FOOD, NUTRITION, SUSTAINABILITY AND WELLBEING.

THE "*MED-IN-ITALY*" EXPERIENCE

Advanced International Course (AIC)

In collaboration with:

- *Sapienza University of Rome*;
- *Italian Ministry of Agriculture* - Central Inspectorate of Quality Protection and Fraud Repression (ICQRF);
- *Arma dei Carabinieri General Command for Agro-food Protection*;
- *Council for Agricultural Research and Analysis of Agricultural Economics* (CREA)

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General Information

Higher education Institution

University - Advanced International Course

Program held in

English

Credits

60 ECTS credits

Planned Duration

12 MONTHS

Methodology

Online course + webinars

Tuition Fees

€ 2.500 /€ 2.200

Background

Food, nutrition, sustainability, and well-being represent a virtuous trail that significantly impacts the health status of the individual, the community, and the planet according to One Health logic.

The agri-food and nutrition sector, along the entire supply chain, should on the one hand, ensure food security and safety, respect the environment and human and natural resources also for future generations, enhance the history and culture of the territories, and contribute to their valorisation and future development.

Italy, for its history, its culture, and its intimate link with the Mediterranean diet, represents the best example of an integration of four sustainability benefits presented in parallel: major health and nutrition benefits, low environmental impact and richness in biodiversity, high socio-cultural food values, and positive local economic returns (Dernini S, et al. Public Health Nutr. 2017;20(7):1322-1330. doi: https://doi.org/10.1017/S1368980016003177).
The Mediterranean diet overcomes the breakdown in communication between scientists and literary intellectuals, the sharp dichotomy between scientific research and the humanities, and the political, environmental, and cultural problems that this chasm creates for society as a whole (*Charles Percy Snow* - Leicester 1905 – London 1980). Moreover, the Mediterranean diet is not immutable but can understand, welcome and encompass new experiences, new foods, and new traditions as demonstrated by history. All this is in turn inevitable, given the role that the Mediterranean Sea has represented and continues to represent, as a

crossroads of cultures, histories, also, traditions and eating habits.

The socio-cultural aspects are well described in the UNESCO declaration which sanctioned in 2013 the inscription of the Mediterranean Diet on the Representative List of the **Intangible Cultural Heritage of Humanity** (https://ich.unesco.org/en/RL/mediterranean-diet -00884).
Attention is paid to some aspects that characterize the One Health approach defined through an overall interpretation of the concept of sustainability: the involvement of "skills, knowledge, rituals, symbols, and traditions concerning crops, harvesting, fishing, animal husbandry, conservation, processing, cooking, and particularly the sharing and consumption of food"; the role of conviviality which is the "foundation of the cultural identity and continuity of communities throughout the Mediterranean basin"; the capacity to "emphasize values of hospitality, neighbourhood, intercultural dialogue and creativity, and a way of life guided by respect for diversity"; the role of "women who play an important role in transmitting knowledge of the Mediterranean diet".
Italy probably represents the best example of the integration of the socio-cultural aspects of the Mediterranean model. The food and gastronomic traditions integrate well with the landscape and culture of the Country. The history of Italy is also made up of contacts with the many peoples who met on our peninsula and who contributed to building the historical, artistic and agri-food heritage that represents us throughout the world.

The agri-food sector, also due to its intimate link with the history and culture of the territories, can represent an important driving force useful for the economic valorisation of individual skills and territories. Typical products are becoming more and more an element of differentiation and qualification of entire territories, becoming one of their main resources and the real tourist attraction factor. Moreover, the activation of synergies and commercial relations with the local economic system (for example with catering, trade, and crafts) may further contribute to the economic development of the territories (Pierluigi P et al. ESJ, 2022; 18: (1), 1. https://doi.org/10.19044/esj.2022.v18n1p1). Once the EU has perceived the strategic importance of local peculiarities to support rural development and high-quality productions, it has emphasized the need for more place-sensitive agri-food policies, and the importance of socio-economic, historical, and cultural factors as transfers of intangible value-added is particularly evident in the agri-food sector (Vaquero-Piñeiro C. Bio-Based and Applied Economics. 2021; 10(2): 89–108. https://doi.org/10.36253/bae-9429). The Italian agri-food sector is further progressing by valorising territories, productions and skills that derive from old traditions or that are developed on the basis of new lines of research.

