



UNIVERSITÀ DI PISA

GENERAL AND SPECIAL HISTOLOGY AND EMBRYOLOGY AND ANOMALIES OF DEVELOPMENT OF THE VETERINARY DOMESTIC ANIMALS

VINCENZO MIRAGLIOTTA

Anno accademico 2016/17
CdS VETERINARY MEDICINE
Codice 114GG
CFU 6

Moduli	Settore/i	Tipo	Ore	Docente/i
ISTOLOGIA ED EMBRIOLOGIA GENERALE E SPECIALE VETERINARIA ED ANOMALIE DI SVILUPPO DEGLI ANIMALI DOMESTICI	VET/01	LEZIONI	80	VINCENZO MIRAGLIOTTA

Learning outcomes

Knowledge

The student who completes the course successfully will be able to demonstrate a solid knowledge of the microscopic structure and morpho-functional features of tissues. He/She will be able to describe processes governing general embryology as well as species differences among domestic mammals. Also, the main developmental abnormalities and their causes-mechanisms will be known.

Assessment criteria of knowledge

Students will be evaluated in a single session. A microscope will serve for slide analysis and tissue recognition. Specific questions related to cytology, histology, embryology and developmental abnormalities will be proposed.

Skills

Students will be able to use an optical microscope.

Assessment criteria of skills

Interactive lectures will be performed in a room fully equipped for microscopical examination of tissues (microscopes, tissue slides and atlas containing images collected from the available slides). During the final evaluation, students will use a provided microscope to examine a slide.

Behaviors

Students will be trained to face up problems related to the complexity of biological systems: from macroscopic to molecular structures. They will be trained to think in terms of size when evaluating a tissue, avoiding to look directly to details without considering the whole structure.

Assessment criteria of behaviors

During the final evaluation, the student should demonstrate that the process to recognize a tissue is a link between knowledge and observation: this will be verified when the student will be provided with a slide and will start to examine it under the microscope in order to formulate an answer.

Prerequisites

No specific initial prerequisites are needed to reach the course objectives.

Co-requisites

Not needed

Prerequisites for further study



UNIVERSITÀ DI PISA

The knowledge of cell/tissue structures is necessary for subsequent courses:

1. Anatomy
2. Physiology
3. Endocrinology

Teaching methods

Delivery: face to face

Learning activities:

- attending lectures
- individual study
- Laboratory work
- Practical

Attendance: Mandatory

Teaching methods:

- Lectures
- laboratory

The e-learning portal will be populated with lecture slides that will help students to attend lectures and for the individual study.

Syllabus

The course provides notions on:

1. Histology from the description of a cell and its organelles to the structure-function of each tissue.
2. Embryology program includes gametogenesis, fertilization, cleavage, gastrulation, neurulation. Fetal adnexa and their differences among domestic mammals will be explained. The course will include also notions on the fetal blood circulation.
3. Developmental abnormalities will be taught with emphasis on their causes and mechanisms.

Bibliography

Lecture notes will help the student achieving the course objectives. Recommended reading includes the following works:

1. Gartner & Hiatt: Color Textbook of Histology; Bloom and Fawcett: Textbook of Histology;
2. Embriologia, morfogenesi e anomalie dello sviluppo di Gaetano V. Pelagalli, Luciana Castaldo, Carla Lucini;
3. Veterinary Embryology by M. T. Ryan, E. S. FitzPatrick, P. J. Quinn and T. A. McGeedy.

Non-attending students info

None

Assessment methods

During the oral exam the student must be able to demonstrate his/her knowledge of the course material and be able to discuss the reading matter thoughtfully and with propriety of expression. Specifically it will be assessed: The ability to recognize the tissue in an histological slide. The ability to describe the morphological/functional features of a tissue. The ability to describe embryological processes and general morphology of fetal components. The knowledge of causes and mechanisms of malformations.

Methods:

- Final oral exam

Work placement

Practical work will include the microscopic examination of different tissues including embryological samples.

Class web page

<https://elearning.vet.unipi.it/>

Additional web pages

1. <http://www.histologyguide.org/slide-box/slide-box.html>
2. <http://vmserver.vetmed.vt.edu/NDPServe.dll?ViewItem?ItemID=2> (Sign in as Guest)

Notes



UNIVERSITÀ DI PISA

None

Updated: 15/05/2017 10:31