

MASTER IN NUTRITION

Concentrations:
Human Nutrition
Sports Nutrition and Physiology

Main Language of Instruction:
French ☒ English ☐ Arabic ☐

Campus Where the Program Is Offered: CSM

OBJECTIVES

The Master in Nutrition (concentrations: Human Nutrition, Sports Nutrition and Physiology) is a higher education program dedicated to an in-depth exploration of the relationship between nutrition, the physiological functioning of the human body, and sports performance. This program aims to provide students with a comprehensive understanding of dietary principles, obesity, metabolism, and physiology in the context of physical exercise and sports.

Research is a key component of this program, enabling students to develop research skills in human nutrition, sports nutrition, or applied physiology in sports. This approach paves the way for successful academic or research careers.

In summary, this program equips students with extensive expertise in human nutrition, sports nutrition, and exercise physiology, along with the practical skills necessary to thrive in these dynamic fields.

PROGRAM LEARNING OUTCOMES (COMPETENCIES)

Master in Nutrition (concentrations: Human Nutrition, Sports Nutrition and Physiology)

- Master medical nutrition therapy in hospital and private clinic settings.
- Apply community nutrition principles and good hygiene practices in primary, secondary, or tertiary prevention efforts.
- Develop a multidisciplinary background to broaden career opportunities in various professional fields.

Master in Nutrition (concentration: Sports Nutrition and Physiology)

- Differentiate all aspects of physical activity (movement anatomy, joint biomechanics, and sports physiology) to better advise athletes on their training, performance, and nutritional needs.

ADMISSION REQUIREMENTS

Students must hold a Bachelor in Nutrition and Dietetics. If the student holds a Bachelor in Biology or Biochemistry, they should complete prerequisite courses from the Bachelor's program to be eligible to pursue the Master's degree.

PROGRAM REQUIREMENTS

120 credits: Required courses (73 credits for the common core and 47 credits for each concentration).

Required Courses - Common Core (73 Cr.)

Advanced Fat-Soluble Vitamins (1 Cr.). Advanced Food Technology (3 Cr.). Advanced Macrominerals (1 Cr.). Advanced Microminerals (1 Cr.). Advanced Obesity and Metabolic Syndrome (3 Cr.). Advanced Obesity and Metabolic Syndrome Tutorial (1 Cr.). Advanced Research Methodology (3 Cr.). Advanced Sports Nutrition (3 Cr.). Advanced Water-Soluble Vitamins (1 Cr.). Applied Management (2 Cr.). Applied Statistics in Nutrition (2 Cr.). Clinical Biochemistry (2 Cr.). Communication and Leadership (2 Cr.). Dietary Antioxidants (1 Cr.). Eating Disorders and Physical Activity (3 Cr.). Epidemiology in Nutrition (1 Cr.). Food Packaging (2 Cr.). Food Toxicology (3 Cr.). Healthy Diets (Mediterranean Diet and French Paradox) + Tutorial (3 Cr.). Marketing in the Food Sector + Practical Work (3 Cr.). Pharmacology and Nutrient-Medication Interactions (3 Cr.). Phytotherapy (2 Cr.). Professional Internship (24 Cr.). Research Seminar (1 Cr.). Special Topics in Sports Nutrition (2 Cr.).

Required Courses - concentration: Human Nutrition (47 Cr.)

Advanced Medical Nutrition Therapy (2 Cr.). Clinical Dietetics Simulation (1 Cr.). Congress/Symposia/Seminars I (2 Cr.). Congress/Symposia/Seminars II (2 Cr.). End-of-Study Thesis in Human Nutrition (21 Cr.). Food Security (2 Cr.). Human Nutrition Seminar (3 Cr.). Molecular Biology of Nutrition (2 Cr.). Nutrition in Emergencies (2 Cr.). Nutrition in Emergencies Tutorial (1 Cr.). Seminar II in Human Nutrition (2 Cr.). Specialization Internship (7 Cr.).

Required Courses - concentration: Sports Nutrition and Physiology (47 Cr.)

Advanced Sports Physiology (3 Cr.). Applied Sports Physiology (3 Cr.). End-of-Study Thesis in Sports Nutrition (21 Cr.). Muscle Anatomy & Biomechanics (3 Cr.). Practical Work in Sports Nutrition (2 Cr.). Professional Internship in Sports Nutrition and Physiology (6 Cr.). Seminar II in Sports Nutrition (2 Cr.). Special Topics in Sports Physiology (2 Cr.). Sports Nutrition Seminar (3 Cr.). Sports Pathologies and Injuries (2 Cr.).