Food production is the major cause of global environmental change: agriculture occupies about 40% of global land, and food production is responsible for up to 30% of global greenhouse gas, emissions and 70% of freshwater use. The Mediterranean Diet pattern has been shown to have a better ecological footprint than current dietary habits in industrialized countries, particularly when compared to the Western dietary pattern. This is mainly due to the higher consumption of local and in-season plant-derived foods and lower consumption of animal products (Serra-Majem L, et al. Int J Environ Res Public Health. 2020;17(23):8758. https://doi.org/10.3390/ijerph17238758).
The Italian agri-food sector is further progressing by valorising territories, productions and skills that derive from old traditions or that are developed on the basis of new lines of research. A large part of the research that the Italian agri-food system is developing is dedicated to enabling sustainable development which should be protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.

The Mediterranean Diet represents the reference eating pattern model for many national and international guidelines aimed at promoting a healthy (and sustainable) diet. A huge number of studies have been conducted all over the world showing the capacity of the Mediterranean Diet to reduce the incidence and prevalence of most non-communicable diseases, to improve the aging process by reducing the fragilization process, and to positively affect comorbidity and mortality. Italy is developing educational and training activities in order to recover the heritage of the Mediterranean diet also for the purposes of more effective prevention of non-communicable diseases (NCDs).

Finally, the agri-food and nutrition system, and the extended perception of the Mediterranean Diet not only as a healthy dietary pattern, but as a sustainable dietary pattern embracing the important socio-cultural, economic, and environmental benefits of the diet, may contribute to the One Health approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. This approach recognizes that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent (https://www.who.int/health-topics/one-health#tab=tab_1).

1. Objectives

The Advanced International Course (AIC) on "*Food, nutrition, sustainability, and wellbeing. The Med-in-Italy experience",* has the general aim of forming professionals with advanced competencies for working in the field of agri-food and nutrition system considering all its specific aspects (socio-cultural, economic, environmental, and nutritional sustainability) following a One Health logic.
The Mediterranean Diet will represent, due to its specific characteristics, the polar star towards which the course will move, with a focus on its Italian way-of-eating declinations (the "*Med-in-Italy*").
The Course will integrate knowledge and skills relating to humanistic aspects (history and geography of territories and eating habits) with more technical ones (food chemistry, agronomy and food technologies, food science, human nutrition, economic and marketing sciences), and regulations (legislative and normative aspects).

2. Target Group

The Master's program is intended for:

- Professionals working in the healthcare area who aim to acquire knowledge and skills in the field of food sciences, dietetics and human nutrition.
- Managers, officials and employees working in public social and welfare facilities, kindergartens, public schools, universities.
- Consultants and experts in management, marketing and management of food service enterprises of schools, caterers, hotels, health care facilities, hospitals, clinics, nursing homes, senior centers.
- Consultants of agribusiness, pharmaceutical, and commercial enterprises in the field of food, nutrition and dietetics.
- Teachers working in the training of corporate, health, hotel and school catering personnel; social service workers, sports and wellness centers.
- Medical and scientific informants and sales technicians of the industry's product and service lines.
- Medical doctors, biologists, chemists, pharmacists, dietitians, psychologists, nurses, support teachers, business managers, experts working in the subject areas of the course.

3. Admissions Criteria

To be eligible to apply to the AIC programme, you must have completed a first-cycle (bachelor's or equivalent*) degree.
The proposed training methodology along with a clear and ample curricular program, is designed for those whose professional activity relates to health, industry or companies that want to specialize in the area of nutrition.

