

Faculty of Medicine



ANAT1110 Embryologie

[30h] 3 credits

Teacher(s): André Goffinet
Language: French
Level: First cycle

Aims

The aim is to provide the student with a solid basic knowledge of human embryology, including early development and organogenesis, as well as an introduction to diseases of development and to modern technologies that are partly based on the embryonic development of man and some animals, particularly rodents.

Main themes

The following sequence is followed in order to meet the aims above. A first chapter is mostly a reminder of basic concepts of genetics, gametogenesis, reproductive biology and fertilization, as they pertain to embryology. This is followed by a time series of human embryonic, fetal and placental development. Techniques of in vitro fertilization and transgenesis are briefly considered at that stage. Focus is laid on morphological aspects and molecular mechanisms are considered only in a few selected illustrative cases. In a second part, the development of all main anatomical systems is considered, with specific emphasis on the main organs and those with a particularly complex developmental pattern such as the craniofacial and nervous systems. Examples of teratogenesis and developmental pathologies are used as illustrations.

Content and teaching methods

In a first part of "General embryology", the sequence of human embryonic, fetal and placental development is followed, from fertilization to birth.

The second part is a systematic survey of "Special embryology":

Musculoskeletal system and body cavities ; Cardiovascular and respiratory systems ; Digestive tract, liver, pancreas ; Genito-urinary system ; Craniofacial system ; Nervous system and sense organs.

In each chapter, selected examples from pathology that illustrate developmentally important aspect are selected for illustration.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

In order to study embryology, a basic biological knowledge (first year BA) is required and a good feeling of spatiotemporal sequences is helpful.

The evaluation is a classical multiple choice examination, the principle of which is clearly explained to students, with chosen examples.

Lectures notes written by teachers and published by students, are available for support to be edited by the student during or after lectures, and a few selected reference textbook are proposed.

Lectures are occasionally illustrated by powerpoint slides.

No practical teaching is associated.

Other credits in programs

MED12BA	Deuxième année de bachelier en médecine	(3 credits)	Mandatory
SBIM12BA	Deuxième année de bachelier en sciences médicales	(3 credits)	Mandatory