EU4Nutrition LIVE

# CONTINUITY OF NUTRITION CARE

optimal nutritional care for all

## THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

**From education to implementation; investment in the future.**

Maurizio Muscaritoli, Italy

THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

CONTINUITY OF NUTRITION CARE

# ESPEN Nutrition Education in Medical Schools (NEMS)

Coordinators: Cristina Cuerda & Maurizio Muscaritoli

## The background

# Nutrition Edication in Medical Schools - NEMS

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ESPEN Endorsed Recommendation

## Nutrition education in medical schools (NEMS). An ESPEN position paper☆

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- NEMS is an ESPEN project for the **implementation of Nutrition Education (NE) in the Medical curriculum**
- The **minimum set of nutritional knowledge** to be transferred to medical students was defined in an ESPEN position paper published in 2019.

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# Implementing Nutrition Education in Medical Schools
# Learning objectives

According to the ESPEN proposal, at the end of the Medical School, the future doctors should be able to:

- Recognise the importance of nutrition for the **promotion of health**, and the **prevention and treatment of disease**
- Know the **basic scientific principles of human nutrition**
- Understand **nutrition-related problems** in individuals and the community
- Provide **general dietary advice** to general population and patients
- Identify patients at **risk of malnutrition or malnourished** and know how to treat them and when to refer to a specialist in clinical nutrition

**Remember**: we don't aim to create Clinical Nutrition specialists!

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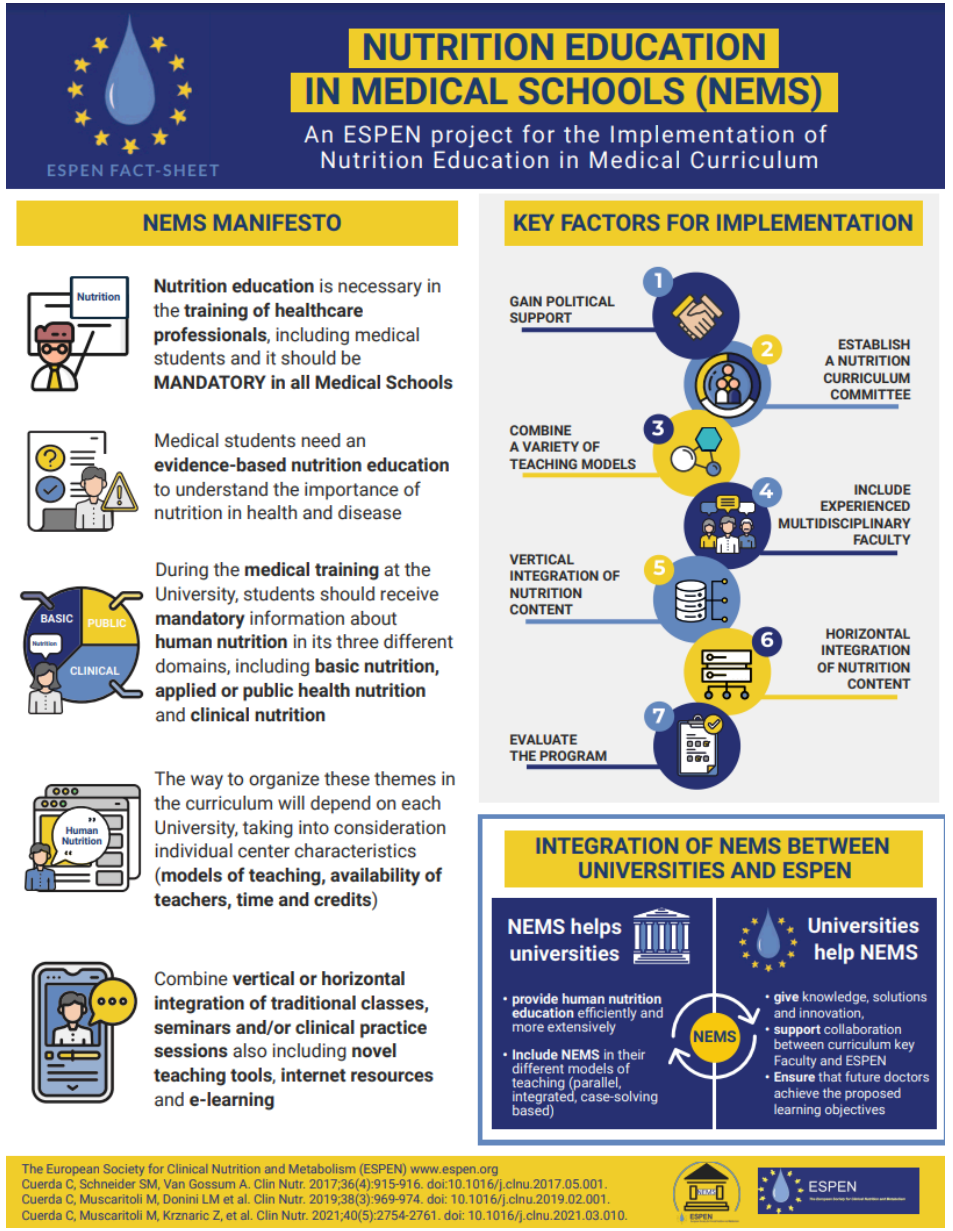
# You can find and download the NEMS Fact Sheet at: www.espen.org/files/ESPEN-Fact-Sheet-NEMS.pdf




