

Master's degree in Medicine and Surgery

Integrated Course **PEDIATRIC SCIENCES**

SDS Course **MED/38 - MED /20 - MED/39**

Number of credits: **9 ECTS**

Coordinator professor **MICHELE SORRENTINO**

Module **GENERAL AND SPECIALIST PEDIATRICS (MED/38)**

4 ECTS

Professor **ANNA CLAUDIA ROMEO** annaclaudia.romeo@unicamillus.org

Module **PEDIATRIC AND INFANT SURGERY (MED/20)**

3 ECTS

Professor **NICOLA ZAMPIERI** nicola.zampieri@unicamillus.org

Module **CHILD NEUROPSYCHIATRY (MED/39)**

2 ECTS

Professor **MICHELE SORRENTINO** michele.sorrentino@unicamillus.org

PREREQUISITES

Previous knowledge and skills in the following subjects: Biology and Genetics, Biochemistry and Molecular Biology, Physiology I and II, Immunology and Immunopathology, Human Anatomy I and II, Laboratory Medicine, General Pathology and Physiopathology, Microbiology, Clinical Semeiotics, Systematic Pathology I and II, Pharmacology.

LEARNING OBJECTIVES

The student must acquire knowledge:

- 1) of the general principles of auxology and adolescentology, of nutrition in the first year of life and vaccinations
- 2) of the general principles of neonatology
- 3) of the general principles of specialist pediatrics
- 4) of the general principles of infantile neuropsychiatry
- 5) of the general principles of pediatric and infant surgery.

The student must be able to apply the aforementioned knowledge to the diagnostic, therapeutic and rehabilitative orientation of the various diseases in relation to age, genetic factors and main comorbidities.

LEARNING OUTCOMES

The expected learning outcomes of the integrated course of Pediatric Science are consistent with the European Qualifications Framework (Dublin descriptors) as follows:

1) Knowledge and understanding

At the end of the integrated course the student must:

- Know and understand the problems relating to the state of health and disease in neonatal age, infancy and adolescence in the preventive, diagnostic, therapeutic and rehabilitative aspects
- Know and understand the general principles of neonatology, auxology and adolescence
- Know and understand the general principles of specialist pediatrics
- Know the laboratory and diagnostic tests in developmental age

- Know and understand the general principles of pediatric surgery
- Know the main congenital malformations
- Know the general principles of child neuropsychiatry
- Know the neurodevelopmental disorders and the main psychiatric pathologies in developmental age
- Know the fundamentals of research in pediatrics, child neuropsychiatry and pediatric surgery
- Know and link general principles, terminology and methods of spreading the disease to the study of systemic pathology

2)Applied knowledge and understanding

At the end of the integrated course the student will be able to:

- Know how to apply the knowledge acquired to identify the main problems of the pediatric patient, plan preventive and diagnostic interventions in relation to age, genetic factors and main comorbidities
- Formulate a differential diagnosis based on specific clinical data and supported by consistent reasoning
- Identify therapeutic and rehabilitative interventions in developmental age
- Use assessment tools to evaluate growth, physical and mental development and individual variability in developmental age
- Assess psychomotor development and recognize risk factors and red flags related to pathological development
- Cooperate with other healthcare professionals in multidisciplinary and multiprofessional teams to make decisions regarding diagnosis, treatment and monitoring of the patient's condition in order to improve clinical outcomes and reduce costs

3)Making judgments

At the end of the integrated course the student must:

- Recognize the importance of detailed and thorough theoretical and practical knowledge of the topics covered during the lessons for adequate medical education and appropriate clinical practice
- Recognize the importance of using data obtained from scientific research in clinical practice
- Plan individualized preventive, diagnostic and therapeutic interventions in developmental age

4)Communication Skills

At the end of the Integrated Course the student must:

- Be able to communicate orally theoretical and applicative contents of the learning program in a clear, organized and coherent way, using an adequate technical and scientific language

5)Learning Ability

At the end of the Integrated Course the student must be able to:

- Evaluate the importance of the acquired knowledge in the medical education process and their practical applications for the professional future
- Deepen and update one's knowledge and skills through the autonomous consultation of specialized texts, scientific articles, databases and website
- Acquire the ability to actively participate in specialized seminars, conferences and congresses in all areas of pediatric pathology

