrizione - The Gut Microbiota in health and disease  
- role of diet

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=3uq3](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=3uq3)

## Integrated Course - Supply of animal and vegetable raw materials

### *Corso Integrato - Approvvigionamenti materie prime animali e vegetali*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Tiziana Civera (Coordinator)
Teacher contacts:	+39 0116709214, tiziana.civera@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	8
Course SSD (disciplinary sector):	AGR/02 - agronomia e coltivazioni erbacee AGR/03 - arboricoltura generale e coltivazioni arboree AGR/18 - nutrizione e alimentazione animale VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

Course modules:

- Animal products supply chain - Eggs
- Animal products supply chain - Milk
- Cereals supply chain
- Fruits supply chain
- Quality control of supply of animal raw materials
- Quality control of supply of animal raw materials I
- Quality control of supply of animal raw materials II

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=joeo](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=joeo)

## Animal products supply chain - Eggs

### *Filiere di approvvigionamento dei prodotti di origine animale (Uova)*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Achille Schiavone (Lecturer)
Teacher contacts:	+39 0116709208, achille.schiavone@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/18 - nutrizione e alimentazione animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

## **COURSE OBJECTIVES**

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## **COURSE AIMS**

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## **COURSE DELIVERY**

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## **LEARNING ASSESSMENT METHODS**

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## **PROGRAM**

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## **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=cml5](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=cml5)

## Animal products supply chain - Milk

### *Filiere di approvvigionamento dei prodotti di origine animale (Latte)*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Riccardo Fortina (Lecturer)
Teacher contacts:	0116708580, riccardo.fortina@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/18 - nutrizione e alimentazione animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

#### **COURSE OBJECTIVES**

The course is aimed at providing the student with a general knowledge of the milk supply chain, from farmer to consumer. The bases for proper feeding and rationing of dairy cattle are also provided. Videos or, if possible, a visit to a dairy cattle farm and an interview to the breeder will provide the informations for understanding the main opportunities and constraints of dairy sector.

#### **COURSE AIMS**

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The student will be able to understand the main characteristics, opportunities and problems of the milk supply chain in Italy, and the organization of a dairy cattle farm. The course will also deepen the links between animal feeding and quality of products.

#### **COURSE DELIVERY**

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Lessons will be delivered with slides of the lessons and links to videos will be given to students.

If possible and in accordance with personal safety restrictions, the course include a visit to a dairy farm

#### **LEARNING ASSESSMENT METHODS**

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The final exam will be a written test; students will be asked to answer to an appropriate number of

questions

## **PROGRAM**

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- 1) General data on milk production, composition and quality
- 2) The milk supply chain in Italy: from farm to consumer
- 3) Breeding techniques: extensive and intensive. Animal grouping in dairy cattle farms.
- 4) Dairy cattle nutrition: effects of diet composition on milk quality
- 5) Videos or visit to farms and interview to breeder

## **SUGGESTED TEXTBOOKS AND READINGS**

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Links to the main topics of the course will be given to students

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=7zbn](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=7zbn)

# Cereals supply chain

## *Filiere di approvvigionamento dei prodotti cerealicoli*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Amedeo Reyneri (Lecturer)
Teacher contacts:	0116708778, amedeo.reyneri@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/02 - agronomia e coltivazioni erbacee
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=zluv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=zluv)

# Fruits supply chain

## *Filiere di approvvigionamento dei prodotti frutticoli*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Gabriele Loris Beccaro (Lecturer)
Teacher contacts:	011 6708802, gabriele.beccaro@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/03 - arboricoltura generale e coltivazioni arboree
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=3lgp](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=3lgp)

# Quality control of supply of animal raw materials

## *Controllo di qualità degli approvvigionamenti di origine animale*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Alessandra Dalmaso (Lecturer)
Teacher contacts:	+39 0116709215, alessandra.dalmaso@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qtyo](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qtyo)

# Quality control of supply of animal raw materials I

## *Controllo di qualità degli approvvigionamenti di origine animale I*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Tiziana Civera (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	+39 0116709214, tiziana.civera@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	0.5
Course SSD (disciplinary sector):	VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Furio BRIGHENTI - Università degli Studi di Parma, Dipartimento di Scienze degli Alimenti e del Farmaco



## Quality control of supply of animal raw materials II

### *Controllo di qualità degli approvvigionamenti di origine animale II*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Tiziana Civera (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	+39 0116709214, tiziana.civera@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	0.5
Course SSD (disciplinary sector):	VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

#### **COURSE OBJECTIVES**

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#### **COURSE AIMS**

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#### **COURSE DELIVERY**

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#### **LEARNING ASSESSMENT METHODS**

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#### **PROGRAM**

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#### **SUGGESTED TEXTBOOKS AND READINGS**