ESPEN NEMS

ESPEN
The European Society for Clinical Nutrition and Metabolism

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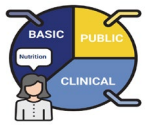
# NEMS MANIFESTO


**Nutrition education** is necessary in the **training of healthcare professionals**, including medical students and it should be **MANDATORY in all Medical Schools**

Medical students need an **evidence - based nutrition education** to understand the importance of nutrition in health and disease




During the **medical training** at the University, students should receive **mandatory** information about **human nutrition** in its three different domains, including **basic nutrition, applied or public health nutrition** and **clinical nutrition**


The way to organize these themes in the curriculum will depend on each University, taking into consideration individual center characteristics (**models of teaching, availability of teachers, time and credits**)

Combine **vertical or horizontal integration of traditional classes, seminars and/or clinical practice sessions** also including **novel teaching tools**, **internet resources** and **e-learning**

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# Implementing Nutrition Education in Medical Schools

## KEY FACTORS FOR IMPLEMENTATION

1. GAIN POLITICAL SUPPORT
2. ESTABLISH A NUTRITION CURRICULUM COMMITTEE
3. COMBINE A VARIETY OF TEACHING MODELS
4. INCLUDE EXPERIENCED MULTIDISCIPLINARY FACULTY
5. VERTICAL INTEGRATION OF NUTRITION CONTENT
6. HORIZONTAL INTEGRATION OF NUTRITION CONTENT
7. EVALUATE THE PROGRAM

ESPEN NEMS fact sheet. 2022

## INTEGRATION OF NEMS BETWEEN UNIVERSITIES AND ESPEN

### NEMS helps universities

- **provide human nutrition education** efficiently and more extensively
- **Include NEMS** in their different models of teaching (parallel, integrated, case-solving based)

NEMS

### Universities help NEMS

- **give** knowledge, solutions and innovation,
- **support** collaboration between curriculum key Faculty and ESPEN
- **Ensure** that future doctors achieve the proposed learning objectives

www.espen.org/files/ESPEN-Fact-Sheet-NEMS.pdf

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CONTINUITY OF NUTRITION CARE

THE POWER OF CONCERTED EFFORTS AGAINST MALNUTRITION

# ESPEN Nutrition Education in Medical Schools (NEMS)

## The ultimate project:

## Supporting Medical Schools (MS) teachers in implementing Nutrition Education in their classes

# The creation of the NEMS slide kit for MS teachers

- A slide kit containing the **teaching material** ESPEN is planning to offer MS teachers to implement nutritional education in their classes.
- The content of the slide kit is based on the **previously defined minimum set of nutritional knowledge** to be transferred to medical students
- Slides should be prepared following precise Standard Operating Procedures (SOPs)

# Before sending us your slides, please check that you have fulfilled the Standard Operating Procedures by ticking the following:

- ☑ Prepare the slides in English
- ☐ Do not exceed the max number of slides indicated for your topic
- ☐ Do not use movies or animations within the slides in order to allow printouts
- ☐ Use terminology which is consistent with ESPEN Guidelines and Position Papers
- ☐ Use the template provided
- ☐ Fullfill the learning objectives
- ☐ Try to limit text to a minimum and prepare simple slides
- ☐ Add explanatory text in the note page, so to allow everybody the correct interpretation of data
- ☐

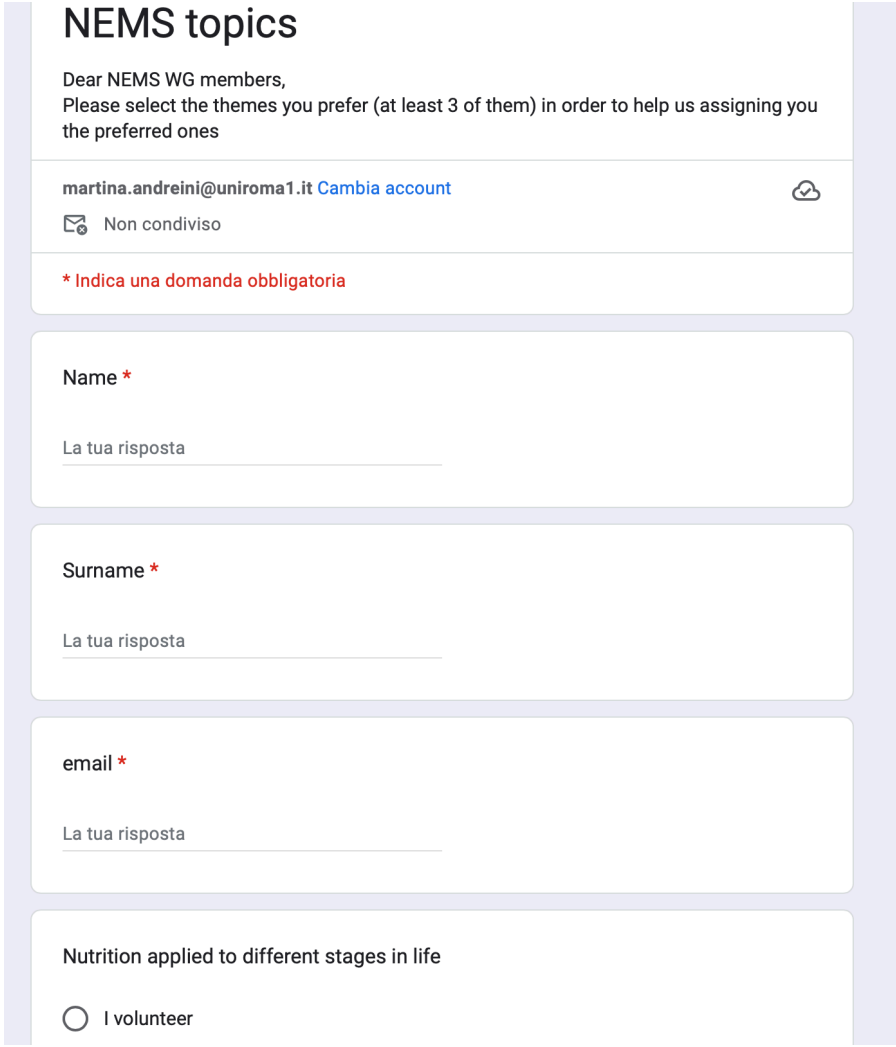
# A «NEMS slide kit task force» was created

| Cuerda | Cristina |
|---|---|
| **Muscaritoli** | **Maurizio** |
| Correia | Maria isabel |
| Andreini | Martina |
| Ravasco | Paula |
| Krznaric | Zeljko |
| Abbasoglu | Osman |
| Jayatissa | Renuka |
| Pisprasert | Veeradej |
| Preiser | Jean-Charles |
| Schneider | Stéphane |
| Berk | Kirsten |
| Nuotio | Maria |
| Arhip | Loredana |
| Chourdakis | Michael |
| Cardenas | Diana |
| Alvarez | Julia |
| Sasdelli | Anna Simona |
| Mansi | Patil |

# NEMS Slide kit preparation task force first operational meeting



- Introduction to NEMS slide kit SOPs
- Discussion of learning objectives of each topic
- New topics proposed
- Methodology for assign topic assignment
- Google form created to choose preferred topics
- After the meeting, all the members of the task force received the SOPs and the link to the meeting registration