SUGGESTED STUDY PLAN

Semester 1

Code	Course Name	Credits
Required Courses - Common Core		
004MEREM1	Advanced Research Methodology	3
004LCOMM2	Communication and Leadership	2
004SPNTM1	Professional Internship	24
004SRNTM1	Research Seminar	1
	Total	30

Semester 2

Code	Course Name	Credits
Required Courses - Common Core		
004NUSPM1	Advanced Sports Nutrition	3
004STANM2	Applied Statistics in Nutrition	2
004TCAPM1	Eating Disorders and Physical Activity	3
004EPNUM1	Epidemiology in Nutrition	1
004TOALM2	Food Toxicology	3
004SSNSM1	Special Topics in Sports Nutrition	2
Required Courses - Concentration: Human Nutrition		
004DITAM1	Advanced Medical Nutrition Therapy	2
004SICDM4	Clinical Dietetics Simulation	1
004SEALM4	Food Security	2
004S2NHM2	Seminar II in Human Nutrition	2
004BIMNM2	Molecular Biology of Nutrition	2
004SSNHM2	Specialization Internship	7
	Total	30
Required Courses - Concentration: Sports Nutrition and Physiology		
004PNSAM3	Advanced Sports Physiology	3
004PHSAM3	Applied Sports Physiology	3
004TDNSM3	Practical Work in Sports Nutrition	2

004SSPSM3	Special Topics in Sports Physiology	2
004S2NSM2	Seminar II in Sports Nutrition	2
004PASPM3	Sports Pathologies and Injuries	2
	Total	28

Summer Trimester

Code	Course Name	Credits
Required Courses - Concentration: Sports Nutrition and Physiology		
004SPNSM2	Professional Internship in Sports Nutrition and Physiology	6
	Total	6

Semester 3

Code	Course Name	Credits
Required Courses - Common Core		
004VILAM2	Advanced Fat-Soluble Vitamins	1
004MAAVM1	Advanced Macrominerals	1
004MIAVM1	Advanced Microminerals	1
004OAMRM1	Advanced Obesity and Metabolic Syndrome	3
004TDOBM1	Advanced Obesity and Metabolic Syndrome Tutorial	1
004VHAVM2	Advanced Water-Soluble Vitamins	1
004BICLM1	Clinical Biochemistry	2
004ANALM1	Dietary Antioxidants	1
004DIMEM1	Healthy Diets (Mediterranean Diet and French Paradox) + Tutorial	3
004MARKM2	Marketing in the Food Sector + Practical Work	3
004PIMNM1	Pharmacology and Nutrient-Medication Interactions	3
004PHYTM1	Phytotherapy	2
Required Courses - Concentration: Human Nutrition		
004CCS1M3	Congress/Symposia/Seminars I	2
004SEMIM3	Human Nutrition Seminar	3
004NTCRM4	Nutrition in Emergencies	2
004TDNUM4	Nutrition in Emergencies Tutorial	1
	Total	30
Required Courses - Concentration: Sports Nutrition and Physiology		
004ANMBM3	Muscle Anatomy & Biomechanics	3
004SMINM3	Sports Nutrition Seminar	3
	Total	28

Semester 4

Code	Course Name	Credits
Required Courses - Common Core		
004TEAM2	Advanced Food Technology	3
004MGORM2	Applied Management	2
004EMBAM1	Food Packaging	2
Required Courses - Concentration: Human Nutrition		
004CCS2M4	Congress/Symposia/Seminars II	2
004MFNHM4	End-of-Study Thesis in Human Nutrition	21
	Total	30
Required Courses - Concentration: Sports Nutrition and Physiology		
004MFNSM4	End-of-Study Thesis in Sports Nutrition	21
	Total	28

COURSE DESCRIPTION

004VILAM2	Advanced Fat-Soluble Vitamins	1 Cr.
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This course enables students to gain a deeper understanding of the properties of fat-soluble vitamins (functions, metabolism, sources, needs, recommendations, deficiencies, etc.) and their connections to various pathologies through recent research. It also familiarizes students with new research directions related to fat-soluble vitamins and the associated controversies.

004TEAM2	Advanced Food Technology	3 Cr.
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This course aims to deepen students' understanding of advanced food processing and preservation technologies, highlighting their role in improving the nutritional, microbiological, and sensory quality of food products. The course combines targeted theoretical instruction on both conventional and innovative processing methods, including thermal and non-thermal technologies, extrusion, encapsulation, enzyme applications, and cold chain management. In addition to theoretical foundations, the course adopts an active learning approach based on the flipped classroom model. Through an individual project involving a professional case-study scenario, students explore current challenges and emerging trends in the food industry. This approach enables them to analyze real-world problems and propose innovative solutions while considering technical, economic, regulatory, and societal constraints.