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#### **NOTE**

Module Lecturer - Prof. Luc TAPPY - Faculté de biologie et médecine - Université de Lausanne

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=hmn1](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=hmn1)

# Microbiological analysis

## *Analisi microbiologiche*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Giovanna Cristina Varese (Lecturer)
Teacher contacts:	011-6705984, cristina.varese@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	BIO/02 - botanica sistematica
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=f2dc](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=f2dc)

# Microbiological control of food quality

## *Controllo della qualità microbiologica degli alimenti*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Kalliopi Rantsiou (Lecturer)
Teacher contacts:	0116708870, kalliopi.rantsiou@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/16 - microbiologia agraria
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qcmv](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qcmv)

# Nutrition and metabolic diseases

## *Nutrizione e patologie metaboliche*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof.ssa Simona Bo (Coordinator) Dott. Daniela Ghirardello (Tutor)
Teacher contacts:	0116335543/6036, simona.bo@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	MED/13 - endocrinologia
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Paolo AJMONE MARSAN (5 hours) - Università Cattolica del Sacro Cuore - Piacenza, Dipartimento di Scienze animali, della nutrizione e degli alimenti - Novel -

omic technologies in sustainable food production

Module Lecturer - Dott. Kieran Michael TUOHY (5 hours) - Fondazione Edmund Mach di San Michele all'Adige, Dipartimento Qualità Alimentare e Nutrizione - The Gut Microbiota in health and disease

- role of diet

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=3uq3](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=3uq3)

# Quality control in food processing

## *Controllo di qualità nei processi di trasformazione*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Vincenzo Gerbi (Lecturer) Prof. Marta Bertolino (Lecturer)
Teacher contacts:	0116708552, vincenzo.gerbi@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	2
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=sxjq](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=sxjq)

# Quality control of supply of animal raw materials

## *Controllo di qualità degli approvvigionamenti di origine animale*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Alessandra Dalmaso (Lecturer)
Teacher contacts:	+39 0116709215, alessandra.dalmaso@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=qtyo](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=qtyo)

# Quality control of supply of animal raw materials I

## *Controllo di qualità degli approvvigionamenti di origine animale I*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Tiziana Civera (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	+39 0116709214, tiziana.civera@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	0.5
Course SSD (disciplinary sector):	VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Furio BRIGHENTI - Università degli Studi di Parma, Dipartimento di Scienze degli Alimenti e del Farmaco



## Quality control of supply of animal raw materials II

### *Controllo di qualità degli approvvigionamenti di origine animale II*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Tiziana Civera (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	+39 0116709214, tiziana.civera@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	0.5
Course SSD (disciplinary sector):	VET/04 - ispezione degli alimenti di origine animale
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

#### **COURSE OBJECTIVES**

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#### **COURSE AIMS**

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#### **COURSE DELIVERY**

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#### **LEARNING ASSESSMENT METHODS**

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#### **PROGRAM**

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#### **SUGGESTED TEXTBOOKS AND READINGS**

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#### **NOTE**

Module Lecturer - Prof. Luc TAPPY - Faculté de biologie et médecine - Université de Lausanne

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=hmn1](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=hmn1)

# Sensory analysis I

## *Caratterizzazione sensoriale degli alimenti I*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Dr. Peter SCHIEBERLE - German Research Centre for Food Chemistry  
, Leibniz Institut - Professor for food chemistry at the at the Technical University of Munich

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=gik3](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=gik3)

# Sensory analysis II

## *Caratterizzazione sensoriale degli alimenti II*

Academic year:	2018/2019
Course ID:	---
Teacher:	Prof. Chiara Emilia Irma Cordero (Coordinator) Dott. Daniela Ghirardello (Assistant technician)
Teacher contacts:	0116707172, chiara.cordero@unito.it
Year:	1st year
Type:	Basic
Credits/recognition:	1
Course SSD (disciplinary sector):	AGR/15 - scienze e tecnologie alimentari
Delivery:	Formal authority
Language:	English
Attendance:	Obligatory
Type of examination:	Written and oral (optional)

### **COURSE OBJECTIVES**

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### **COURSE AIMS**

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### **COURSE DELIVERY**

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### **LEARNING ASSESSMENT METHODS**

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### **PROGRAM**

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### **SUGGESTED TEXTBOOKS AND READINGS**

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### **NOTE**

Module Lecturer - Prof. Dr. Peter SCHIEBERLE - German Research Centre for Food Chemistry  
, Leibniz Institut - Professor for food chemistry at the at the Technical University of Munich

Course webpage: [https://www.masterferrero.unito.it/do/corsi.pl/Show?\\_id=8c2y](https://www.masterferrero.unito.it/do/corsi.pl/Show?_id=8c2y)

