Specification for artificial insemination and embryo transfer course 2019/2020

A-Affiliation

1.	**Relevant program**	Bachelor of Veterinary Medical Science (BVMSc)
2.	**Department offering the course**	Theriogenology

Date of specification approval: ministerial decree No. 1727 on 26/4/2017
(Approved in this template by the department council on 1/10/2019**)**

B-Basic information

1.	**Course title**	Artificial Insemination and Embryo transfer
2.	**Course code**	510 (B) IV
3.	**Level**	5th year
4.	**Semester**	Second semester
5.	**Total hours**	5
6.	**Lecture hours**	2
7.	**Practical hours**	3

C-Professional Information

1- Course learning objectives

The course aims to provide the students **with** information about artificial insemination, economics, management and technique, techniques of the in-vitro- fertilization and embryo transfer and the most recent techniques of cloning and sexing.

2- Intended learning outcomes of the course (ILOs):

a- Knowledge and understanding

After successful completion of the course the students should be able to:

a.1. Identify the techniques of semen collection, evaluation, processing and handling.

a.2. Locate the technique of insemination and evaluation of the breeding policy

a.3. Describe the techniques of IVE, ET, cloning and sexing

b- Intellectual skills

After successful completion of the course the students should be able to:

b.1Analyze the utilization of reproductive biotechnologies

b.2. Practice the handling with a problem of A.I

b.3..Formulate and Learn good breeding policy

c- Professional and practical skills

After successful completion of the course the students should be able to:

c.1. Measure how to handle improve fertility and fertilizing capacity
c.2Evaluate an infertility problem
c.3. Choose different tools to maximize a herd reproductive potential

d- General and transferable skills

After successful completion of the course the students should have the following skills

d1- Searching skills
d2- Communication skills
d3- Problem solving skills
d4- Working in a team work

3- Course contribution in the program ILOs:

Course ILOS		Program ILOS
A	**Knowledge and understanding**	a^{10}
B	**Intellectual skills**	b^{9}
C	**Professional and practical skills**	$c^{7,9}$
D	**General and transferable skills**	$d^{1,2,3,5,6}$

3.1- Course contents:

Topic	**Lecture hours**	**Practical hours**
Semen collection	6	6
Semen evaluation	4	9
Semen dilution & storage	4	6
Deep frozen semen	4	6
Insemination technique	4	6
Management of artificial insemination	4	6
IVF & Embryo transfer	4	6
Total	30	45

The midterm and practical exams are included during the semester

3.2- ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
Semen collection	**a1, a2**	**b1, b2,b3**	**c1c3**	**d2 d3,d4**
Semen evaluation	**a1, a3**	**b1, b2,b3**	**c1, c2 , c3**	**d1, d2, d3,d4**
Semen dilution & storage	**a1, a3**	**b1, ,b3,**	**c1, c2 , c3**	**d1,d3,d4**
Deep frozen semen	**a1, a2, a3**	**b1, b3**	**c1, c2 , c3**	**d3,d4**
Insemination technique	**a1, a3**	**b1, b2**	**c1,c3**	**d3,d4**

Management of artificial insemination	**a1, a2**	**b1,b3**	**c1**	**d1, d2,d3**
IVF & Embryo transfer	**a1, a2**	**b1,b3**	**c1, c2 , c3**	**d1, d2,d3,d4**

4- Teaching, learning and assessment methods:

ILOs		Teaching and Learning methods							assessment method				
		L	P&M	D	P	Ps	Bs	Ft	semester	midterm	oral	practical	written
ge and understan	a1	x	x	x	**0**		x	**0**	x	x	x	**0**	x
	a2	x	x	x	**0**		x	**0**	x	x	x	**0**	x
	a3	x	x	x	**0**		x	**0**	x	x	x	**0**	x
ual	b1	x	x	x	**0**	x	x	x	x	x	x	**0**	x
	b2	x	x	x	**0**	x	x	x	x	x	x	**0**	x
	b3	x	x	x	**0**	x	x	x	x	x	x	**0**	x
onal an practica	c1	**0**	x	x	x	x	**0**	x	x	**0**	x	x	**0**
	c2	**0**	x	x	x	x	**0**	x	x	**0**	x	x	**0**
	c3	**0**	x	x	x	x	**0**	x	x	**0**	x	x	**0**
General skills	d1	**0**	x	x	**0**	x	x	x	x	**0**	x		x
	d2	x	x	**0**	x		**0**	x	x	**0**	x	x	**0**
	d3	**0**	**0**	x	**0**	x	**0**	x	x	**0**	x	x	x
	d4	**0**	**0**	**0**	x		**0**	x	x	**0**	x	**0**	**0**

L **:Lecture,** P&M**: Presentations & Movies,** D&S: **Discussions & Seminars PT: Practical,** Ps: **Problem solving,** Bs: **Brain storming Ft: field trip**

5- Assessment timing and grading:

Assessment method	timing	grade
Mid-term exam and semester work	6th week	15
Practical exam	14th week	20
oral exam	End of semester	15
Written exam	End of semester	50
total		100

6- List of references

6.1- Course notes:

Artificial insemination & Embryo transfer edited by the staff members

6.2- Essential books (text books)

- M.S. Saxena (2012) Veterinary andrology ,Artificial Insemination.
- Wolfgang Jochle (2010) Control of Reproductive Functions in Domestic Animals
- Suresh S. Honnappagol (2010) Artificial insemination and treatment of infertility in dairy animals

6.3- Recommended books

- Course notes.
- Suresh S. Honnappagol (2010) Artificial insemination and treatment of infertility in dairy animals.
- Current therapy in theriogenology, D.A. Morrow

6.4- Periodicals, Web sites, . . . etc

- J. Animal reproduction & Fertility.
- J. Fertility & Sterility.
- www.arabvet.com
- www.ekb.eg

7- Facilities required for teaching and learning

- Equipped teaching hall.
- Equipped Laboratory.
- Faculty teaching farm
- Faculty teaching hospital

Course coordinator: Prof Dr. MAHMOUD ABED ABOU EL- ROOS

Head of department Prof Dr. GAMAL A. SOSA

Signature ……..

Date 1/10/2019