The course places particular emphasis on the development of critical thinking, innovation, decision-making, and communication skills, preparing students to address complex and multidisciplinary challenges within the agri-food sector.

004MAAVM1	Advanced Macrominerals	1 Cr.
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This course builds on the knowledge of macrominerals acquired during the Bachelor in Nutrition and Dietetics program and enhances students' analytical and synthetic thinking skills, as it is based entirely on recent scientific studies published in peer-reviewed journals. It covers various concepts, including epidemiological, interventional, and animal studies related to different types of macrominerals, thereby deepening students' understanding of these essential nutrients.

004DITAM1	Advanced Medical Nutrition Therapy	2 Cr.
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This course facilitates the practical application of dietary principles tailored to the management of specific diseases and rare medical conditions. Students will gain a comprehensive understanding of the nutritional strategies required to address the unique needs of patients facing distinct health challenges, such as Down syndrome, autism, Prader-Willi syndrome, asthma, depression, and epilepsy.

004MIAVM1	Advanced Microminerals	1 Cr.
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This course provides students with in-depth knowledge of microminerals and their role in health, based on current research.

004OAMRM1	Advanced Obesity and Metabolic Syndrome	3 Cr.
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This course builds upon the knowledge of obesity and metabolic syndrome acquired during the Bachelor in Nutrition and Dietetics program while further developing students' analytical and critical thinking skills. It is entirely based on the review and discussion of recent scientific studies published in peer-reviewed journals. The course covers a range of topics related to obesity and metabolic syndrome through the examination of epidemiological studies, intervention trials, and review articles, thereby strengthening students' understanding of these conditions and the current scientific evidence surrounding their prevention and management.

004TDOB1	Advanced Obesity and Metabolic Syndrome Tutorial	1 Cr.
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This course is a required component of the program for first-year Master's students in Nutrition. Given the rapid growth and continuous publication of scientific research on obesity and its management, traditional lectures alone are insufficient to cover emerging evidence and recent developments. Therefore, this course is designed to enable students to acquire new knowledge through the critical review of contemporary scientific literature. The course consists primarily of a literature-based research project followed by oral presentations supported by PowerPoint and interactive classroom discussions, including question-and-answer sessions. It complements the corresponding lecture course by reinforcing, synthesizing, and expanding upon the concepts covered in class. Through this process, students will develop their analytical, critical thinking, and synthesis skills while deepening their understanding of obesity and metabolic syndrome. Students will independently select two topics of interest related to obesity and metabolic syndrome and conduct a comprehensive review of recently published, peer-reviewed scientific articles. The selected publications must present novel information not covered in the lecture course, such as epidemiological or intervention studies, newly elucidated pathophysiological mechanisms, or recently identified biological mediators and targets. Students will then present and critically discuss these findings with their peers and instructors. In addition to strengthening evidence-based practice skills, this course serves as preparation for future literature review assignments and master's seminars, while also encouraging the development of research interests and potential topics for the master's thesis.

004MEREM1	Advanced Research Methodology	3 Cr.
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This course is offered in the first year of the Master's program in Human Nutrition and is designed to develop students' operational mastery of scientific research methods applied to the fields of nutrition and food technology. It provides comprehensive training in the research process, from the formulation of a relevant research question to the design of a structured research protocol, while integrating both quantitative and qualitative approaches. The course covers sampling strategies, data collection tools, and the fundamental principles of data analysis. Emphasis is placed on literature review techniques, methodological rigor, and the ethical and scientific considerations that underpin high-quality research. Students will be introduced to the principles of evidence-based inquiry and are trained to critically assess, interpret, and synthesize scientific information from diverse sources. Through practical exercises, guided assignments, and the development of a research proposal, students will acquire the skills required to design, structure, and communicate a research project addressing real-world challenges in nutrition and food science. Upon completion of the course, students will be able to formulate research objectives, select appropriate methodological approaches, and develop scientifically sound research proposals that meet academic and professional standards.

004NUSPM1	Advanced Sports Nutrition	3 Cr.
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This course reinforces the concepts of sports nutrition and physiology acquired in the third year of this program. It is essential for dietitians specializing in Sports Nutrition. This course strengthens the broad range of dietary management skills developed during the Bachelor program, further enhancing the multidisciplinary competencies of dietitians.