NEMS topics

Dear NEMS WG members,
Please select the themes you prefer (at least 3 of them) in order to help us assigning you the preferred ones

martina.andreini@uniroma1.it Cambia account

Non condiviso

* Indica una domanda obbligatoria

Name *

La tua risposta

Surname *

La tua risposta

email *

La tua risposta

Nutrition applied to different stages in life

I volunteer

(April 14th 2023

# Domains of Human Nutrition as defined by NEMS

The domains of Nutrition Nutrition are:

1) **Basic Nutrition**
2) **Applied / Public Health Nutrition**
3) **Clinical Nutrition**

Cuerda C,et al. *Clinical Nutrition*. 2019

# Domains of human nutrition as defined by NEMS


**1) Basic nutrition (BN)** constitutes the bricks on which the student will construct his/her nutrition knowledge (can be taught in subjects such as biochemistry, physiology, etc).

We recommend including the following themes (nr. of slides):

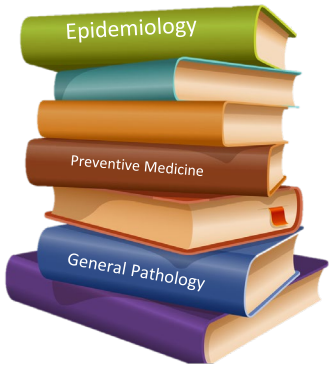
1. **Macronutrients, micronutrients** and **dietary fibre**, max 5
2. **Physiology of water, minerals and acid-base balance**, max 5
3. **Intermediate metabolism** (adaptation to starvation, post- prandial status and stress), max 5
4. Physiology of **digestion and absorption**, max 5
5. Principles of **energy balance and methods of measurement**, max 8
6. **Body composition** and methods of measurement, max 8

Cuerda C,et al. *Clinical Nutrition*. 2019

# Learning objectives for each theme - Basic Nutrition

| | |
|---|---|
| **Macronutrients, micronutrients and dietary fibre** | - To distinguish macronutrients, micronutrients and fibers, understand their nutritional value and metabolic function<br>- To recognize the consequences deriving from the deficiency of one or more of them |
| **Physiology of water, minerals and acid-base balance** | - To understand the principles of acid-base balance, dehydration and malabsorption<br>- To remember the physiology of water in the human body<br>- To recognize the importance of minerals and their deficiency |
| **Intermediate metabolism (adaptation to starvation, post- prandial status and stress)** | - To understand the metabolic differences between simple starvation, disease-related and stress-related malnutrition<br>- To understand how a disease state may impair the physiological adaptation to starvation<br>- To understand how a disease state may affect nutrients utilization |
| **Physiology of digestion and absorption** | - To understand the principles of physiology of digestion of food and absorption of nutrients |
| **Principles of energy balance and methods of measurement of energy expenditure** | - To understand the concept of energy balance<br>- To understand the factors which influence energy expenditure (REE, TEE).<br>- To know the methods for estimating and measuring energy expenditure |
| **Body composition and methods of measurement** | - To understand the concept of body composition and body compartments<br>- To understand the purpose of measuring body composition<br>- To know the body composition measurements methods |

# Domains of human nutrition as defined by NEMS




**2) Applied / Public Health Nutrition (APHN)** refers to the nutrition recommendations to the general population and the promotion of health and prevention of the most prevalent diseases (can be taught in subjects as epidemiology, preventive medicine, etc).

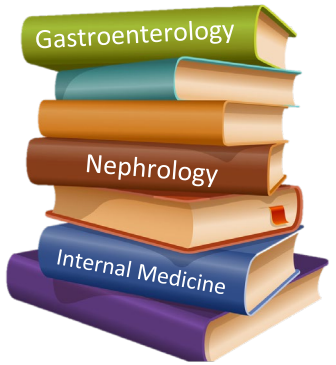
We recommend including the following themes (nr. of slides):

1. Nutritional **recommendations** and **dietary guidelines**, max 8
2. Nutrition applied to **different stages in life**, max 8
3. Healthy **lifestyle**, max 8
4. **Prevention of cardiovascular disease and cancer**, max 5
5. **Prevention of malnutrition** (undernutrition and obesity), max 8
6. **Food labelling**, max 5

