Training Course specification of Cytology and Histology

1-Basic information	
Course title :	training Course specification of Cytology and Histology
Academic year:	2nd academic year (2014/2015)
Programme title:	Bachelor of Veterinary Medical Sciences
Contact hours week/semester:	See training program specification

2-Professional information

1- Overall aims of course

At the end of this course, the students must have a moderate background of the basic histological techniques, be independently able to obtain and process tissue specimens and finally to prepare, stain and examine histological sections with special reference dealing with the different types of the body tissue.

2- Intended training outcomes of course (ITOs)

a-Knowledge and understanding

By the end of this course the student should be able to:
1. Define the principles of tissue processing and histological techniques.
2. Recognize the significance of fixation; outline the different types of fixatives and their appropriate tissue specimens.
3. Realize the impact of dehydration of histological specimens and identify the dehydrating agents.
4. Identify the different clearing agents and their appropriate application (types of specimens, duration of clearing).
5. Recognize the importance of tissue impregnation in paraffin and know how and why embed tissue specimens in a block of paraffin.
6. Know the basis of tissue sectioning, factors required for obtaining a good paraffin section and precautions necessary for eliminating artifacts.
7. Realize the biochemical basis and methodology of staining histological sections.
8. Recognize the special treatments required for processing of certain specimens e.g. decalcification of bones.

b-Intellectual skills

By the end of this course the student should be able to :
1. Identify the different types of fixatives.

2. Locate, different organs and different types of tissues.
3. Plan for fixation, dehydration and clearing of a tissue for general staining.
4. Estimate the biochemical basis and methodology of staining histological sections.
5. Determine dye stuffs and techniques used for certain substances or structures.

c-Professional and practical skills

By the end of this course the student should be able to:

1. Deal with animal tissues and understand the types of tissue to perform a suitable stain for each tissue.
2. Apply different methods for histological technique and the suitable process for each stage.
3. Employ the microtome for sectioning a paraffin-embedded tissue specimen.
4. Perform a suitable stain for each tissue sample.
5. Microscopical examination of stained sections, assessing their quality and eliminating their critical artifacts.

d-General and transferable skill

By the end of studying the course, the student should be able to:

1. Work in team
2. Communicate with others effectively
3. Manage the time efficiently.

3-Topics and contents

Topic
1- Introduction to histological techniques
2- Sampling
3- **Fixation, dehydration and clearing**
4. Paraffin impregnation and embedding 5. Sectioning 6. Staining

4-Teaching and learning methods -

1. Lectures to gain knowledge and understanding skills.
2. Demonstrative preparation of histological sections**.**
3. Practical sessions for the students to gain practical skills and independent application of equipment used in preparation of histological sections.

5-Student assessment

See training program specification

Training coordinator	Head of department
Prof. Dr. Amin M. Hasanain	Prof. Dr. Saad Abdel-Fattah M. Emara