Pediatric semeiotics. Auxology: normal growth and development, characteristics of the healthy newborn, growth disturbances. Main elements of neonatology: adaptation to extrauterine life, Apgar index, neonatal preventive interventions, full-term and preterm infant feeding, neonatal jaundice, respiratory distress, hypoxic-ischemic encephalopathy, neonatal infections. Nutrition in developmental age. Vaccinations: mandatory and recommended. Domestic accidents and poisonings. Abuse and mistreatment. Main elements of: pediatric hematology, pediatric nephrology, pediatric immunology and allergology, pediatric oncology (limited to generalities and diagnostics), infectious and parasitic diseases of pediatric interest, pediatric pneumology, pediatric cardiology, rheumatology and autoimmune diseases, pediatric endocrinology (pituitary diseases, thyroid, adrenal cortex; diabetes insipidus and diabetes mellitus), pediatric gastroenterology, pediatric dermatology (urticaria; atopic dermatitis; general information on mycosis, pyoderma, parasitosis), pediatric neurology (infectious and autoimmune disease). General information on metabolic disorders.

PEDIATRIC AND INFANT SURGERY

Pediatric surgical semeiotics. Malformations of the abdominal wall (omphalocele, gastroschisis, prune belly syndrome). Malformations of the gastrointestinal apparatus (atresias, stenosis, duplications, anorectal malformations, Hirschsprung's disease). Malformations of the genitourinary apparatus (bladder exstrophy, hydronephrosis, vesicoureteral reflux, genital malformations, varicocele, cryptorchidism, hypospadias). Malformations of the upper limb. Diaphragmatic hernia. Minimally invasive surgery techniques (single port surgery, laparoscopy, thoracoscopy, laparoscopy with percutaneous instruments). Simulation in pediatric surgery. Molecular and biological bases of research in pediatric surgery.

CHILD NEUROPSYCHIATRY

Fundamentals of neuroscience. Childhood neuropsychiatric semeiotics. Risk factors in childhood and adolescent neuropsychiatry. Neurodevelopmental examination of the healthy and at-risk newborn and infant. Psychomotor development. Assessment tools in child neuropsychiatry. Neurodevelopmental disorders (intellectual disability, communication disorders, autism spectrum disorder, ADHD, specific learning disorder, movement disorder). Main psychiatric disorders in childhood (externalizing disorders, mood disorders, anxiety disorders, obsessive-compulsive disorder, trauma- and stressor-related disorders, feeding and eating disorders). Main genetic syndromes concerning child neuropsychiatry. Main neurological disorders in developmental age (epilepsies, cerebral palsy, malformative syndromes).

COURSE STRUCTURE

The course is structured in 90 hours of frontal teaching (40 of general and specialist pediatrics, 30 of pediatric and infant surgery and 20 of child neuropsychiatry). Lectures will include theoretical lessons, interactive discussions, critical readings of scientific articles, cooperative learning. Teachers will use teaching tools such as powerpoint presentations with explanatory diagrams, illustrations and images.

COURSE GRADE DETERMINATION

The assessment of the student's preparation will take place through a written test followed by an oral test.

The written test will consist of 30 questions with multiple choice answers and will last 1 hour. For each correct answer 1 point will be assigned, for each wrong or missing answer 0 points will be awarded. The final score of the written test will be given by the sum of the scores assigned to each question answered correctly. The final mark of the written test will be expressed out of thirty. To access the oral exam, the student must obtain a score of at least 18 points.

During the oral exam the examining commission will assess the student's learning skills as well as the ability to apply and correctly present the knowledge acquired during the integrated course. The following will also be assessed: making judgments, communication skills and learning skills, as indicated in the Dublin descriptors. The final mark of the oral exam will also be expressed out of thirty.

The course grade will be expressed out of thirty and will take into account the outcome of the written test (80%) and the oral test (20%).

OPTIONAL ACTIVITIES

In addition to the didactic activity, the students will be given the opportunity to have 1 office hour every two weeks with the professor of general and specialist pediatrics (Prof. Romeo), 1 office hour every two weeks with the professor of pediatric and infant surgery (Prof. Zampieri) and 1 office hour every two weeks with the professor of child neuropsychiatry (Prof. Sorrentino). Students are received after booking an appointment by email.

READING MATERIALS

- Nelson - Textbook of Pediatrics 21th Ed. Elsevier, 2020
- Teaching material provided by the teachers during the course