Cuerda C, et al. *Clinical Nutrition*. 2019

# Learning objectives for each theme - APHN

| | |
|---|---|
| **Nutritional recommendations and dietary guidelines** | - To know and to understand the role of scientific societies and health care institutions in the production and promotion of nutritional guidelines |
| **Nutrition applied to different stages in life** | - To know the different nutritional needs in different periods of life |
| **Healthy lifestyle** | - To know the principles of healthy lifestyle and healthy eating<br>- To understand the role of healthy lifestyle and healthy eating in disease prevention |
| **Nutritional prevention of cardiovascular disease and cancer** | - To understand the role of unhealthy diet in the risk of non-communicable diseases (NCDs) such as CVD and cancer<br>- The concept of ultra-processed foods |
| **Prevention of malnutrition (undernutrition and obesity)** | - To know the social factors associated with non-disease-related malnutrition<br>- To know the social and medical factors associated with overweight and obesity<br>- To know the principles of prevention of undernutrition and obesity |
| **Food labelling** | - To know how to interpret and present information about the food product<br>- To understand how to identify ingredients, quality and nutritional value, additives, dyes and sweeteners |




**3) Clinical nutrition (CN)** refers to the nutrition concepts that apply to patients with different diseases (can be included in different subjects as Endocrinology, Geriatrics, Internal Medicine, Gastroenterology, Oncology, Surgery, Nephrology, etc).

We recommend including the following themes (nr. of slides):

1. Nutritional **requirements**, max 8
2. Nutritional **screening and assessment**, max 10
3. Diagnosis of **malnutrition** (types, severity), max 10
4. Dietary advice: general **recommendations in different diseases**, max 10
5. Introduction to **enteral nutrition**, max 5
6. Introduction to **parenteral nutrition**, max 5
7. **Ethics** in medical nutritional treatment, max 5
8. Drug-nutrient **interactions**, max 5
9. Food **allergy and intolerances**, max 5

Cuerda C, et al. *Clinical Nutrition*. 2019

# Learning objectives for each theme - CN

| | |
|---|---|
| **Nutritional requirements** | - To know the nutritional needs of healthy subjects in terms of calories, macro and micronutrients needed |
| **Nutritional screening and assessment** | - To understand the differences of nutritional screening and assessment<br>- To understand how to carry out nutritional screening and assessment<br>- To know the main screening and assessment methods<br>- To understand the purpose of nutritional assessment |
| **Diagnosis of malnutrition (types, severity)** | - To know how to define malnutrition<br>- To distinguish the causes of malnutrition<br>- To introduce GLIM criteria and other diagnostic methods<br>- To assess the severity of malnutrition |
| **Dietary advice: general recommendations in different diseases** | - To know the role of nutritional counseling and dietary prescription in different clinical conditions (e.g. hypertension, dyslipidemia, diabetes, CKD, etc.)<br>- To know blood chemistry indicators of optimal nutritional interventions |
| **Introduction to enteral nutrition** | - To know composition, indications, contraindications and side effects of enteral nutrition |
| **Introduction to parenteral nutrition** | - To know composition, indications, contraindications and side effects of parenteral nutrition<br>- To know the infectious complications of parenteral nutrition |
| **Ethics in medical nutritional treatment** | - To know the ethical and legal aspects of medical nutrition treatment<br>- To know the principles of self determination<br>- To know the principles of medical nutrition treatment in terminal ill patients<br>- To know the communication issues with patients and caregivers about risks and benefits of medical nutrition treatments at the end of life |
| **Drug-nutrient interactions** | - To know and to understand how medications can decrease appetite or change nutrient absorption, metabolism or excretion and vice versa |
| **Food allergy and intolerances** | - To know the differences between food allergy and intolerances<br>- To know the mechanisms of food allergies<br>- To recognize fake news in food allergies and intolerances |

# Next steps

- Slides currently under preparation
- Completion of slide preparation by June 30th, 2023
- Content general review by July 31st, 2023
- Graphical optimization by August 31st

Presentation of the complete NEMS slide kit in Lyon (Sept. 2023)

# My special thanks to:

- ESPEN ExeCom
- Cristina Cuerda
- Martina Andreini
- The NEMS Slide kit taskforce
- Silvia Tarantino
- And YOU ALL for your attention!