

Benha University  
Faculty of Veterinary Medicine  
Department of Theriogenology



Faculty of Veterinary Medicine-Benha University  
Department of Theriogenology

**Course Specification for Master Degree  
(2010- 2011)**

**Course Title: Master Veterinary Science  
(Theriogenology)  
(Essential)**

قسم التوليد والتناسل والتلقيح الاصطناعي  
كلية الطب البيطري-جامعة بنها

Benha University  
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## Course Specification for Master Degree (2010- 2011)

### Course specifications

<b>Awarding Body:</b>	Benha University
<b>Teaching Body:</b>	Faculty of Veterinary Medicine
<b>Department responsible:</b>	Theriogenology
<b>Program on which the course is given:</b>	Master degree
<b>Academic year / Level :</b>	Post-graduate
<b>Date of specification approval:</b>	Ministerial Decree No 921, on 15/9/1987
<b>Date of reviewing by department council:</b>	28 /11 / 2010

#### A- Basic Information

<b>Title</b>	M. V. Sc. -Theriogenology (essential)	<b>Code:</b>	MVSES
<b>Lecture:</b>	3 hours	<b>Practice:</b>	4 hours
		<b>Total:</b>	7 hours

#### B- Professional information:

##### 1- Overall aims of course:

- To prepare qualified graduates for the requirements of veterinary field.
- To provide the Master student with the at most professional skill in handling recent techniques and diagnostic tools in the field of obstetrics and gynecology.
- To supply the graduated students with the most recent knowledge in science and technological applications of reproduction.
- To achieve capability in modern laboratory technology in developing a practical research project.
- To improve the ability of the graduates to apply the acquired knowledge in professional skills for diagnosis infertility problem in female and to dissolve the animal reproductive problems and employee resources.

- To critically review and present their own research data for the protection and promotion of the animal health.
- To guide the graduate to be able to understand the self development and the continuous learning.
- To prepare and upgrade the students for registering to the PhD degrees in field of the reproductive management and biotechnology.

## 2- Intended Learning Outcomes of Course (ILOs)

### a- Knowledge and understanding:

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

- a.1. Recognize the importance of reproduction management in veterinary field and its great influence on animal production.
- a.2. Demonstrate advanced research techniques used in the field of theriogenology.
- a.3. Describe the technology concerning uses of echography in the field of theriogenology.
- a.4. Know bases of theriogenology research techniques by evaluating the utility of those techniques to specific research question.
- a.5. Apply knowledge and understanding of the reproductive efficiency to the critical analysis and discussion of the scientific literature.
- a.6. Recognize the different procedures that improve the fertility status of the herd.
- a.7. Have an experience in interpretation of records and recording systems for assessing the reproductive management and rate of fertility in a herd.
- a.8. Apply their knowledge and understanding of reproductive efficiency to the critical analysis and discussion of the scientific literature.
- a.9. Identify the quality principle and basics on animal reproductive approach.

### b- Intellectual Skills:

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

- b.1. Have the ability of good thinking to survey, conceptualize and define research problems and questions with special concern to female reproductive problems by integration of different knowledge in spite of inadequacy of some resources.
- b.2. Review the scientific materials which help in solving these handicaps either via the network connection or the contact with more professional experts.
- b.3. Prepare and write a scientific research plan in the field of female reproduction.
- b.4. Evaluate the risk of female reproductive problems and its possible consequences.
- b.5. Design a plan for enhancing female reproduction.
- b.6. Identify, summarize and evaluate prior researches finding in a specific area associated with running and researches project.
- b.7. Understand points and areas of research interest as the baseline for further post-graduation.

### **c- Professional and Practical Skills:**

By the end of this master course the graduate should be able to:

- c.1. Investigate using of recent techniques and tools necessary to evaluate fertility status and diagnose reproductive failure in farm animals.
- c.2. Handle those recent techniques and tools for the assessment of the reproductive management and fertility rate like the use of ultrasonography.
- c.3. Diagnose pregnancy in farm animal.
- c.4. Have an experience in understanding and interpretation of data which help in improving the economic values following introduction of a new management policy.
- c.5. Apply the principles of good experimental design and perform relevant statistical analysis to their own research results.
- c.6. Apply appropriate intervention plan for female infertility problems.

- c.7. Have the ability for planning and executing a research project in the field of theriogenology with a consideration to the technical, ethical and safety issues and associated costs.
- c.8. To perform essential laboratory skills that underpin techniques associated with pregnancy diagnosis, semen biology and embryo transfer.
- c.9. Efficiently write scientific paper and dissertation.

