UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Woman and Child

2526-6-H4102D039

Aims

This comprehensive program prepares students to understand and manage the continuum of care for women from reproductive age through pregnancy and for children from birth through adolescence.

Contents

The Mother and Child Vertical Track is a comprehensive educational program designed to provide medical students with integrated knowledge across multiple disciplines related to women's health, pregnancy, and pediatrics. The curriculum combines theoretical knowledge with practical skills through various teaching methodologies including lectures, interactive sessions, and clinical experiences.

Detailed program

The program is structured around several key disciplines:

Reproductive Anatomy and Physiology
This component focuses on detailed anatomical knowledge of the female reproductive system, including the ovaries, fallopian tubes, uterus, vagina, and external genitalia. It addresses their shape, position, relationships, ligaments, vascularization, and innervation. Special attention is given to anatomical changes during pregnancy and the mother-fetus circulatory system, including cardiovascular adaptations in newborns and potential malformations. Teaching methods include both traditional lectures and interactive sessions using advanced technology such as the Anatomage Table for 3D visualization of anatomical structures.

Physiology of Pregnancy

This section covers the significant physiological changes occurring during pregnancy across maternal organ systems. Key topics include:
• Placental physiology and endocrinology
• Amniotic fluid physiology
• Fetal circulation
• Pregnancy-related changes in cardiovascular, coagulation, and hormonal systems
• Fundamentals of fetal development
• Physiological transition from intrauterine to neonatal life

Pathology
The pathology component addresses diseases of the female genital tract and childhood diseases. It integrates macroscopic, histological, and cytological morphology with clinical assessment. Topics include:
• HPV-related lesions of the female genital tract
• Cervical cytology and intraepithelial lesions
• Invasive cervical tumors
• Non-neoplastic uterine conditions
• Classifications of epithelial and stromal tumors
• Ovarian cysts and tumors
• Pathologic staging of gynecological tumors
• Hematological and cerebral tumors in childhood

Diagnostic Imaging
This section provides guidance on various imaging modalities used in gynecology, obstetrics, and pediatric diseases. It covers:
• Ultrasound applications in uterine tumor diagnosis
• Magnetic resonance imaging in gynecological cancer evaluation
• Integrated imaging approaches for ovarian cancer
• Pediatric imaging, including low-dose CT protocols
• Specialized applications of MRI in pediatric oncohematology

Pediatrics
The pediatric component is extensive, covering:
• Child physical examination at different developmental stages
• Growth, cognitive development, and nutrition from newborn to adolescence
• Medical history collection with focus on developmental milestones
• Health promotion through immunization and screening programs
• Newborn physiology and diseases
• Genetic disorders and dysmorphology
• Metabolic disorders and neonatal screening
• Pediatric infectious diseases
• Gastrointestinal and hepatic disorders
• Respiratory diseases
• Hematological and oncological conditions
• Rheumatological and endocrine disorders
• Nephrology
• Integrated approach to children with disabilities
• Pediatric emergencies

Obstetrics and Gynecology
This comprehensive section covers:

Gynecology:
• Anatomy and physiology of the female genital tract
• Diagnostic approaches in gynecology
• Menstrual disorders

• Pelvic inflammatory disease
• Benign and malignant neoplasms
• Principles of gynecologic surgery
• Contraception and family planning
• Infertility diagnosis and management

Obstetrics:
• Pre-conception counseling
• Embryology and pregnancy diagnosis
• Prenatal diagnostic techniques
• Pharmacology in pregnancy
• Antenatal care and risk assessment
• Obstetric complications (hypertensive disorders, gestational diabetes)
• Fetal growth assessment
• Placental abnormalities
• Labor and delivery management
• Postpartum complications
• Preterm and post-term pregnancy
• Long-term cardiovascular risks after pregnancy complications

Genetics
This section covers:
• Diagnostic genetic techniques
• Prenatal genetic counseling
• Common facial dysmorphisms and genetic conditions
• Genetics in pediatric cancer diagnosis and treatment
• Next-generation sequencing applications
• Multidisciplinary approach to genetic syndromes

Child Neuropsychiatry
This component addresses:
• Neuropsychomotor development in infancy
• Neurodevelopmental disorders (intellectual disability, autism spectrum disorders, ADHD)
• Childhood psychiatric disorders
• Behavioral and eating disorders
• Childhood epilepsies and neurological conditions

Emergency Medicine
This section focuses on:
• Hemodynamic monitoring techniques
• Septic shock in pregnancy
• Emergency management of preeclampsia and eclampsia
• Obstetric hemorrhage management
• Intrapartum emergencies
• Neonatal and pediatric resuscitation principles

Prerequisites

Teaching form

Frontal presentations

Clinical cases
Practical exercises
Presentations given by the student under the tutoring of the teacher ("Teach The Teacher sessions")

Textbook and teaching resource

The curriculum recommends several core textbooks, including:
• Specialized anatomy texts and atlases
• Robbins & Cotran Pathologic Basis of Disease
• WHO Classification of Tumours
• Nelson's Essentials of Pediatrics
• Essential Obstetrics & Gynaecology
• Genetics textbooks by Thompson and Thompson

Semester

First semester of the Academic Year

Assessment method

The program utilizes varied assessment approaches:
• Multiple-choice questions
• Open-ended questions
• Oral examinations
• Integrated evaluations across disciplines
• Interactive presentations by students ("Teach The Teacher" activities)

Office hours

By appointment
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Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY