

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)**

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**Course Title: Embryo Transfer**

قسم التوليد والتناسل والتلقيح الاصطناعي  
كلية الطب البيطري-جامعة بنها

Benha University  
Faculty of Veterinary Medicine  
Department of Theriogenology

## 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>	Embryo transfer	<b>Code:</b>	MVS-SS8		
<b>Lecture:</b>	2 hours	<b>Practice:</b>	2 hours	<b>Total:</b>	4 hours

### B- Professional information:

#### 1- Overall aims of course:

- To define variety of factors may affect oocyte and pre-embryo characteristics and subsequent outcome of assisted reproductive technologies.
- To achieve capability in modern laboratory technology in developing a practical research project.
- To demonstrate an awareness of the connection with the different disciplines of the world-wide research institutions by reviewing the scientific literature.
- To critically review and present their own research data for the protection and promotion of the animal health.
- To prepare and upgrade the students for registering to the PhD degrees in field of the theriogenology.

## 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. To demonstrate advantages and disadvantages of embryo transfer.
- a.2. To recognize the different methods of oocyte classification and assessing embryo viability.
- a.3. To describe the technology concerning micromanipulation of gametes, zygotes, and embryos
- a.4. To know bases of oocyte and embryo metabolism, metabolic controls, and in vitro maturation and culture of embryo
- a.5. To apply knowledge and understanding of the reproductive efficiency to the critical analysis and discussion of the scientific literature.
- a.6. To recognize the different procedures that improves the fertility status of the herd.

### b- Intellectual Skills:

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

- b.1. To identify different techniques used to achieve in vitro fertilization and intra cytoplasmic injection.
- b.2. To critically evaluate their own research data and develop new approach to solve their research questions related to embryo transfer.
- b.3. To develop creative approaches for solving technical problems or issues associated with running and researches project.
- b.4. To identify, summarize and evaluate prior researches finding in a specific area.

### c- Professional and Practical Skills:

By the end of this diploma the graduate should be able to:

- c.1. To recognize techniques used to achieve fertilization: zona drilling, partial zona dissection and intracytoplasmic sperm injection.
- c.2. Using of recent techniques and tools necessary identify and correct fertilization abnormalities in farm animals.
- c.3. To be aware of the framework of the assisted reproductive technologies laboratory.
- c.4. To select and perform relevant statistical analysis on data obtained for their own research.

c.5. To plan and execute a research project in the field of assisted reproductive technologies with a consideration to the technical, ethical and safety issues and associated costs.

c.6. To perform essential laboratory skills that underpin techniques of oocyte collection, evaluation, classification and preparation for IVF.

#### d- General and Transferable Skills:

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

d.1. To demonstrate an ability to learn independently in preparation for career of lifelong learning.

d.2. To demonstrate information retrieval and library skills.

d.3. To demonstrate interpersonal skills and team working ability by successful completion of collaborative learn assignment and researches project.

d.4. To present research finding in oral and written form using appropriate software (e.g., power point, word, excel and database).

#### 3- Contents

No.	Topic	Lect./h	Pract./h	Total/h
1	Advantages & disadvantages of E.T.	2	2	4
2	Selection & preparation of donors	2	2	4
3	Selection & preparation of recipient	2	2	4
4	Surgical technique of E.T.	2	2	4
5	Non-surgical technique of E.T.	2	2	4
6	Cryopreservation of fertilized ovum	2	2	4
	<b>Total</b>	<b>12</b>	<b>12</b>	<b>24</b>

#### Teaching and Learning

#### 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 2h/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 2hours/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 village and /or farms

#### 4.7. Case studies.

The student will chair in diagnosis and handling case came to the faculty external clinic

### 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	Weighting		Evidence
	Mark	%	
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	??????
<b>Total</b>	<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- Experimental animals.
- 4- Teaching hospital.
- 5- Overhead projector.
- 6- Laboratories.
- 7- Computer.
- 8- Field visits.

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

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**Course Co-coordinator:**

**Head of Department**