



Beni-Suef University
Faculty of Veterinary Medicine
Department of Theriogenology

DIPLOMA PROGRAMME SPECIFICATION
2017-2018

University: Beni-Suef

Faculty: Veterinary Medicine

A- Administrative Information

1. Programme title: Diploma of Vet. Med. Sciences (Artificial Insemination)
2. Award/degree: Diploma
3. Department responsible: Theriogenology
4. Coordinator: Prof. Dr. Saber Mohamed Abd-Allah
5. External evaluator(s) :
6. Date of most recent approval of programme specification by the Faculty Council:

B- Professional Information

1. Programme aims: The Diploma programme support the postgraduate student ability to Introducing the academic background and practical experience about artificial insemination

- 1- Gain knowledge about artificial insemination in different animals' species.
- 2- Provide solid background knowledge on application of A.I on individual and herd or flock levels.
- 3- Supply postgraduates' students with theoretical and practical experience in AI.

2. Intended learning outcomes (ILOs) for programme

a- Knowledge and understanding:

By the end of the Diploma program, the postgraduate must be able to:

- a-1- Knowledge about Artificial Insemination.
- a-2- Knowledge about the keeping and rearing of AI sires.
- a-3- Evaluate and Processing of semen
- a-4- Describe advanced research techniques used in the field of microscopic structure of male and female genital systems.

a-5- Specify the biochemical function of hormones and its role in regulation of sperm metabolism.

a-6- Set the comparative points of the genital organs in domestic animals with special reference to their clinical significances.

b- Intellectual skills

By the end of the Diploma program, the postgraduate must be able to:

b-1- Capability for creative thinking for making a simulation figure of an ideal AI center.

b-2- Knowledge about the proper formulation of rations for AI sires.

b-3- Creative thinking for keeping breeding stock.

b-4- Describe the micro and macroscopic structure of different organs of genital system.

b-5- Interpret correctly the biochemical analytical data of hormones levels in different biological samples.

b-6- Estimate the problems related to the genital organs in different animals based on the gained knowledge about their normal anatomy and position.

c- Professional and practical skills

By the end of the Diploma program, the postgraduate must be able to:

c-1- Follow up of the fertility results of the AI sires at field basis.

c-2- Identification of the new breeds introduced to the AI center.

c-3- Proper nutrition of breeding bulls

c-4- Examine both micro and macroscopic organs of genital system

c-5- Examine and evaluate biochemical composition of semen.

c-6- Interpret on clinical findings inside domestic animals based on known normal anatomy background.

d- General and transferable skills

By the end of the Diploma program, the postgraduate must be able to:

d-1- Management of an artificial insemination center.

d-2- Lectures about the importance of AI in improving the overall reproductively and the profitability of the dairy farms.

d-4- Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects.

d-5- Utilize different available resources for efficient obtaining of knowledge and information.

3- Academic standards

* The faculty mission, vision and strategic objective are confirmed to the academic standard. The learning outcomes are inline with the department and the faculty mission.

* Postgraduates NARS (February 2009) Diploma degree chapter issued by national authority for quality assurance and accreditation of education (NAQAAE) and Veterinary medicine post graduate academic standards (ARS) for the faculty of veterinary medicine, BeniSuef University, BeniSuef, Egypt are selected to confirm the appropriateness of the academic standards .

4 – Curriculum structure and content.

5.1) Programme duration: 1years

5.2) Programme structure:

Title	Lecture	Practical	Total
1-Gynaecology	2	2	4
2-Physiology of Reproduction	2	-	2
3-Artificial Insemination	2	2	4
4-Biochemistry of Semen	1	1	2
5-Anatomy of Male Reproductive System	1	1	2
6-Histology of Reproductive System	1	1	2
Total	9	7	16

5- Programme – course ILOS Matrix

Title	a 1	a 2	a 3	a 4	a 5	a 6	b 1	b 2	b 3	b 4	b 5	b 6	c 1	c 2	c 3	c 4	c 5	c 6	d 1	d 2	d 3	d 4	d 5
1- Gynaecol ogy	x	x	x				x	x	x				x	x	x				x	x	x	x	x
2- Physiolog y of Reproduc tion					x						x						x		x	x	x	x	x
3- Artificial Inseminat ion	x	x	x				x	x	x				x	x	x				x	x	x	x	x
4- Biochemi stry of Semen					x						x						x		x	x	x	x	x
5- Anatomy of Male Reproduc tive System						x						x						x	x	x	x	x	x
6- Histology of Reproduc tive System				x					x							x			x	x	x	x	x

6- Programme admission requirement:

- 1- Obtaining a bachelor degree in veterinary medicine sciences from one of the Egyptian universities or equivalent degree from another recognized scientific institute with any grade
- 2- The bachelor degree must be obtained at least one year prior to registration
- 3- The applicant must have regular attendance in his courses according to the schedule of the faculty.
- 4- Registration will be during September of each year.

7 - Regulations for progression and programme completion.

- 1- Registration period is one year for diploma and the applicant not exceed a period of registration for two year.
- 2- The examinations of the diploma are 2 times / year in December & April.
- 3- The faculty council has the right to deprive the applicant from the exam if his attendance courses are less than 75%.
- 4- in case of failure, the exams will be hold 2 times / year and reexamination in all courses each time.