The AIC is especially designed for those with a degree in :

- agricultural sciences
- biological science
- food systems
- human medicine
- dietetics
- pharmacy
- pharmaceutical chemistry and technology
- chemistry
- movement science
- biotechnologies

The AIC is also suitable for those with a degree who wish to specialize in Nutrition and Diet due to their professional practice, who wish to update or broaden their knowledge in Nutrition and Diet, or who have a vested interest in the topic, as for:

- agriculture professionals
- rural industries professionals
- food industry professionals
- government officials
- international organisation employees
- researchers in food safety
- third sector employees

*Holders of a foreign qualification will be assessed on the basis of the Declaration of Value issued by the competent Authorities.

Excellent and proven knowledge of English language is requested.

4. Teaching Methodology

In support of the main activity represented by online lectures (asynchronous E-learning activities), web seminars will be held, an activity realised in synchronous mode, involving various types:

- thematic webinars, in which in-depth studies dedicated to certain topics of particular interest and topicality will be proposed, in order to make teaching more dynamic, promoting interactive discussion spaces between teachers and students;
- discussion webinars, will focus on theoretical topics drawn from the programme, on which course participants will be invited, to put forward their own views based on their experiences in their respective organisations, to promote proactive learning dynamics that can reveal the main implications and application potential of the theories studied.

Teaching takes into account the need to develop not only knowledge, but also the use of professional tools and behaviour, specifically for Modules IV, V, VI, XI and XII, with the following characteristics:

- field projects;
- activities aimed at testing the ability to apply methodologies and techniques in real-life situations; testimonies and case studies.

All Modules are graded through individual exams and *assignments*.

5. Faculty

The Course is developed in collaboration with:

- Sapienza University of Rome;
- UnitelmaSapienza;
- Italian Ministry of Agriculture - *Central Inspectorate of Quality Protection and Fraud Repression (ICQRF);*
- Arma dei Carabinieri Command for Agro-food Protection;
- CREA - *Council for Agricultural Research and Analysis of Agricultural Economics*.

AIC Board:
Luisa Mannina, Maurizio Muscaritoli, Lorenzo M. Donini - Sapienza University of Rome, Italy.

Faculty:
- Dr. Assenza Felice - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF);
- Dr. Carcangiu Roberto - IG Web International magazine for Chefs recipes and world renowned restaurants (Identità Golose web);
- Prof. Carnevale Sara – RD, Belcolle Hospital, Viterbo;

- Dr. Carpino Stefania - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF);
- Dr. De Bertoldi Silvia - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF);
- Prof. De Giusti Maria - Full professor in Applied Hygiene, University of Rome "Sapienza";
- Prof. Donini Lorenzo Maria - Full Professor of Food Sciences, University of Rome "Sapienza";
- Col. De Franceschi Amedeo – Head of Department Comando Generale of Carabinieri for Agro-food Protection;
- Prof. Frigerio Francesco - PhD in Endocrinology University of Rome "Sapienza";
- Prof. Gavrila Mihaela - Associate Professor of Sociology, University of Rome "Sapienza";
- Prof. Gigante Antonietta – Associate Professor of Internal Medicine University of Rome "Sapienza";
- Prof. Giusti Anna Maria – Assistant Professor of Biochemistry, University of Rome "Sapienza";
- Dr. Gualtieri Fabrizio - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF);
- Magg. Giannino Agostino – Special office, Comando Generale of Carabinieri for Agro-food Protection;
- Prof. Ingallina Cinzia – Associate Professor of Food Chemistry, University of Rome "Sapienza";
- Dr. Lamorte Simona Antonella - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF);
- Dr. Lombardi Marco - Journalist and film and food and wine critic for Rai Uno lecturer, University of Rome "Sapienza";
- Prof. Manes Fausto - lecturer University of Rome "Sapienza";
- Prof. Manetti Cesare - Associate professor Physical Chemistry, University of Rome "Sapienza";
- Prof. Mannina Luisa - Full professor of Food Chemistry, University of Rome "Sapienza";
- Prof. Merendino Nicolò - Associate Professor of Food Sciences, University of Tuscia;
- Prof. Molfino Alessio – Associate Professor of Internal Medicine, University of Rome "Sapienza";
- Prof. Muscaritoli Maurizio - Full Professor of Internal Medicine, University of Rome "Sapienza";

- Prof. Muzzioli Luca - Lecturer in Nutrition Science, University of Rome "Sapienza";
- Dr. Nicolini Joshua - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF);
- Prof. Perrone Ivan - Vivenda Cascina Soc. di Ristorazione collettiva (Catering Company);
- Prof. Poggiogalle Eleonora – Assistant Professor of Food Sciences, University of Rome "Sapienza";
- Prof. Reverberi Massimo – Full Professor of Phytopatogenic Biotecnology University of Rome "Sapienza";
- Prof. Rossi Laura - Council for Agricultural Research and Analysis of Agricultural Economics - CREA;
- Prof. Ruggeri Stefania - Council for Agricultural Research and Analysis of Agricultural Economics - CREA;
- Prof. Sabatino Alice – RD, University of Parma;
- Prof. Spano Mattia - PhD in Pharmacology University of Rome "Sapienza";
- Prof. Vania Andrea – Formerly Associate Professor of Paediatrics University of Rome "Sapienza";
- Prof. Wittenaar Jager Havier – Professor of Malnutrition and Healthy Ageing, Hanze University of Applied Sciences, Groningen, The Netherlands.

6. Capstone Project

Each participant is expected to develop a professionalising capstone project at the end of the AIC.
The duration of the capstone project corresponds to 250 hours (for **8 CFU/ECTS)** of activity on the part of the student, of overall commitment, i.e. research activity, study, interaction with the lecturer and tutor, drafting of the final thesis and final discussion.

The final dissertation will be submitted for evaluation and discussed in front of the Course Commission, for the award of the Course Diploma.
The grade shall be expressed in 110/110. The capstone project is graded based on structure, theoretical framework, argumentation, and value added.
As a positive assessment of the final dissertation by the Degree Committee, the University will issue the Advanced International Diploma in *"Food Nutrition Sustainability and Wellbeing. The "Med-in-Italy" Experience".*

7. Assessment and grading Criteria

All Modules are graded through individual assignments (Multiple Choice Quiz). Grades range from 5 (fail: < 60% correct answers), 6-7 (fairly good: 60-75% correct answers), 8-9 (76-90% correct answers) to 10 (excellent: >90% correct answers).

8. Enrolment Fee and Application

The course/master enrolment fee is € 2.500*.
For affiliated subjects, the course fee is € 2.200.
The amount is divisible into 3 instalments, upon enrolment € 600,00 with subsequent instalments at 30 and 60 days from the date of enrolment.

The application must be submitted https://www.unitelmasapienza.it/en/, through the specific "Enrolment" section.

**Please note that by current Inland Revenue regulations, it is required a stamp duty for enrolment and the two stamps for obtaining the qualification.*

9. Course Program

The course programme has 12 modules for a total of 52 CFU/ECTS.
Reference coordinators:

1) Luisa Mannina (Set 1: Modules 2, 4, 5, 6)
2) Lorenzo Maria Donini (Set 2: Modules 1, 3, 7, 12)
3) Maurizio Muscaritoli (Set 3: Modules 8, 9, 10, 11)

MODULE I - INTRODUCTORY CONCEPTS

Lorenzo M. Donini, Maurizio Muscaritoli – Università di Roma "Sapienza"

- The Domains of Human Nutrition (basic, applied, clinical): definition and aims – L.M. Donini
- Guidelines on terminology in Human Nutrition – M. Muscaritoli

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE II - NUTRITIONAL BIOCHEMISTRY

Luisa Mannina, Anna Maria Giusti – University of Rome "Sapienza"

- Nutrients (carbohydrates and dietary fibers, proteins, lipids) – L. Mannina
- Vitamins, minerals and water – L. Mannina

