

## 68427 - Introduction to paediatrics research

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 68427 - Introduction to paediatrics research

**Faculty / School:** 104 - Facultad de Medicina

**Degree:** 530 - Master's in Introduction to Medical Research

**ECTS:** 5.0

**Year:** 1

**Semester:** Second semester

**Subject type:** Optional

**Module:**

### 1. General information

"Nutrition and exploration of nutritional status in pediatrics" whose objective is for the student to acquire skills related to the nutritional assessment of the child and have up-to-date knowledge.

"Normal and pathological newborn nutrition" whose objective is that the student knows the nutritional peculiarities of the child in this peri and neonatal stage.

"Advances in pediatric endocrinology" whose objective is for students to acquire skills related to the diagnosis and treatment of endocrinological diseases in childhood and their impact on adults.

"Advances in clinical genetics" whose objective is that the student knows the advances in the clinical and molecular diagnosis of genetic diseases in paediatrics, genetics and nutrition and Nutrigenomics, for its later application.

Achieve SDG: 3. Health and well-being. 12. Responsible production and consumption.

### 2. Learning results

1. Know how to use the different methods of evaluating body composition in children and adolescents
2. Apply techniques for quantification and estimation of energy balance in children and adolescents
3. Assess food consumption, eating habits, eating behavior patterns, nutritional culture and other environmental and social aspects that may influence the nutritional status of children and adolescents
4. Begin research in the science of nutrition during growth and development in each of its stages of childhood and adolescence.
5. Being able to assess the nutritional status of the newborn and pre and postnatal growth.
6. Acquire skills to apply feeding techniques and types of food in the newborn.
7. Learn about child and adolescent obesity
8. Detect and prevent metabolic syndrome in childhood and adolescent obesity
9. Expanding knowledge about diabetes mellitus: novel aspects
10. Initiate research in the science of pediatric endocrinology
11. Will be able to perform genetic diagnosis and applications of gene therapy on pediatric diseases.
12. Achieve basic knowledge of Nutrigenomics
13. Initiate research in the science of clinical genetics in childhood
14. Generate research and innovation projects

### 3. Syllabus

#### **Nutrition and examination of nutritional status in pediatrics**

1. Basic concepts in child nutrition
2. Body composition. Anthropometric assessment. Bioelectrical impedance. Absorptiometry and Densitometry.
3. Dietary surveys.
4. Energy expenditure. Assessment of activity and physical condition.

#### **Nutrition of the normal and pathological newborn**

1. Evaluation of the growth and nutritional status of the newborn
2. Breastfeeding for the term and preterm newborn.
3. Nutrition of the pathological newborn.

#### **Advances in pediatric endocrinology**

1. Growth and Puberty
2. Childhood obesity and its complications
3. Novel aspects of type 2 diabetes in childhood

#### **Advances in pediatric clinical genetics**

1. Introduction to pediatric genetics: family tree.
2. The dysmorphic child
3. Chromosome abnormalities

#### **4. Academic activities**

The program offered to the student to help him achieve the results includes:

1. Master classes
2. Discussion in forums through the teaching digital ring.
3. Work on some of the topics developed in the subject, based on the bibliographic search of articles from the last two years in pub-med.

The students will deliver their work and they will be discussed later in the classroom.

Thursday January 16, 23 and 30, 2025, February 6, 13, 20 and 27, 2025, from 4 to 8pm.

All the necessary information will be offered on the first day of class and doubts will be resolved through the moodle platform.

The final exam will on February 27, 2025.

#### **5. Assessment system**

The student must demonstrate that they have achieved the expected learning outcomes through the following evaluation activities

1. Active face-to-face participation with intervention in its development (20%)
2. Participation in ADD forums (20%)
3. Work on some of the topics developed in the subject from the bibliographic search of articles of the last two years in pub-med (30%)
4. Final objective test consisting of solving multiple choice questions, each with four possible answers and one only valid (30%)

The evaluation will preferably be planned in person, although the possibility of evaluation will be considered continues, if necessary before the possibility of a change of scenery.