8-System of examination for postgraduate studies as follow:

- ☐ Time of written exams, 3 hours for each curriculum have 3 hours or more for theoretical / practical hours/ week. If the curriculum less than 3 hours / week, the time of ex. is 2 hours only.
- ☐ The final degree of each curriculum which have 3 hours (theoretical & practical) per week is 100 & less than 3 hours 50 degree & divided into 50 % for written ex. and 50 % for practice and oral ex.

9-Grades of graduation are as follow:

Excellent	> 90
Very good	> 80
Good	>70
Pass	>60
Failed	45 to less than 60 weak
	Less than 45 very weak

The programme specification should have attached to it all course specifications listed in the matrix.

Programme coordinator:

Name Prof. Dr. Saber Mohamed Abd-Allah

Signature..... Date / /2018

Head of the Department Theriogenology

Name: Prof. Dr. Mahmoiud Mohamed Hussien

Signature..... Date: / /2018



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	D7-D
Course title :	Biochemistry of reproduction
Program title:	Diploma of Vet. Med. Science (Artificial Insemination)
Contact hours/ week	2 hours/week (1hr lecture &1hr practical)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- Detect and solve the veterinary and environmental problems results from hormonal dysfunction.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a1- Define the biochemical structures and classification of hormones.
- a2-Specify the biochemical function of hormones and its role in regulation of metabolism.
- a3-Outline the biochemical mode of action of hormones.
- a4- Be aware about community developments and protection of environment.

b-Intellectual skills

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

- b1- Comprehend the research papers in biochemistry of hormones.
- b2- Differentiate between biochemical dysfunction of different hormones
- b3- Interpret correctly the biochemical analytical data of hormones levels in different biological samples.

C- Professional and practical skills

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

- C1. Perform the biochemical analysis of hormones of different samples.
- C2.Examine and evaluate biochemical composition of semen.
- C3. Write efficiently the laboratory professional reports about hormonal analysis.

d- General and transferable skills

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

- d1. Utilize different available resources for efficient obtaining of knowledge and information.
- d2. Insure effective communication.



Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Biochemistry of hormones and reproduction (Lec. 1 h./week, Pract. 1 h./week)	1. Biochemical structure of hormones.	16	8	8
	2. Biochemical classification of hormones.	4	2	2
	3. Mode of action of hormones.	4	2	2
	4. Role of different hormones in regulation of metabolism.	16	8	8
	5. Biochemical diagnosis of pituitary dysfunction.	4	2	2
	6. Biochemical diagnosis of thyroid dysfunction.	4	2	2
	7. Biochemical diagnosis of pancreas dysfunction.	8	4	4
	8. Biochemical diagnosis of Adrenal cortex dysfunction.	4	2	2
	9. Biochemical diagnosis of Adrenal medulla dysfunction.	4	2	2
	10. Biochemical diagnosis of gonads dysfunction.	4	2	2
	11. Biochemical constituent of semen.	4	2	2
	Total	72	36	36

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and faculty library)
- 5.3- Practical (laboratory analysis of blood and semen samples).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1,a2, a3	b2		d1
Practical Exam		b1,b2, b3	c1,c2, c3	d1
Oral Exam	a1,a2,a3,a4	b1,b2	C2	a4, d2

7.2. Assessment schedules

Method	Week(s)
Practical exams	During 45 th week -48 th week
Final exams	During 45 th week -48 th week
Oral Exam	During 45 th week -48 th week



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	15%
Final exams	25%
Oral Exam	10%
total	50%

8- List of references

8.1. Notes and books

-Note book of biochemistry part II by staff members of biochemistry department.

8.2. Essential books:

-Devlin, T. M. (1993): Textbook of Biochemistry: With Clinical Correlation. 3rd ed. (4th printing). Wiley-Liss: A John Wiley & Sons, Inc., Publication, New York.

- Murray, R.K.; Granner, D.K.; Mayes, P.A. and Rodwell, V.W. (1996): Harper's of Biochemistry. 24th ed. Appleton & Lange. Norwalk, Connecticut, Loss Anglos, California.

- Zilva, M.; Charles, F. and Myne, N. (1993): Clinical Chemistry in Diagnosis and Treatment. 6PthP ed. Saunders, Philadelphia, U.S.A.

8.3. Recommended texts

-Lippincott's Reviews of Biochemistry, 4th edition by Champe PC, Harvey RA, Ferrier DR, Lippincott William & Wilkins London, 2008.

8.4. Journals, Websitesetc

Journals:

-Journal of Biochemistry

-Hormone and metabolic research.

-Hormones.

Websites:

-www.sciencedirect.com

-www.pubmed.com

Course Coordinators
Prof.Dr.Mohamed Ahmed Kandeil

Head of Department
Prof.Dr.Mohamed Ahmed Kandeil



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	1 st semester		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1						
2						
3						
4						
5						
6						
7						
8						
9						
	2 nd semester					
10						
11						
12						
13						
14						
15						
16						
17						
18						



Beni Suef University
Faculty of Veterinary Medicine



Course specification of postgraduate

1-Basic information

Course Code:	D4-A
Course title :	Gynaecology Course
Program title:	Diploma of Artificial Insemination
Contact hours/ week	4 hours/week (Lecture: 2 - Practical: 2)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- 1- Assess the female reproductive potential, eliminate the infertility problems.
- 2- Introducing the academic background and practical experience about the female reproduction in different animal species particularly farm animals and how to manage a farm from the breeding point of view.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a-1- Outline Gynaecology.
- a-2-Discuss about the management of breeding females and the its economics
- a-3- Understanding the relationship between successful breeding programs and the profitability of the dairy farms..
- a-4- Knowledge about diagnosis and control of different forms of female infertility.

b-Intellectual skills

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

- b-1- Capability for creative thinking for developing of breeding technologies.
- b-2- Identification of cases of infertility and how to treat.
- b-3- Creative thinking for keeping breeding stock.
- b-4- Identification of female genital diseases and suitable control measures.