- Metabolism and its regulation – A.M. Giusti
- Metabolic integration – A.M. Giusti
- Intercellular and intracellular signals - L. Mannina
- Regulation of gene expression – L. Mannina
- Metabolic fate of carbohydrates - A.M. Giusti
- Metabolic fate of lipids – A.M. Giusti
- Metabolic fate of amino acids, nucleotides and other nitrogenous compounds – A.M. Giusti

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE III - PHYSIOLOGY AND PATHOPHYSIOLOGY IN HUMAN NUTRITION

Eleonora Poggiogalle, Francesco Frigerio, Andrea Vania, Antonietta Gigante
University of Rome "Sapienza"
Sara Carnevale, Belcolle Hospital, Viterbo
Harriët Jager Wittenaar - Hanze University of Applied Sciences, Groningen, The Netherlands.

- Anatomy and physiology of the digestive system - S. Carnevale
- Nutritional needs of the human organism – S. Carnevale
- Physiology of water – S. Carnevale
- Minerals and acid-base balance – F. Frigerio
- Intermediate metabolism – F. Frigerio
- Adaptation to starvation -– H. Jager Wittenaar
- Post-prandial status and stress – E. Poggiogalle
- Nutrition in physiological conditions - F. Frigerio
- Nutrition and pregnancy – S. Carnevale
- Nutrition and breastfeeding – S. Carnevale
- Nutrition in childhood and adolescence – F. Frigerio
- Nutrition and aging – H. Jager Wittenaar
- Role of nutrition in NCDs prevention – E. Poggiogalle
- Obesity – E. Poggiogalle
- Diabetes – E. Poggiogalle
- Arterial hypertension and CVD – F. Frigerio
- Dyslipidemias – E. Poggiogalle
- Osteoporosis – E. Poggiogalle
- Cancer – H. Jager Wittenaar
- Gender nutrition - S. Carnevale

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE IV - FOOD CATEGORIES

Cinzia Ingallina, Mattia Spano – University of Rome "Sapienza"

- Food categories – C. Ingallina
- Eggs and derivatives – C. Ingallina
- Fats and oils – C. Ingallina
- Milk and dairy products – C. Ingallina
- Meat and derivatives – C. Ingallina
- Fish and derivatives – C. Ingallina
- Cereals and legumes - C. Ingallina
- Vegetables, tubers, greens and fruit – C. Ingallina
- What do we mean when we say: Stimulants – C. Ingallina
- Sweeteners, condiments and spices – M. Spano
- Food additives & Food contaminats – M. Spano
- Antioxidants – M. Spano
- Ultra-processed food – M. Spano
- Dietary/nutraceutical supplements – M. Spano
- Foods for special medical purposes – M. Spano
- Foods intended for infants and young children early childhood – M. Spano
- Functional foods (Probiotic, prebiotic and symbiotic foods) and fortified foods. – M. Spano
- Novel foods – M. Spano

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE V - FOOD SAFETY, SECURITY AND QUALITY

Maria De Giusti, Massimo Reverberi, Fausto Manes – University of Rome "Sapienza"
Col. De Franceschi Amedeo, Capo Ufficio Comando Generale of Carabinieri for Agro-Food Protection,
Magg. Giannino Agostino, Ufficiale addetto, Comando Generale of Carabinieri for Agro-Food Protection;
Felice Assenza, *Stefania Carpino, Simona Antonella Lamorte* - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF)

- The concepts of food safety, security and quality – F. Manes
- Protecting the Italian market from the entry of counterfeit or "Italianised" food products as wheat, dairy, olive oil, canned tomato and honey - Col. De Franceschi Amedeo, Magg. Giannino Agostino

