COURSE SPECIFICATIONS

Postgraduate courses

(Ph D)

Prepared By

Anatomy & Embryology Department

University: Benha
Faculty: Veterinary Medicine

Course Title: Osteology and Arthrology

Code: 2 (advanced)

Department offering the course: Anatomy and Embryology Department

Program(s) on which the course is given: Master and Ph. D. Degree in Veterinary science (Anatomy)

Academic year/Level: 2011-2012

Date of specification approval: /2012

A - Basic Information

Title: Osteology and Arthrology

Credit Hours:
Lecture: 2
Tutorial: 
Practical: 2
Total: 4/w

B - Professional Information

1 - Overall Aims of Course: The postgraduate student gain the experience in the anatomy of the skeleton and joints of ruminants, camel, horse, dog and pig. At the end of the course, the student will be able to identify the comparative features of bones types & structures of joints of different animal species and become able also to use the anatomical knowledge in other veterinary fields such as medicine, surgery, ..................etc. Also, he will be able to use modern techniques for bone and joint examination as radiography and Ultrasonography.

2 - Intended Learning Outcomes of Course (ILOs)

A-Knowledge and Understanding:

After successful completion of this course the student should be able to:
A1 - Understand the anatomy of the skeleton and bones on a comparative basis between different animal species.

A2 - Understand the anatomy of the joints of the body in different animal species.

A3 - Identify the bones and joints of the fore and hind limbs in equine and ruminants.

A4 – know the surgical approach for each joint and the best sites for injection.

A5 – Understand the modern techniques as radiography and Ultrasonography for examination.

B-Intellectual Skills

After successful completion of this course the student should be able to:

B1- Estimate the problems of lameness and fractures of bones.

B2- determine the sites of joint injection.

B3- Assess inquiries from the animal owners and the official authorities reports (e.g. Forensic Medicine) and how to answer it.

B4- know any embryological or surgical defects that may appear in the joint

C-Professional and Practical Skills

After successful completion of this course the student should be able to:

C1- Implement surface anatomy knowledge on the living animals and in approaching some field cases.

C2- Use the radiographic anatomy of the bones and joints in clearing some field problems.

C3- Do hard and wet formalin preserved anatomical specimens for display.

C4- Can use several techniques for examinations like M.R.I., C.T.

C5- knows diseases affect the joints also methods of their diagnosis.

D-General and Transferable Skills

After successful completion of this course the student should be able to:

D.1 Prepare a scientific papers and essays.
D.2 Acquires the skill of oral Presentation (Using the Over Head Projector, power point program and other 3D programs).
D.3 Constructing a poster and its presentation.
D.4 Time management.
D.5 be creative and has self confidence to do other anatomical researches

E- Attitude

E1- Scientific integrity

E2- know the rules and ethics of scientific research

3. Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>No. of hours</th>
<th>Lecture</th>
<th>Tutorial/Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Osteology and Arthrology</td>
<td>25</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Bones and joints of the thoracic limb</td>
<td>25</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Bones and joints of the pelvic limb</td>
<td>25</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Bones and joints of the skull, vertebral column and ribs</td>
<td>25</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Review article</td>
<td>10</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>seminar</td>
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</table>

4. Program - Course ILO Matrix:

<table>
<thead>
<tr>
<th>content title</th>
<th>A (K&amp;U)</th>
<th>B (I.S)</th>
<th>C (P&amp;P.S)</th>
<th>D (G&amp;T.S)</th>
<th>E (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>1 2 3 4</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2</td>
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<tr>
<td>General Osteology and Arthrology</td>
<td>A1 A2 A3 A4 A5</td>
<td>B1 B2 B3 B4</td>
<td>C1 C2 C3 C4 C5</td>
<td>D1 D2 D3 D4 D5</td>
<td>E1 E</td>
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<tr>
<td>Bones and joints of the thoracic limb</td>
<td>A1 A3 A4 A5</td>
<td>B1 B2 B3 B4</td>
<td>C1 C2 C3 C4 C5</td>
<td>D1 D2 D3 D4 D5</td>
<td>E1 E</td>
</tr>
<tr>
<td>Bones and joints of the pelvic limb</td>
<td>A1 A2 A5</td>
<td>B1 B2 B3 B4</td>
<td>C1 C2 C3 C4 C5</td>
<td>D1 D2 D3 D4 D5</td>
<td>E1 E</td>
</tr>
<tr>
<td>Bones and joints of the skull, vertebral</td>
<td>A1 A2 A3 A4</td>
<td>B1 B2 B3 B4</td>
<td>C1 C2 C31 C4 C5</td>
<td>D1 D2 D3 D4 D5</td>
<td>E1 E</td>
</tr>
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</table>
5- Teaching and Learning Methods

5.1. lectures

5.2. Practical

5.3. practical training on living animals

5.4. reports

6- Student Assessment Methods

<table>
<thead>
<tr>
<th>Assessment Method</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 seminar &amp; researches</td>
<td>to assess student ability discussion his attendants</td>
</tr>
<tr>
<td>6.2 oral examination</td>
<td>to assess ability to demonstrate his knowledge</td>
</tr>
<tr>
<td>6.3 practical exam</td>
<td>to assess practical skills</td>
</tr>
<tr>
<td>6.4 final exam</td>
<td>to assess different skills</td>
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</tbody>
</table>

Assessment Schedule

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Week</th>
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<tbody>
<tr>
<td>1</td>
<td>7th</td>
</tr>
<tr>
<td>2</td>
<td>14th</td>
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<tr>
<td>3</td>
<td>21st</td>
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<tr>
<td>4</td>
<td>28th</td>
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Weighting of Assessments

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Weight</th>
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<tr>
<td>Mid-Term Examination</td>
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<tr>
<td>Final-term Examination</td>
<td>50%</td>
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<tr>
<td>Oral Examination</td>
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</tr>
<tr>
<td>Practical Examination</td>
<td>20%</td>
</tr>
<tr>
<td>seminar &amp; researches</td>
<td>10%</td>
</tr>
<tr>
<td>Other types of assessment</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

7- List of References

7.1- Books


7.2- Periodicals, web sites, … etc.

**Periodicals**
- Anatomia Histologia Embryologia (Journal of the World Association of Veterinary Anatomists)
- Anatomical Record
- Veterinary Radiology

**Websites**
- WAVA
- Veterinary Anatomy Course.
- CONVINCE
- Comparative Mammalian Brain Collection.
- Veterinary Courseware at Massey University, New Zealand

8- **Facilities required for teaching and Learning**

**A) Available**
- Formalin preserved specimens.
- X-ray images.
- Comparative bone specimens.
- Over Head Projector.
- Posters and colored sheets and transparencies.

**B) Required**
- Models of skeletons of different animal species.
- Stereo-Microscope.
- Tools and electric appliances for organs, skeletons and bone preparation.
- Mobile ultrasonic apparatus.
- Data Show.
- CDs. (anatomy, applied anatomy, radiographic anatomy ..etc.)
- Television circuit for the dissection room.

**Course Coordinator:** Prof. Dr. Hatem Bahgaat, Associate prof. Ahmed Kassab

**Head of Department:** Prof. Dr. Hatem Bahgaat

**Date:** 1/11/2012