C- Professional and practical skills

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

- c-1- Gynaecological investigation and treatment of infertile cases.
- c-2- Synchronization of estrus.
- c-3- Control of heat stress.
- c-4- Assessment of the reproductive performance of females.
- c-5- Hormonal control of the sexual cycle in the female.
- c-6- Collection & preservation of diagnostic specimens.
- c-7- Laboratory diagnosis of pathological cases of female infertility.

d- General and transferable skills

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

- d-1- Management of a dairy cow project
- d-2- Use of new technological tools for keeping normal fertility in females.
- d-3- Identifying & controlling of forms of infertility.



Course specification of postgraduate

- d-4- Capability for written and oral communication with Gynecology specialists.
d-5- Group working in the field of private business.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Terminology, ontogenesis of the female genital system	4	4	-
	Functional anatomy of the female genital system	16	-	16
	Reproductive cycle in different animal species	4	4	-
	Estrus Cycle in different animal species	16	-	16
	Heat detection aids	16	4	12
	Control of the reproductive cycle (Synchronization of estrus)	8	8	-
	Congenital forms of bovine infertility	8	8	-
	Functional forms of bovine infertility	8	8	-
	Pathological forms of bovine infertility	8	8	-
	Environmental causes of bovine infertility (Nutrition, management and temperature)	4	4	-
	Forms of infertility in Mare	8	8	-
	Infertility in Pet animals	8	8	-
	A scheme for gynaecological investigation	28	-	28
	Reproductive management	4	4	-
	Total	144	72	72

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
5.2- Self learning by preparing essays and presentations (computer researches and faculty library)
5.3- Practical (models, samples of Slaughter house material, clinical cases).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Final Exam	a1, a2, a3,	b1, b2, b3	c1,c2,c3,c4	d1,d2,d3
Practical Exam	a4	b4	c5,c6,c7	d4, d5
Oral Exam	a1, a2, a3, a4	b1, b2,b3,b4	c1,c2,c3,c4,c5,c6,c7	d1, d2,d3,d4,d5

7.2. Assessment schedules

Method	Week(s)
Practical exams	During 45 th week - 48 th week
Final exams	During 45 th week - 48 th week
Oral Exam	During 45 th week - 48 th week

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25%
Final exams	50%
Oral Exam	25%
total	100%

8- List of references

8.1. Notes and books

Departmental notes on: Theriogenology

8.2. Essential books:

- Reproduction in farm animals, E.S.E.Hafez
- Current therapy in theriogenology, D.A.Morrow.
- Current therapy in large animal theriogenology, R. S.Young quist

8.3. Recommended texts

- Applied animal reproduction, H.J.Bearden
- Fertility and infertility in domestic animals, J.A.Laing..
- Anatomy and physiology of farm animals, R.D.Frandson

8.4. Journals, Websitesetc

Journals:

- J. Animal reproduction & Fertility
- J. Fertility & Sterility
- Theriogenology
- J. Andrologia

Websites:

www.sciencedirect.com
www.pubmed.com



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

- Google.Com
- Arabvet.com
- Esarf tripod.com/index.htm

Course Coordinators

Prof. Dr. Saber Mohamed Abd-Allah

Head of Department

Prof. Dr. Mahmoud Mohamed Hussien



Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Course Description		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Terminology, ontogenesis of the female genital system	1 st w- 2 nd w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	Functional anatomy of the female genital system	3 rd w- 4 th w	4	4	5,6,7	1,2,3,4,5
3	Reproductive cycle in different animal species	5 th w- 7 th w	1,2,3	1,2,3	1,2,3	1,2,3,4,5
4	Estrus Cycle in different animal species	8 th w- 10 th w	1,2,3,4	1,2,3,4	1,2,3,4,5,6,7	1,2,3,4,5
5	Heat detection aids	11 th w- 13 th w	4	4	5.6.7	1,2,3,4,5
6	Control of the reproductive cycle (Synchronization of estrus)	14 th w- 15 th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
7	Congenital forms of	16 th -17 th	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine

Course specification

	bovine infertility	w				
8	Functional forms of bovine infertility	18 th w- 19 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
9	Pathological forms of bovine infertility	20 th w- 21 st w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
1	Environmental causes of bovine	22 nd w- 23 rd w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
1	infertility (Nutrition, management and temperature)	24 th -26 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
1	Forms of infertility in Mare	27 th w- 29 th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
1	Infertility in Pet animals	30 th w – 31 st w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
1	A scheme for gynaecological investigation	3 ^{2nd} -33 rd w	4	4	5.6.7	1,2,3,4,5
1	Reproductive management	34 th -36 th w	4	4	5.6.7	1,2,3,4,5