- Quality and food safety control: the Italian model - The role of ICQRF in food quality controls – F. Assenza
- Adoption of good reference practices, HACCP system, documented quality management system – The ICQRF laboratories activity – S. Carpino
- Food labelling: nutritional aspects – M. De Giusti
- Food labelling and the origin of country on products – S.A. Lamorte
- Control of standards for working environments, for the product, for the process and for the personnel existence of appropriate specifications [e.g. for: raw materials (including packaging materials), final products, intermediate/semi-finished products, supplier monitoring, site positioning, the accumulation, collection and disposal of waste material, hygiene and organizational standards for staff process control] – M. Reverberi
- Handling and storage of food to ensure safety and organoleptic characteristics – M. De Giusti
- Genetically modified foods and food safety – M. Reverberi

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE VI - ANALYSIS AND DESIGN OF A SUSTAINABLE FOOD SUPPLY CHAIN

Luca Muzzioli, Cesare Manetti - University of Rome "Sapienza"
Stefania Ruggeri, Laura Rossi – Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA)
Silvia de Bertoldi - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF)

- Understanding agricultural sustainability: definitions – L. Rossi
- Agriculture and food systems – L. Muzzioli
- United Nations 2030 Agenda for Sustainability – L. Rossi
- The three dimensions of sustainability: socio-cultural, environmental impact and economic development – S. de Bertoldi
- Sustainability for Gi products in relation to the new (EU) Reg. n. 2024/1143 – S. de Bertoldi
- Plant and animal production systems (2 lessons) – L. Muzzioli
- Tools for protection and management of land and resources, and innovative technologies to support agriculture, enhancement of land and agricultural production – C. Manetti
- Food supply chain "the Italian job" – L. Muzzioli
    - Fruits and vegetables
    - Cereals and legumes
    - Olive oil

  - Dairy products
  - Meat
  - Fish
  - Grapes and wines
- The Italian agri-food sector: challenges for the future – C. Manetti
- The impact of climate change on typical Italian products: facts and countermeasures – L. Rossi

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE VII - THE MEDITERRANEAN DIET AS A MODEL OF A HEALTHY AND SUSTAINABLE PATTERN

Lorenzo Maria Donini, Sara Carnevale, Alessio Molfino – University of Rome "Sapienza"
Nicolò Merendino – University of Tuscia

- Mediterranean diet components and their characteristics: N. Merendino
  - extra-virgin olive oil (EVOO)
  - legumes, cereals, and nuts
  - fruits and vegetables
  - dairy products
  - fish
  - wine
  - herbs, spices, garlic and onions
- Mediterranean Diet Pyramid and food combination – S. Carnevale
- Mediterranean diet and transcriptomics, metabolomics, epigenomics and genomics – N. Merendino
- Effects of the Mediterranean diet on disease pathways lipid-lowering effects – A. Molfino
  - protection against oxidative stress and inflammation
  - anticancer effects
  - antidiabetic effects
  - antiatherogenic effects
  - effects on autophagy
  - antimicrobial and antiviral effects
- Impact of Mediterranean Diet on healthy aging and longevity – L.M. Donini
- Mediterranean Diet and gut health – A. Molfino
- Mediterranean lifestyle: combined effects of diet and physical activity on public health – S. Carnevale
- The environmental impact of Mediterranean diet – L.M. Donini

- Mediterranean vs non-Mediterranean diets: analogies and diversities considering risks, benefits and environmental impact (e.g. Western diet, Vegetarian diet, Vegan diet, Nordic diet, "Flexible" diet, "climate" diet) – L.M. Donini

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE VIII - THE FIVE "S" OF THE ITALIAN WAY-OF-EATING

Cinzia Ingallina, Mattia Spano, Maurizio Muscaritoli, Mihaela Gavrila – University of Rome "Sapienza"

- Why the Italian food tradition represents an example of applied Mediterranean diet: the five "s" of the Italian way-of-eating:
  - **S**ustainability: low environmental impacts – C. Ingallina
  - **S**easonality: seasonal consumption of fresh, local and traditional products and respect of the plant life cycle – M. Spano
  - **S**afety/**S**ecurity: the impact of Italian way-of-eating on the epidemiology of NCDs – M Muscaritoli
  - **S**uperiority: richness in biodiversity, taste and culinary tradition – M. Muscaritoli
  - **S**ociality: conviviality, high sociocultural food values and positive local economic returns – M. Gavrila