004PNSAM3	Advanced Sports Physiology	3 Cr.
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This course explains the differences in energy expenditure and the unique characteristics of various sports, such as type and intensity. It enables students to apply this knowledge to effectively prescribe exercise and personalize care for athletes. By understanding the biological and physiological systems involved during physical activity—including the heart, lungs, muscles, hormones, and energy pathways—students will provide tailored advice. This course equips them to adjust the type, nature, and training methods according to the specific needs and goals of each athlete.

004VHAVM2	Advanced Water-Soluble Vitamins	1 Cr.
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This course provides an in-depth study of water-soluble vitamins (B-complex vitamins and vitamin C), with a particular focus on their metabolic roles, physiological interactions, clinical implications, and applications in nutritional practice. The course examines their biochemical mechanisms, nutritional requirements, deficiency and toxicity conditions, as well as the clinical use of vitamin supplements in nutritional management. The objective is to equip students with a comprehensive understanding of the functions and importance of water-soluble vitamins and their role in maintaining health and supporting clinical nutrition interventions.

004MGORM2	Applied Management	2 Cr.
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This course introduces students to the fundamental principles of management and organizational administration, with particular emphasis on their application in the fields of food, nutrition, and value chain-related projects. It provides an overview of the historical evolution of management thought, major organizational theories, managerial functions, market dynamics, value creation processes, business strategy, stakeholder analysis, risk identification, and the basic principles of project planning and financing. The course also aims to familiarize students with key analytical and management tools commonly used in professional settings, including market analysis, feasibility assessment, identification of critical success factors, risk analysis, budget preparation, project scheduling, and the structured development and presentation of action plans. Through a combination of theoretical instruction, practical examples, interactive discussions, and group-based activities, students will develop an understanding of how management concepts can be applied to organizational challenges and project management needs. The course equips students with the knowledge and skills required to contribute effectively to the planning, implementation, and evaluation of projects and organizational initiatives within food, nutrition, and related sectors.

004PHSAM3	Applied Sports Physiology	3 Cr.
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This course explores the key aspects of athletic performance, focusing on endurance and strength. It covers various methods for assessing aerobic and anaerobic performance (lactate and alactic) and discusses training techniques designed to improve muscular capabilities.

004STANM2	Applied Statistics in Nutrition	2 Cr.
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This course is offered during the second semester of the first year of the Master in Human Nutrition and Sports Nutrition. It provides students with the knowledge and practical skills required to use the Statistical Package for the Social Sciences (SPSS) software for the management, description, and analysis of data collected in research projects and master's theses. The course introduces the fundamental principles of statistical analysis and enables students to perform data entry, management, and interpretation using SPSS. Students will learn how to analyze quantitative data, interpret statistical outputs, and understand the statistical methods commonly used in scientific research. Emphasis is placed on developing the ability to critically interpret research findings and to understand and evaluate the statistical tests reported in scientific articles.

004BICLM1	Clinical Biochemistry	2 Cr.
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This course enables students to:

Recognize the normal composition of biological media and assess biochemical parameters related to homeostasis, including renal metabolism and electrolyte, calcium, protein, blood gas, and uric acid balances.

- Diagnose pathologies by identifying abnormal concentrations of regular constituents or the presence of abnormal substances.

- Select and apply biochemical assay methods, identify interferences, evaluate tumor and cardiac markers, interpret results, and recognize associated disorders.
- Understand major pathologies, their risk factors, and relevant biochemical, biological, and molecular diagnostic methods.

004SICDM4	Clinical Dietetics Simulation	1 Cr.
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This course enables students to manage cases in real clinical settings.

004LCOMM2	Communication and Leadership	2 Cr.
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This course aims to develop essential transferable skills required for assuming responsibilities in professional settings. It covers the fundamentals of interpersonal communication, active listening, verbal and non-verbal communication, conflict management, and leadership principles as applied to teamwork. The course also introduces students to different leadership styles, with particular emphasis on situational leadership, motivational mechanisms, the role of leaders in team dynamics, and strategies for fostering personal and collective resilience in response to change and professional challenges. The teaching approach combines theoretical instruction with self-assessment activities, case studies, practical simulations, and an integrative project designed to help students apply and consolidate their learning in real-world contexts.

004CCS1M3	Congress/Symposia/Seminars I	2 Cr.
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This course enables students to participate in conferences, symposia, and seminars related to nutrition, public health, and food technology. To validate the credits associated with this course, students will attend a conference, symposium, or seminar in the field of nutrition during the first semester of the second year of the Master's program. This encourages students to engage with current research, emerging trends, and professional networks, while enhancing their ability to critically evaluate scientific information. It also promotes a culture of lifelong learning by fostering the habit of regularly attending scientific and professional events throughout their careers to maintain up-to-date knowledge and competencies in the rapidly evolving fields of nutrition and health.