Beni Suef University
Faculty of Veterinary Medicine



Course specification for Diploma

1-Basic information

Course Code:	
Course title :	Histology of genital system for diploma of Artificial Insemination
Program title:	Diploma of Artificial Insemination
Contact hours/ week	Lecture: 1 hr/week Practical: 1hr/week
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- * Gain first hand experience of scientific research
- * Provide graduates the opportunity to develop research skills
- * Provide graduate with skills in interpretation of the published literature to prepare them to assimilate and incorporate new developments into research and clinical activities
- * Provide graduate with the knowledge of light and electron structure of ,male and female genital systems in relation to its function.
- * Provide graduate with the knowledge the special structure of the male sperm and female ovum

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a.1-Describe advanced research techniques used in the field of microscopic structure of male and female genital systems.
- a.2- Describe the light and electron microscopic structures of the different organs of genital system.
- a.3- Critically apply their knowledge of genital system research methods by evaluating the utility of those techniques to specific research questions.
- a.4- list the most of microscopic features of male and female genital systems.

b-Intellectual skills

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

- b.1differentiate between anatomical structure of different organs of genital system
- b.2- interpret the different microscopic structure of genital system in relation to their function
- b.3-Describe the micro and macroscopic structure of different organs of genital system



Course specification for Diploma

b.4- identify the secretory cells and their characters of the genital system

C- Professional and practical skills

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

c.1. Preparing of the sections from the collected samples

c.2. Staining the sections by different histological stains

c.3. examine both micro and macroscopic organs of genital system

c.4. using the new technology in practical portion

d- General and transferable skills

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

d.1. Demonstrate information retrieval and library skills.

d.2. Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects.

d.3. present research finding in oral and written form using appropriate software (e.g., power point , word , excel and data base).

d.4. use all types of communications skills.

4-Topics and contents

Week	Topic	Total (hr)	Lectures (hr)	Practical (hr)
- 1 th w- 18 th w	Microscopic structure of male genital system			
	Structure of the testis			
	Structure of accessory genital gland	36	18	18
	Structure of male duct system			
- 19 th w- 36 th w	Microscopic structure of female genital system			
	Structure of the ovary	36	18	18
	Structure of uterus			

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows



Course specification for Diploma

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of stained tissues and data show).

6-Teaching and learning methods for the students with disabilities

Office hours and special meeting

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
written Exam	a1- a2- a3- a4	b1- b2- b3-	c1- c2- c3-	
Practical Exam	a1- a2- a3	b1- b2- b3-	c1- c2- c3-	
Oral Exam	a1- a2- a3- a4	b1- b2- b3-		d1-d2-d3- d4

7.2. Assessment schedules/semester:

Method	Week(s)
Written exam	53 th w-56 th w
Practical exam	52 th w
Oral exam	53 th w-56 th w
student activity	along the year

7.3. Weight of assessments/semester

Assessment	Weight of assessment
Writing exam	50%
Practical exam	25%
Oral exam	25%
student activity	-----
total	100%

8- List of references

8.1. Notes and books

Departmental notes on:



Beni-Suef University
Faculty of Veterinary Medicine

Course specification for Diploma

- Text book of veterinary histology part I:-Prof.Dr.Khaled Mazher, Dr.TaghreedNabil,Dr. Usama Kamal and Dr.Abdel-RazekHashem. 2015/ I.S.B.N. 27221/2015
- Text book of veterinary histology part II:-Prof.Dr.KhaledMazher, Dr.TaghreedNabil,Dr. Usama Kamal and Dr.Abdel-RazekHashem. 2015/ I.S.B.N. 27219/2015

8.2. Essential books:

-**Weather's Functional Histology (main reference book)**, a text and colour atlas. Fourth edition, by B.Young and J.W.Heath.

Cormack, D. H. (1987): Ham's Histology 9th Ed. J. B. Lippincott Company, Philadelphia, London, Mexico City, New York, St. Louis, Sao Paulo, Sydney

8.3. Recommended texts

- **Headlines of Veterinary Histology**. Hany E. S. Marei. 5th ed. 2006.V II. Department of

8.4. Journals, Websitesetc

Journals:

- American Journal of anatomy
- AnatomiaHistologiaEmbryologia
- Anatomical record
- Egyptian journal of Histology

Websites:

WWW.Science direct
WWW. Pubmed.com
[WWW.Scholar](http://WWW.Scholar.google.com) google.com
[WWW.welly](http://WWW.wellyinterscience)interscience

Course Coordinators

Dr. Taghreed Mohamed Nabil

Head of Department

Prof.DrIKhaled M.Mazher



Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Microscopic structure of male genital system Structure of the testis Structure of accessory genital gland Structure of male duct system Structure of animal sperm	1 th w- 18 th w	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4,
2	Microscopic structure of female genital system Structure of the ovary Structure of uterus Stages of folliculogenesis	19 th w- 36 th w	1,2,3,4	1,3,4	1,2,3,4	1,2,3,4,
	Student activities					1,2,3,4



BeniSuefUniversity
Faculty of Veterinary Medicine

Course specification

1-Basic information	
Course title :	Physiology of reproduction
Academic year:	2017-2018
Programme title:	Diploma of artificial insemination
Contact hours/week/semester:	Lecture:2 Tutorial: 0 Practical: 1 Others:0 Total: 3

2-Professional information

Overall aims of course
a -To ensure that students reserve a scientific base in veterinary reproduction. b -To provide students with the ability to advance biotechnology techniques in animal production.
- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding

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

- a1**-Summarize the anatomical, physiological and hormonal aspects of reproductive system..
- a2**-Discuss the physiology of sexual intercourse and its effects on the reproductive system of male.
- a3**-Describe the process of fertilization.
- a4**-Explain the relationship between different hormones & development and specify the various stages of development & its regulation.
- a5**-Understand the prenatal periods & describe the major events associated with each.
- a6**-Relate the stages of puberty to the hormonal control.

b-Intellectual skills

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

- b1-**Deal with ethical and professional issues pertaining to animal research.
- b2-**Compare between prenatal periods and events associated with each.
- b3-**Design an interplay between the maternal organ system and the developing fetus..

c-Professional and practical skills

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

- c1-**Collect semen and examine it.
- c2-**Examine of semen.
- c3-**Undertake advanced laboratory techniques used in animal production as IVM and IVF.

d-General and transferable skills

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

- d1-** Communicate effectively with public, colleagues and appropriate authority.
- d2-**Work effectively as a member of a team in delivering the services to community.
- d3-**Utilize communicating skills and have access to the internet and retrieve the information.
- d4-**Be committed to ongoing learning and self evaluation.
- d5-**Respect his profession and encourage cooperation with colleagues.
- d6-**Be kind with animals during experimentation and sacrifice.
- d7-**Apply the veterinary code of practice including ethics.

3-Topics and contents

Topics	No. of hours	Lectures	Practical
Structure and function of male reproductive system	36	24	12
Hormonal changes during reproductive cycle			
Sexual intercourse	30	20	10
Fertilization	30	20	10
Semen evaluation	30	20	10

Semen preservation	30	20	10
Total	156	52	104

4-Teaching and learning methods

- 4.1 Lectures.
- 4.2 Practical courses.
- 4.3 Computer search.
- 4.4 Seminars.

5-Teaching and learning methods for students with special needs.

- Students with special needs are strongly encouraged to talk to the instructors as soon as possible to gain maximum access to course information. All discussions should remain confidential.
 - University policy is to provide, on a flexible and individualized basis, reasonable accommodations to students who have documented disability conditions (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements.
- Students with disabilities are encouraged to contact Disability Services and their instructors to discuss their individual needs for accommodations.

6-Student assessment

6.1.Assessments methods

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U (a)	I.S (b)	P&P.S (c)	G.S (d)
Written exam	a1 -a6	b, b2		
Oral exam		b1 -b3		
Practical exam			c1-c3	

6.2-Assessment schedules/semester

Assessments methods	Time of Assessments
Assessment1 Written:	Last week in January or April

Assessment 2 Oral:	Last week in January or April
Assessment 3 Practical:	Last week in January or April

6.3-Weight of assessments

Assessment	%	Allocated Mark Total
Final term examination	50	
Oral examination	20	
Practical examination	30	
Total		100%

7- List of references

7.1. Departmental Notes

Course notes: Student handbook of physiology part II prepared by the department staff members.

7.2Essential books

- * Ruminant Physiology. F.B. Cornje 2000.
- * Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.
- * Physiology of Domestic Animals. William O. Reece 1991.
- * Principles of Anatomy and Physiology. 4th edition. Gerard J. Tortora – Nicholas P. Anagnostakos 1975.

7.3- Recommended books

- * * * Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.
- * Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.
- * Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

7.4. Journals , Websitesetc

Journals:

- * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt.
- * Neni Suef Vet. Med. J., Neni Suef, Egypt.

Websites:

1. Pubmedmidline.
2. U-Tube
3. www.Bnsvet.com

**8- Other Resources / Facilities required for teaching and learning to achieve the above ILOs
(for example, Field trips).....**

9- We certify that all of the information required to deliver this course is contained in the above specification and will be implemented

Course coordinator

Dr / Nermeen Atef

Date:

Head of department:

Prof. Dr / Ahmed Hashem El-Anwar

Date:

Matrix alignment of course topics and `ILOs

Topic	No. of hours /weeks		No. of weeks	Total hours	Hours for lecture	Hours for practical	K.U(a)	I.S(b)	P.P.S (c)	G.T.S (d)	Lect.	Pract.	Computer search	seminars
	Lect.	Pract.												
Structure and function of male reproductive system	2	1	12	36	24	12	a1, a2	b1	c1,c2	d1-d7	√	√		√
Hormonal changes during reproductive cycle	2	1	4	12	8	4	a1, a4, a6	b1	c2,c3		√	√	√	
Sexual intercourse	2	1	2	6	4	2	a2	b1	c3	d1-d7	√	√		√
Fertilization	2	1	9	27	18	9	a3		c3	d1-d7	√	√	√	√
Semen evaluation	2	1	12	36	24	12	a4,a5	b2,b3	c3	d1-d7	√	√	√	√
Semen preservation	2	1	8	24	16	8	a6	b3	C2	d1-d7	√	√	√	√
Final exam.			1											
Total			48	141	94	47								



1-Basic information

Course Code:	D7-C
Course title :	Artificial Insemination Course
Program title:	Diploma of Artificial Insemination
Contact hours/ week	4 hours/week (Lecture: 2 - Practical: 2)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- 1- Introducing the academic background and practical experience about artificial insemination.
- 2- Detect and solve the infertility problems resulted from coitus.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a-1- Define the Artificial Insemination.
- a-2- Be aware about the keeping and rearing of AI sires.
- a-3- Specify the processes of semen diluents and cryopreservation.
- a-4- Match the insemination techniques of liquid and frozen semen.

b-Intellectual skills

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

- b-1- Capability for creative thinking for making a simulation figure of an ideal AI center.
- b-2- Knowledge about the proper formulation of rations for AI sires.
- b-3- Creative thinking for keeping breeding stock.