Assessment: 3 MCQs/CFU (3 answers, only 1 correct)

MODULE IX-ALTERNATIVE PROTEIN SOURCES AND MUSCLE METABOLISM IN HEALTH AND DISEASE

Maurizio Muscaritoli, Eleonora Poggiogalle, Sara Carnevale – University of Rome "Sapienza"

- Protein intake and muscle synthesis – E. Poggiogalle
- Primary and secondary Sarcopenia – M. Muscaritoli
- Animal and vegetable proteins elicited different plasma aminoacidemia – M. Muscaritoli
- How to overcome imbalances in plant-based foods: the complementation between different vegetable protein – S. Carnevale
- Italian legumes- based- recipe for promoting muscle mass synthesis – S. Carnevale
- Protein isolates from plant for a sustainable nutrition in health and disease – E. Poggiogalle
- Alternative protein sources: a SWOT analysis - E. Poggiogalle

Assessment: 3 MCQs (3 answers, only 1 correct)

MODULE X - ALTERNATIVE PROTEIN SOURCES IN KIDNEY DISEASE PREVENTION AND TREATMENT

Maurizio Muscaritoli, Alice Sabatino – University of Rome "Sapienza"

- Protein intake and CKD – M. Muscaritoli
- The impact of animal proteins on kidney function – M. Muscaritoli
- The benefits of a plant-based diet in kidney disease – A. Sabatino
- The MED-REN Diet: an Italian model for Kidney Disease – A. Sabatino

Assessment: 3 MCQs/CFU (3 answers, only 1 correct)

MODULE XI - JOURNALISM, SOCIAL MEDIA AND COMMUNICATION

Mihaela Gavrila, Marco Lombardi – University of Rome "Sapienza"
Fabrizio Gualtieri - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF)

- The Mediterranean diet as an Intangible Cultural Heritage of Humanity – M. Gavrila
- Mediterranean diet in local tradition and history – M. Lombardi
- Implementing Mediterranean diet in everyday life worldwide (how to promote and defend it in the Mediterranean regions; how to mimic it in non-Mediterranean regions) - M Lombardi
- Promotion and enhancement of short supply chain: territories, companies and products – F. Gualtieri
- How to defend made in Italy food products (European quality marks) – F. Gualtieri
- The protection of quality food abroad and on the web (evocation, usurpation, italian sounding) – F. Gualtieri
- Fake news and dietary regimens (2 lessons) – M. Gavrila
- IT, artificial intelligence and nutrition in health and disease – M. Lombardi

Assessment: 3 MCQs/CFU (3 answers, only 1 correct)

Module XII - SUSTAINABLE FOOD CATERING

Luca Muzzioli, Lorenzo M. Donini – University of Rome "Sapienza"
Roberto Carcangiu – Identità golose web
Ivan Perrone – Vivenda Cascina Soc di Ristorazione collettiva

Joshua Nicolini - Central Bureau of Investigation for Quality Protection and Fraud Repression of Agri-Food Products (ICQRF)

- Designing a sustainable menu: the role of seasonal, local and traditional productions in school, corporate, and hospital catering menu design – L. Muzzioli
- The choice of PDO/PGI and organic products in the menu for collectives. The controls on food catering operators on quality products: the ICQRF experience – J. Nicolini
- Mediterranean diet recipes to reduce the environmental impact of food catering – L.M. Donini
- Transparent menu communication and consumer education programs – R. Carcangiu
- Efficient use of water and energy and consumption monitoring – I. Perrone
- Optimization of cooking cycles in foodservice – I. Perrone
- Techniques for reducing waste – R. Carcangiu
- Environmentally friendly, recyclable, reusable and biodegradable materials – R. Carcangiu
- Restaurant sustainability policies and parameters – I. Perrone
- Techniques for optimizing time in the kitchen – I. Perrone
- The role of food catering and large-scale retail trade in consumer education programs – L. Muzzioli

Assessment: 3 MCQs (3 answers, only 1 correct)

Extra curricula Activities: Participants are strongly encouraged to individually attend Meetings, Congresses and Conventions on the topics pertaining the Master Degree Course. Certificate of attendance must be provided. Documented extra curricula activities will be considered in the final evaluation.