004CCS2M4	Congress/Symposia/Seminars II	2 Cr.
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This course enables students to participate in conferences, symposia, and seminars related to nutrition, public health, and food technology. To validate the credits associated with this course, students will attend a conference, symposium, or seminar in the field of nutrition during the second semester of the second year of the Master's program. This encourages students to engage with current research, emerging trends, and professional networks, while enhancing their ability to critically evaluate scientific information. It also promotes a culture of lifelong learning by fostering the habit of regularly attending scientific and professional events throughout their careers to maintain up-to-date knowledge and competencies in the rapidly evolving fields of nutrition and health.

004ANALM1	Dietary Antioxidants	1 Cr.
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This course reinforces the concepts regarding antioxidants (AO) acquired during the nutrition bachelor's degree program and broadens students' analytical and synthesis skills, as it is entirely based on and designed around scientific studies recently published in scientific journals. The various topics covered in this course include epidemiological, interventional, and animal studies of different types of dietary antioxidants, helping to deepen students' understanding of these substances.

004TCAPM1	Eating Disorders and Physical Activity	3 Cr.
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This course introduces eating disorders (ED) and exercise dependence. It covers the various types of ED, their treatment, and the problematic relationship with physical activity.

004MFNHM4	End-of-Study Thesis in Human Nutrition	21 Cr.
004MFNSM4	End-of-Study Thesis in Sports Nutrition	21 Cr.

The End-of-Study Thesis is a personal research project completed by Master students in their chosen concentration (either Human or Sports Nutrition). It marks the culmination of their studies and reflects their academic achievements. The thesis is written, presented, and defended orally before a jury. The manuscript will be archived in the CSM library and may be available on the USJ website, making it accessible to the public and future students.

004EPNUM1	Epidemiology in Nutrition	1 Cr.
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This course equips students with the skills to apply epidemiological methods in nutrition, using real-life examples from current research literature. It enables students to understand and interpret issues in nutritional epidemiology while fostering their ability to critically analyze studies within this field.

004EMBAM1	Food Packaging	2 Cr.
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This course, offered in the first year of the Master in Food Technology and Master in Nutrition, aims to develop a comprehensive understanding of the strategic role of packaging in modern food systems. It covers the main packaging materials and technologies (glass, metals, plastics, and cellulosic materials), with emphasis on their functional properties, interactions with food, and impact on product quality, safety, and shelf life. Attention is given to food-packaging interactions, including migration and sorption phenomena, as well as the regulatory requirements governing packaging use. Beyond technical aspects, the course examines environmental and societal dimensions, addressing sustainability, recycling, food waste reduction, and evolving consumer expectations. It also explores innovations in packaging, such as active and intelligent packaging, biodegradable materials, and antimicrobial systems, together with their role in product communication through labeling, claims, and consumer perception. Through a combination of lectures, case studies, flipped-classroom activities, and simulations, students will develop an integrated perspective enabling them to design and evaluate packaging solutions that meet the technical, economic, regulatory, and environmental challenges of the food sector.

004SEALM4	Food Security	2 Cr.
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This course aims to define food security, identify its key indicators, and examine the overall vision of national and international agencies in achieving the goal of zero hunger. Another objective is to review the various mechanisms, policies, and regulations developed by the Food and Agriculture Organization (FAO) and the World Food Programme (WFP) to address food insecurity. The course also explores the principal roles of international and national agencies, including the FAO, WFP, and non-governmental organizations (NGOs), in combating food insecurity and implementing food assistance programs.

004TOALM2	Food Toxicology	3 Cr.
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This course introduces the main food contaminants, their sources, and their effects on human health, from a perspective that integrates nutrition, food safety, and public health. The course covers the different categories of contaminants (natural, environmental, and technological), their routes of exposure, and their fate within the body (toxicokinetic and toxicodynamic). It also addresses the principles of toxicological risk assessment, the interpretation of exposure data, and regulatory frameworks.

The objective is to enable students to understand situations of dietary exposure and to assess their implications for health.