C- Professional and practical skills

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

- c-1- Follow up of the fertility results of the AI sires at field basis..
- c-2- identification of the new breeds introduced to the AI center.
- c-3- Control of heat stress.
- c-4- Proper nutrition of breeding bulls

d- General and transferable skills

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

- d-1- Management of an artificial insemination center.
- d-2- Lectures about the importance of AI in improving the overall reproductivity and the profitability of the dairy farms.
- d-3- Utilize different available resources for efficient obtaining of knowledge and information.



4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Introduction and historical view of AI	4	4	-
	Advantages and Disadvantages of AI	4	4	-
	Semen collection from bull	8	-	8
	Semen collection from stallion	8	-	8
	Semen collection from other farm and pet animals	8	-	8
	Semen evaluation	8	-	8
	Biochemistry and semen metabolism	4	4	-
	Semen Dilution	8	8	-
	Semen processing	16	12	4
	Preservation of semen at refrigeration temperature	12	8	4
	Frozen semen	20	12	8
	Forms of frozen semen	12	8	4
	Insemination techniques	4	-	4
	In vitro fertilization	8	4	4
	Embryo transfer	16	8	8
	Total	144	72	72

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and faculty library)
- 5.3- Practical (models, samples of Slaughter house material, clinical cases).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1, a2, a3	b2	c1,c2	d1
Practical Exam		b1, b2, b3	c3, c4	d2
Oral Exam	a1, a2, a3, a4	b1, b2	c2	d3

7.2. Assessment schedules

Method	Week(s)
Practical exams	During 45 th week - 48 th week



Beni Suef University
Faculty of Veterinary Medicine

Final exams	During 45 th week - 48 th week
Oral Exam	During 45 th week - 48 th week

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	30%
Final exams	50%
Oral Exam	20%
total	100%

8- List of references

8.1. Notes and books

Departmental notes on: Theriogenology

8.2. Essential books:

- Reproduction in farm animals, E.S.E.Hafez
- Current therapy in theriogenology, D.A.Morrow.
- Current therapy in large animal theriogenology, R. S.Young quist

8.3. Recommended texts

- Applied animal reproduction, H.J.Bearden
- Fertility and infertility in domestic animals, J.A.Laing..
- Anatomy and physiology of farm animals, R.D.Frandson

8.4. Journals, Websitesetc

Journals:

- J. Animal reproduction & Fertility
- J. Fertility & Sterility
- Theriogenology
- J. Andrologia

Websites:

- www.sciencedirect.com
- www.pubmed.com
- Google.Com
- Arabvet.com
- Esarf tripod.com/index.htm

Course Coordinators

Prof. Dr. Saber Mohamed Abd-Allah

Head of Department

Prof. Dr. Mahmoud Mohamed Hussien



Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Course Description		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1.	Introduction and historical view of AI	1 st w- 2 nd w	1,2,3, 4	1,2,3	1,2,3,4	1,2,3
2.	Advantages and Disadvantages of AI	3 rd w- 4 th w	1,2,3,4	1,3	1,2,3,4	1,2,3
3.	Semen collection from bull	5 th w- 7 th w	1,2	1,2,3	1,2,3	1,2,3
4.	Semen collection from stallion	8 th w- 10 th w	1,2	1,2,3	1,2,3	1,2,3
5.	Semen collection from other farm and pet animals	11 th w-13 th	1,2,3	1,3	1,2,3,4	1,2,3
6.	Semen evaluation	14 th w-15 th w	1,2,3	1,3	1,2,3,4	1,2,3
7.	Biochemistry and semen metabolism	16 th -17 th w	1,2,3,4	1,3	1,2,3,4	1,2,3
8.	Semen Dilution	18 th w-19 th w	1,2,3	1,3	1,2,3,4	1,2,3
9.	Semen processing	20 th w-21 st w	1,2,3	1,2,3	1,2,3,4	1,2,3
10	Preservation of semen at refrigeration temperature	22 nd w- 23 rd w	1,2,3,4	1,3	1,2,3,4	1,2,3
11	Frozen semen	24 th -26 th w	1,2,3,4	1,3	1,2,3,4	1,2,3
12	Forms of frozen semen	27 th w-29 th w	1,2,3	1,2,3	1,2,3,4	1,2,3
13	Insemination techniques	30 th w – 31 st w	1,2,3,4	1,3	1,2,3,4	1,2,3
14	In vitro fertilization	3 ^{2nd} -33 rd w	1,2,3,4	1,2,3	1,2,3,4	1,2,3
15	Embryo transfer	34 th -36 th w	1,2,3,4	1,2,3	1,2,3,4	1,2,3



Beni-Suef University
Faculty of Veterinary Medicine



University: Beni-Suef University, Egypt.

Faculty: Faculty of Veterinary Medicine.

Department: Anatomy and Embryology

Course specification (2016-2017)

A- Administrative Information:

Course Code:	D7-E
Course title :	Comparative anatomy of male genital system.
Academic year:	Postgraduate students.
Program title:	Diploma of Vet. Med. Sciences (Artificial insemination).
Degree:	Diploma.
Contact hours/ week	2 hours per week (1hr theoretical and 1hr practical).
Course coordinator:	Dr. Ashraf Sayed Awaad.
External evaluator(s)	Prof. Dr. Essam Mohamed Moustafa El-Gindy
Date of course approval:	

B-Professional information

1- Overall aims of course:

This course aims to:

Provide the postgraduate students knowledge and skills related to urogenital system of domestic animals.

2- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

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

- a1. Distinguish the principle component of the urinary system of domestic animals.
- a2. Conclude the typical structure of the male genital system of domestic animals.
- a3. Ascertain the surface landmarks of the underlying viscera.
- a4. Set the correlation of the anatomical facts to the clinical problems.
- a5. Recall the correct anatomical terms when giving topographical description of directional or positional anatomical detail.
- a6. Elicit the nomenclature for the planes used in anatomical presentation of specimens.
- a7. Recognize a comprehensive knowledge about the gross anatomy of the urinary and male genital system of domestic animals.
- a8. Mention the topographical position of different parts of male genital system in domestic animals.
- A9. Set the comparative points of the genital organs in domestic animals with special reference to their clinical significances.



b-Intellectual skills:

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

- b1. Analyze the diversity of knowledge in the term of gross anatomical characteristics of each organ and/or structure.
- b2. Identify the different surface markings of the animal's pelvis.
- b3. Identify isolated specimens of male genital system of domestic animals.
- b4. Distinguish with evidence and confidence characteristic features of each organ and/or structure in each animal class.
- b5. Compare between the urinary and male organs in domestic animals.
- b6. Relate structure-functions relation of those organs system components.
- b7. Explain the interrelationships within and between anatomical and physiological systems of the animal's body.
- b8. Correlate the anatomical facts to the clinical problems.
- b9. Analyze the gained anatomical facts of importance in the field of practice.
- b10. Analyze the diversity of knowledge in the term of gross anatomical characteristics of each organ and/or structure.
- b11. Estimate the problems related to the visceral organs in different animals based on the gained knowledge about their normal anatomy and position.

c-Professional and practical skills

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

- c1. Detect the shape and position of isolated specimens of male genital system of domestic animals.
- c2. Coordinate the radiographic anatomy of the pelvis to clarify some field problems.
- c3. Interpret graphs of anatomical and physiological data.
- c4. Differentiate between isolated organs male genital system in domestic animals.
- c5. Apply the anatomy facts in solving and explanation of different clinical problems.
- c6. Perform postmortem dissection of domestic animals.
- c7. Interpret on clinical findings inside domestic animals based on known normal anatomy background.
- c8. Dissect probably different regions of animal's body.
- c9. Use correctly the surgical instrumentation to carry out cadaver dissection.

d-General and transferable skills

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

- d1. Appreciate the team working and time management.
- d2. Value the ethics and respect to all individuals inside and outside the dissecting room and pay appropriate respect to the animal's cadavers.
- d3. Recognize the scope and limits of their role as students as well as the necessity to seek and apply collaboration with other colleagues.
- d4. Maintain a professional image concerning behavior, dress and speech.
- d5. Be responsible toward work.
- d6. Communicate effectively with public, colleagues and appropriate authorities.
- d7. Achieve computer skills necessary to make use of medical databases and use the internet for communication.
- d8. Prepare a scientific paper and essay.



3-Topics and contents

Course	Topic	Total no. of hours	Lect.	Pract.
Postgraduate students Comparative anatomy of male genital system 2 hours/week (Lec. 1hr/wk - Pract. 1hr/wk)	1. Comparative anatomy of urinary system (kidney, urters, urinary bladder and urethra)	6	3	3
	2. Dissection of equine abdominal cavity	2	1	1
	3. Comparative anatomy of testes and scrotum	6	3	3
	4. Comparative anatomy of male accessory genital glands	10	5	5
	5. Comparative anatomy of male external genitalia	8	4	4
	6. Dissection of equine male pelvis	10	5	5
	7. Surface anatomy of equine perineal and inguinal regions	10	5	5
	Total	52	26	26

4-Teaching and learning methods

5.1. Lectures (brain storming, discussion) in which one or more of the following facilities are used:

- 5.1.1. Whiteboard and data-show presentations.
- 5.1.2. Educational animal models, bones and preserved specimens.
- 5.1.3. Illustrations, anatomical charts, CD's, PowerPoint slides and recorded anatomy videos.

5.2. Laboratory sessions in which one or more of the following facilities are used:

- 5.2.1. Tutor presentation followed by students' small group sessions.
- 5.2.2. Freshly died cadavers of laboratory animals.
- 5.2.3. Educational models.
- 5.2.4. Prepared bones from euthanatized animals.
- 5.2.5. Demonstrating formalin preserved cadavers.

5.3. Independent (laboratory and home assignments supervised by tutor)

- 5.3.1. Writing reports and assignments (computer researches and faculty library attendance).
- 5.3.2. Preparation of colored posters and slide presentation.
- 5.3.3. Preparation of bones and preserving specimens.
- 5.3.4. Group discussion.