#### d- General and Transferable Skills:

By the end of this course the graduates should be able to

- d.1. Participate in workshops and seminars assigned on theriogenology at level of the stockholders and veterinary practitioners.
- d.2. Demonstrate information retrieval and library skills.
- d.3. Issue regulations and indicators for performance evaluation.
- d.4. Demonstrate interpersonal skills and team working ability by successful completion of collaborative learn assignment and researches project.
- d.5. Demonstrate an ability to learn independently in preparation for career of lifelong learning.
- d.6. To present research finding in oral and written from using arrange of appropriate soft ware (e.g. power point, word, excel and database).

### 3- Contents

No.	Topic	Lect./h	Pract./h	Total/h
01	Hormonal control of reproduction	3	-	3
02	Congenital causes of infertility	3	-	3
03	Pathological causes of infertility	3	4	7
04	Hormonal causes of infertility	3	4	7
05	Environmental causes of infertility	3	-	3
06	Estrous detection & synchronization	3	4	7
07	Mechanisms of ovulation & fertilization	3	-	3
08	Clinical diagnosis of pregnancy	3	4	7
09	Laboratory tests for pregnancy check	3	4	7
10	Uses of ultrasonography in reproduction	3	4	7
11	Pregnancy disturbances due to dam	3	4	7

12	Pregnancy disturbances due to fetus	3	4	7
13	Pregnancy disturbances due to FM	3	4	7
14	Dystocia: causes & manipulations	3	4	7
15	Postnatal care of the dam & neonate	3	4	7
16	Abnormal puerperium: causes & treatments	3	4	7
17	Sire breeding soundness	3	4	7
18	Frozen semen processing & handling	3	4	7
19	ET & IVF technologies	3	4	7
20	Records & recording systems	3	-	3
	Total	60	60	120

## Teaching and Learn

### 4- Teaching Methods

#### 4.1. Lectures

The department council assigns one of the teaching staff to teach a special chapter in the course syllabus. The entire student will attend one class 3h/week. The teacher will use all the available teaching tools including data show and overhead projectors. The lectures usually take the form of open discussion

#### 4.2. Discussion sessions

The student will be responsible for making a presentation about and discuss one subject (usually related to his thesis subject) in front of all department members

#### 4.3. Information collection

The supervisors will make assignment for their student to collect data and make a complete review about one subject (usually related to his thesis subject).

#### 4.4. Practical training / laboratory

The students will take the practical course 4hours/week under supervision of one of the department member 2 assistants. During the lab the student will do all practical syllabus by them self.

#### 4.5. Research assignment field

The student will be responsible for searching for the most recent research pint and designs a plan for his research work.

#### 4.6. Visits.

The student will chair in some visits to the surrounding villages and /or farms

#### 4.7. Case studies.

The student will chair in diagnosis and handling cases came to the faculty educational hospital.

### 5- Student assessment methods

- Practical exam to assess professional and practical skills.
- Oral exam to assess knowledge and information and intellectual skills.
- Written exam to assess knowledge, information and intellectual skills.
- Assignments to assess management of clinical cases.

### 6- Student assessment grade:

Method	Weightin g		Evidence
	Mar k	%	
Written Examination	50	50	Marked and signed written paper
Oral Examination	20	20	Signed list of oral exam marks
Practical Examination	20	20	Marked and signed practical exam sheet
Student activity	10	10	??????
Total	<b>100</b>	<b>100</b>	

## 7- List of references

### a- Course Notes

- A concise guide of theriogenology.

### b- Essential Text Books:

- Animal breeding and infertility, Michael Meredith, 1995.
- Cattle embryo transfer procedure, John Curtis, 1991.
- Clinical obstetrics and gynecology, Lind Heimer, Davidson, 1994.
- Congenital malformations in lab and farm animals, Kalman, 1989.
- Ultrasonography in obstetrics and gynecology, Peter, Callen, 3rd Ed., 1994.

### c- Recommended Reference Books:

- Fertility and infertility in veterinary practices, Laing, et al., 4th Ed., 1988.
- Physiology of reproduction and A.I. in cattle, Salisbury, et al., 1985.
- Reproduction in farm animals, Hafez, 7th Ed., 2000
- Veterinary Reproduction and obstetrics, Arthur, et al., 6th Ed., 1989.
- Current therapy in theriogenology, Morrow, 1980

### d- Periodicals

- J. Animal reproduction & Fertility
- J. Fertility & Sterility
- Theriogenology.
- Benha veterinary medical journal.
- Veterinary record
- Journal dairy science
- Journal animal science

### e- Web sites

- google.Com
- arabvet.com
- esarf.tripod.com/index.html.



**f- Facilities required for teaching and learning:**

- 1- Video Films.
- 2- Data-show.
- 3- Farm animals for clinical application
- 4- Network for technology transfer.
- 5- Overhead projector.
- 6- Laboratory kits for reproductive biotechnology.
- 7- Computer.
- 8- Field visits.

**Date of production and revision: 28/ 11 / 2010**

**Date of approval: 28/ 11 / 2010**

**Course Co-coordinator:**

**Head of Department**

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