004DIMEM1	Healthy Diets (Mediterranean Diet and French Paradox) + Tutorial	3 Cr.
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This course examines dietary patterns that have been associated with lower incidence and prevalence of non-communicable diseases, particularly cardiovascular diseases (CVDs) and their major risk factors, including hypertension, hyperlipidemia, and diabetes. Special emphasis is placed on the Mediterranean Diet (MD), one of the most extensively studied and widely recognized healthy dietary models, as well as on the French Diet and the so-called French Paradox. The Mediterranean Diet component explores the historical development, nutritional characteristics, and health effects of this dietary pattern, with particular focus on the Cretan and Lebanese models. Through the analysis of historical dietary trends, dietary scores and food pyramids, and major epidemiological studies such as the Seven Countries Study and the EPIC Study, students will examine the role of key dietary components, including monounsaturated fats, dietary fiber, and phenolic compounds, in the prevention of chronic diseases, the modulation of inflammation, and the promotion of longevity. The section on the French Paradox focuses on the relatively low rates of coronary heart disease observed in France despite a diet traditionally rich in fats. This phenomenon has been partly attributed to moderate alcohol consumption, which may contribute to improved lipid profiles and reduced platelet aggregation, as well as to the presence of polyphenolic compounds in red wine, including resveratrol, flavonoids, and procyanidins. These bioactive compounds have been associated with antioxidant, anti-inflammatory, and vasodilatory effects. The course also addresses the potential risks associated with alcohol consumption, even when moderate, and explores other proposed explanations for the



French Paradox, including the consumption of fermented dairy products and cheeses, garlic, dietary diversity, portion sizes, and traditional eating habits. The final component of the course consists of practical tutorials and directed learning activities, including case studies, critical appraisal of scientific literature, and oral presentations, enabling students to develop analytical, communication, and evidence-based nutrition skills.

004SEMIM3	Human Nutrition Seminar	3 Cr.
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This third seminar requires students to conduct personal bibliographic research and synthesis, culminating in a public oral presentation at the end of the third semester. The topic focuses on human nutrition for students continuing their M2 in Human Nutrition. This seminar aims to enhance research and bibliographic synthesis skills (drawing from recently published scientific studies) and develop effective oral communication abilities. Expectations for students, particularly regarding oral communication, are significantly higher, with a critical perspective on the content.

004BIMNM2	Molecular Biology of Nutrition	2 Cr.
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This course is part of the second-semester, first-year Master in Nutrition. The course covers the fundamentals of molecular biology and familiarizes students with the transmission of genetic information, the structure and functions of DNA, and the mechanisms of replication, transcription, and translation. It also covers the regulation of gene expression under the influence of nutrients. The course also addresses genetic variations and mutational mechanisms, including those caused by environmental contaminants, as well as their pathophysiological consequences and effects on metabolism and response to nutrients. The course further introduces nutrigenetics and nutrigenomics, enabling students to understand the relationship between genes and food. In other words, students will learn about the impact of genes on nutrient metabolism and the impact of nutrients on gene expression, given that interactions between the genome and diet could serve as the basis for a deeper understanding of diseases such as diabetes or obesity.

004MARKM2	Marketing in the Food Sector + Practical Work	3 Cr.
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This course aims to deepen students' understanding of both the strategic and operational dimensions of marketing, building upon the foundational concepts acquired during Bachelor studies. It is designed to strengthen students' marketing analysis skills and enhance their ability to develop relevant, evidence-based recommendations at each stage of a project, from situation analysis and strategic planning to implementation and evaluation. The course adopts an applied approach grounded in real-world case studies and practical examples, enabling students to connect marketing theories and frameworks with professional practice. Emphasis is placed on applications within the nutrition and agri-food sectors, while also considering broader contexts and industries. Through the analysis of market trends, consumer behavior, positioning strategies, and value creation processes, students will develop the competencies required to address marketing challenges and support informed decision-making in diverse organizational settings.

004ANMBM3	Muscle Anatomy & Biomechanics	3 Cr.
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This course reviews the concepts of functional anatomy and the fundamentals of mechanics involved in the analysis (biomechanics) of movement and the quantification of motion.

004NTCRM4	Nutrition in Emergencies	2 Cr.
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This course aims to develop the knowledge and competencies required for effective nutritional management in emergency settings, drawing on international humanitarian frameworks and an evidence-based approach. It provides students with a comprehensive understanding of the nutritional challenges faced by populations affected by crises, including natural disasters, armed conflicts, displacement, and food insecurity. The course equips students with the tools and methodologies needed to assess nutritional situations, analyze needs, and design appropriate interventions in emergency contexts. Key topics include nutritional assessment and surveillance, identification of vulnerable populations, program planning and implementation, monitoring and evaluation, and the application of nutrition-specific and nutrition-sensitive interventions. Emphasis is placed on interdisciplinary collaboration, intersectoral coordination, and adherence to professional and ethical standards in humanitarian practice. Through the study of international guidelines, case studies, and practical applications, students will develop the capacity to contribute effectively to emergency nutrition programs and to support the health and well-being of vulnerable populations in crisis situations.