10. Structure of studies

With a scope of 60 credits (ECTS), the Advanced International Course (AIC) on "*Food, nutrition, sustainability, and wellbeing. The Med-in-Italy experience*", can be completed in one academic years (12 months).

MODULE 1
INTRODUCTORY CONCEPTS **1 CFU/ECTS** - MED/49
MODULE 2

NUTRITIONAL BIOCHEMISTRY **6 CFU/ECTS** (2 CFU/ECTS BIO/10 – 2 CFU/ECTS MED/04 – 2 CFU/ECTS MED/03)
MODULE 3
PHISIOLOGY AND PATHOPHYSIOLOGY IN HUMAN NUTRITION **6 CFU/ECTS** (2 CFU/ECTS BIO/09 – 1 CFU/ECTS MED/49 – 1 CFU/ECTS MED/09 – 1 CFU/ECTS MED/12 – 1 CFU/ECTS MED/38)
MODULE 4
FOOD CATEGORIES **6 CFU/ECTS** CHIM/10
MODULE 5
FOOD, SECURITY AND QUALITY **4 CFU/ECTS** (1 CFU/ECTS MED/07, 1 CFU/ECTS SECPS-P/13, 0,5 CFU/ECTS AGR/15, 0,5 CFU/ECTS AGR/07, 1 CFU/ECTS IUS/04)
MODULE 6
ANALYSIS AND DESIGN OF A SUSTINABLE FOOD SUPPLY CHAIN **6 CFU/ECTS** (2 CFU/ECTS BIO/07, 2 CFU/ECTS AGR/12, 1 CFU/ECTS AGR/15, 1 CFU/ECTS ING-IND/11)
MODULE 7
THE MEDITERRANEAN DIET AS A MODEL OF A HEALTHY AND SUSTAINABLE PATTERN **8 CFU/ECTS** (2 CFU/ECTS MED/49, 3 CFU/ECTS MED/09, 3 CFU/ECTS MED/12)
MODULE 8
THE FIVE "S" OF THE ITALIAN WAY OF EATING **4 CFU/ECTS** (1 CFU/ECTS SPS/08, 1 CFU/ECTS AGR/15, 1 CFU/ECTS CHIM/10, 0,5 CFU/ECTS SECS-P/13, 0,5 CFU/ECTS BIO/07)
MODULE 9
ALTERNATIVE PROTEIN SOURCES AND MUSCLE METABOLISM IN HEALTH AND DISEASE **3 CFU/ECTS** (2 CFU/ECTS MED/49, 1 CFU/ECTS MED/09)
MODULE 10
ALTERNATIVE PROTEIN SOURCES IN KIDNEY DISEASE PREVENTION AND TREATMENT **1 CFU/ECTS** (0,5 CFU/ECTS MED/09, 0,5 CFU/ECTS MED/14)

MODULE 11
JOURNALISM, SOCIAL MEDIA AND COMMUNICATION **3 CFU/ECTS** (1 CFU/ECTS SPS/8, 1 CFU/ECTS M-STO/04, 1 CFU/ECTS ING-INF/05)
MODULE 12
SUSTAINABLE FOOD CATERING **4 CFU/ECTS** (1 CFU/ECTS MED/49, 1 CFU/ECTS ING-IND/27, 1 CFU/ECTS ING-IND/09, 0,5 ING-IND/11, 0,5 CFU/ECTS SECS-P/13)

SUMMARY - STRUCTURE
**** 1 year Course – 60 CFU/ECTS** **52 CFU/ECTS of Asynchronous/Synchronous Lessons, Webinar, Activities** **12 Modules** **12 Assessments (MCQs)** **Final exam (PW) 8 CFU/ECTS**