004TDNUM4	Nutrition in Emergencies Tutorial	1 Cr.
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The practical sessions (tutorials) associated with the course Nutrition in Emergencies are designed to provide hands-on training and foster the development of professional competencies in the assessment and management of malnutrition in crisis settings. Conducted through field immersion within non-governmental organizations actively engaged in humanitarian response in Lebanon, these activities enable students to apply nutritional assessment tools, identify at-risk populations, and contribute to the implementation of context-appropriate nutrition interventions. Emphasis is placed on community-based management of acute malnutrition and nutritional supplementation programs. These practical experiences also strengthen students' competencies in program monitoring and evaluation, intersectoral coordination, and ethical professional practice in accordance with international standards and guidelines for humanitarian nutrition. Through direct exposure to real-world humanitarian contexts, students develop the skills required to support evidence-based nutrition interventions and effectively address the nutritional needs of vulnerable populations affected by emergencies.

004PIMNM1	Pharmacology and Nutrient-Medication Interactions	3 Cr.
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This course aims to provide students with a solid foundation in general pharmacology, enabling them to acquire the knowledge required to understand the mechanisms underlying drug-food interactions, assess their clinical consequences, and provide appropriate guidance on the use of medications in relation to diet. The course examines the pharmacokinetic and pharmacodynamic mechanisms involved in drug-food interactions, as well as the effects of nutrients on drug efficacy and the impact of medications on patients' nutritional status. The course also seeks to prepare future nutrition professionals to incorporate the effects of medications into their clinical reasoning and decision-making processes, thereby improving the quality of patient care and nutritional management, particularly among individuals with multiple comorbidities and complex therapeutic regimens.

004PHYTM1	Phytotherapy	2 Cr.
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This course aims to define phytotherapy and position it within the broader fields of medicine and pharmacy. It provides students with a comprehensive understanding of medicinal plants, including their origins, active constituents, therapeutic properties, methods of use, potential adverse effects, drug interactions, and recommendations for safe and effective use. The course is designed to equip students with the knowledge necessary to apply phytotherapeutic principles in patient counseling and care, particularly for the management of disorders affecting various body systems. Emphasis is placed on the evidence-based use of medicinal plants and on understanding their benefits, limitations, and safety considerations within clinical practice.

004TDNSM3	Practical Work in Sports Nutrition	2 Cr.
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This supervised work reinforces concepts related to nutrition for sports and athletic activities acquired in the associated sports nutrition course. It enhances students' analytical and synthesis skills, drawing from scientific studies published in academic journals and recommendations from specialized sports nutrition researchers. This course covers practical and intervention-based nutritional recommendations for athletes, including their needs for macronutrients and micronutrients, as well as dietary preparation before, during, and after sports. This contributes to strengthening the knowledge gained.

004SPNTM1	Professional Internship	24 Cr.
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This course is offered to students enrolled in the Internship Certificate within the Master's program in Nutrition and eligible for the Dietetics Colloquium (i.e., holders of a Bachelor's degree in Human Nutrition and Dietetics). It consists of a mandatory hospital-based dietetic internship of at least six months' duration, as required by the Lebanese Ministry of Public Health and the Lebanese Order of Dietitians. Successful completion of the internship is a prerequisite for obtaining a professional license to practice dietetics in Lebanon.

Through this internship, students apply the knowledge and competencies acquired during their undergraduate training and develop advanced skills in clinical nutrition and dietetic care for patients with a wide range of medical conditions. Interns rotate through various hospital departments and gain exposure to hospital food service operations, allowing them to become familiar with both clinical and institutional aspects of nutrition practice. Hospital Dietetics Internship (minimum six months) – Academic Supervisor: Dr. Nathalie Asmar Yaghi. Supervised by the University in accordance with applicable regulations, this internship constitutes a mandatory step toward eligibility for the Dietetics Colloquium and professional practice as a registered dietitian. The internship aims to

develop practical competencies in clinical nutrition, therapeutic dietetics, and hospital food service management. Students are immersed in a real healthcare environment and actively participate in the interdisciplinary nutritional management of patients. The training also covers hospital food service activities, including menu planning, food production and distribution, and the implementation of hygiene, quality, and food safety standards.

This professional immersion experience enables students to consolidate their scientific knowledge, strengthen their clinical skills, and further develop essential professional competencies such as communication, ethical practice, and teamwork.

Professional Integration and Supervision: The internship is based on full integration within the host institution. Students are expected to adhere to professional standards, including workplace organization, confidentiality, and ethical conduct, while actively engaging in assigned responsibilities. Supervision is jointly provided by an academic advisor and a professional preceptor, ensuring both pedagogical and practical guidance. This framework promotes alignment between academic learning objectives, colloquium requirements, and the expectations of the healthcare sector.

004SPNSM2	Professional Internship in Sports Nutrition and Physiology	6 Cr.
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This internship enhances practical skills by applying theoretical concepts. Interns will engage directly with various therapeutic cases related to nutrition and sports rehabilitation. They will conduct multiple nutritional consultations and work with different types of athletes. This program helps them develop communication skills and foster connections with patients and athletes. Part I begins during the summer semester and extends into semester 3.

004SRNTM1	Research Seminar	1 Cr.
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This seminar requires students to conduct personal bibliographic research and synthesis, culminating in a public oral presentation for all master's students at the end of the first semester. The seminar aims to enhance research and bibliographic synthesis skills, drawing on recently published scientific studies, while also developing effective oral communication abilities.

004S2NSM2	Seminar II in Sports Nutrition	2 Cr.
004S2NHM2	Seminar II in Human Nutrition	2 Cr.

The second seminar requires students to conduct personal bibliographic research and synthesis in human or sports nutrition, culminating in a public oral presentation at the end of the second semester. The seminar aims to strengthen research and bibliographic synthesis skills, drawing on recently published scientific studies, while also developing effective oral communication abilities. Expectations for students, particularly regarding oral communication, are significantly higher in this seminar.

004SSNSM1	Special Topics in Sports Nutrition	2 Cr.
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This course is a compulsory component of the program for first-year Master's students in Nutrition (Human Nutrition or Sports Nutrition). It builds upon the knowledge and competencies in Sports Nutrition and Exercise Physiology acquired during the third year of the Bachelor in Nutrition and Dietetics program. The course provides the advanced scientific foundation required for specialization in sports nutrition and equips future dietitians with the skills necessary to address the specific nutritional needs of physically active individuals and athletes. By expanding and reinforcing the dietetic competencies developed during undergraduate studies, the course contributes to the development of a broad and multidisciplinary professional profile. It enhances students' ability to apply evidence-based nutritional strategies in sports and exercise settings, thereby strengthening their expertise in the assessment, planning, and implementation of nutrition interventions aimed at optimizing health, performance, and recovery.

004SSPSM3	Special Topics in Sports Physiology	2 Cr.
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This course familiarizes students with the various factors that have influenced athletic performance over time, including genetic, physiological, technological, and environmental factors. It also explores mathematical and epidemiological models that have analyzed and modeled the evolution of sports performance throughout the Olympic era.

004SSNHM2	Specialization Internship	7 Cr.
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This specialized professional dietetic internship is designed to strengthen and further develop competencies acquired in clinical nutrition through immersion in a specialized field of practice, such as geriatrics, metabolic and liver diseases, pediatrics, nephrology, or private dietetic consultation. It enables students to develop advanced expertise in a specific area by critically assessing complex clinical situations and applying evidence-based nutritional care. Throughout the internship, students will mobilize advanced analytical, synthesis, and professional judgment skills to optimize nutritional interventions while integrating into a real-world professional environment and collaborating within specialized interdisciplinary teams. The internship also promotes innovation in dietetic practice and fosters the ability to evaluate the outcomes and impact of nutrition interventions. By combining practical experience with reflective learning, students will consolidate their knowledge, technical competencies, and professional attitudes at an advanced level of practice.

004SMINM3	Sports Nutrition Seminar	3 Cr.
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This third seminar requires students to conduct personal bibliographic research and synthesis, culminating in a public oral presentation at the end of the third semester. The topic focuses on sports nutrition and/or physiology for students continuing their M2 in Sports Nutrition and Physiology. This seminar aims to enhance research and bibliographic synthesis skills (drawing from recently published scientific studies) and develop effective oral communication abilities. Expectations for students, particularly regarding oral communication, are significantly higher, with a critical perspective on the content.

004PASPM3	Sports Pathologies and Injuries	2 Cr.
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This course addresses various medical conditions commonly encountered in sports practice that require preliminary knowledge for proper management. It focuses on musculoskeletal pathologies (bones, muscles, tendons, etc.), including fractures, inflammation, and tears. This course also covers respiratory issues, anemia, athlete fatigue, sports for specific population groups, overtraining, high-risk sports, and other related conditions.