5-Student assessment

5.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1,a2, a4, a5, a6, a7, a8, a9,	b5, b6,b7, b8, b9, b10, b11	c1, c2, c3, c4, c5	d1
Practical Exam	a1, a2, a3, a4, a6, a7	b1, b2, b3, b4, b7, b8, b10, b11	c1, c2, c3, c4, c5, c6, c7, c8, c9	d1, d2, d3, d4, d5,d6, d7, d8
Oral Exam	a1-a7	b1-b11	c1, c2, c4, c5, c6, c8, c9	d1,d2, d3,d4,d5, d6

5.2. Assessment schedules/semester:

Method	Week(s)
Practical exams	Managed by department administration
Final exams	Managed by faculty administration
Oral Exams	Managed by department administration
Student activities	Along the semester

5.3. Weight of assessments:

Assessment	Weight of assessment
Practical and oral exams	50%
Final exams	50%
Student activities	----
Total	100%

6- List of references

8.1. Notes and books:

None

8.2. Essential books:

8.2.1. Atlas of rabbit anatomy, (R. Barone C Pavaux, PC Blin P. Cuq, 1973): Masson et Cie, Paris, Library of Congress Catalog Card number: 72-92999. ISBN: 2-225 35 5307.

**This book is available online.*

8.2.2. Laboratory anatomy of the white rat, (RB Chiasson, 1958), 4th edition. Wcb, Wm. C. Brown Company Publishers Dubuque, Iowa.

**This book is available in the library of faculty of Veterinary Medicine, Beni-Suef Univ.*

8.2.3. A Colour Atlas of Anatomy of Small Laboratory Animals, Volume 1: Rabbit, Guinea Pig, (P Popesko, V Rajtova & J Horák, 1992). Wolfe Publishing Ltd, ISBN: 0-7020-2699-9

**This book is available in the library of faculty of Veterinary Medicine, Beni-Suef Univ.*

8.3. Recommended textbooks:

8.3.1. Atlas of the rabbit brain and spinal cord, (J.W. Shek, G.Y. Wen, H.M. Wisniewski. 1986), National Library of Medicine, Cataloging in Publication, Shck, J.W. Basel; New York: Karger, Includes index. ISBN 3-8055-3814-6. **This book is available online.*

8.3.2. Colour atlas of vertebrate anatomy, an integrated text and dissection guide, (GM King,



DRN Custance, 1982) Blackwell Scientific Publishers, Bolsover Press. ****This book is available online.***

8.3.3. Small Animal Anatomy: The Essentials, (TO McCracken, RA Kainer, D Carlson 2008), Blackwell Publishing Professional 2121 State Avenue, Ames, Iowa 50014, USA. Blackwell Publishing. ****This book is available online.***

8.3.4. Ferrets, Rabbits, and Rodents Clinical Medicine and Surgery, (KE. Quesenberry and JW Carpenter, 2012), 3rd edition, ISBN: 978-1-4160-6621-73251, Riverport Lane St. Louis, Missouri 63043 Saunders, an imprint of Elsevier Inc. ****This book is available online.***

8.3.5. Rabbit Medicine and Surgery for Veterinary Nurses, (M Fraser, S Girling, 2009), ISBN: 978-1-4051-4706-4, Wiley-Blackwell. ****This book is available online.***

8.3.6. Biology and Diseases of the Ferret (JG Fox, RP Marini, 2014), 3rd edition, Wiley-Blackwell, ISBN: 978-0-470-96045-5. ****This book is available online.***

8.4. Journals, Websitesetc

Journals

Anatomia, Histologia, Embryologia - Wiley Online Library

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1439-0264](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1439-0264)

The Anatomical Record - Wiley Online Library

[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1932-8494](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1932-8494)

Journal of Anatomy- Wiley Online Library

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1469-7580](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1469-7580)

Annals of Anatomy - Journal-Elsevier

<http://www.journals.elsevier.com/annals-of-anatomy/>

Journal of Veterinary Anatomy

<http://www.vetanat.com/>

Indian Journal of Veterinary Anatomy

<http://epubs.icar.org.in/ejournal/index.php/IJVA>

International Journal of Animal Anatomy and Physiology

<http://internationalscholarsjournals.org/journal/ijaap>

Journal of Advanced Research in Veterinary Science and Technology

<http://www.adrpublications.com/Journal-of-Advanced-Research-in-Veterinary-Science-and-Technology.html>

Beni-Suef Veterinary Medical journal

<http://www.bsuv.bsu.edu.eg/vetmed.aspx#>

Websites

Google search www.google.com

Sciencedirect <http://www.sciencedirect.com>.

Pubmed <http://www.Pubmed>.

Colorado State university online <http://www.online.colostate.edu/courses/VS/VS333.dot>

The university of adelaide <https://www.adelaide.edu.au/course-outlines/104377/1/sem-1/>

Veterinary anatomy courses <http://vanat.cvm.umn.edu/vanatCourses/CVM6100.html>

Anatomy museum <http://skeletonmuseum.com/>

Animals skeletons www.animalskeletons.net

VET Veterinary Educational Tools <http://www.cvmbs.colostate.edu/vetneuro/>

Education platform <http://ivsascove.wix.com/eduplatform#!anatomy-hist-embr/ctsm>

Veterinary anatomy <http://vetmedicine.about.com/od/anatomy/>

Online Veterinary Anatomy Museum <http://www.onlineveterinaryanatomy.net/>



Imaging Anatomy Website http://vetmed.illinois.edu/courses/imaging_anatomy/
Real 3D anatomy <http://www.real3danatomy.com/>
Interactive Programs for Canine Anatomy <http://www.tabanat.com>
Virtual Canine Anatomy <http://www.cvmbs.colostate.edu/vetneuro/VCA3/vca.html>
Veterinary anatomy museum <http://vanat.cvm.umn.edu/museum/>
Veterinary neurobiology laboratory preview/review <http://vanat.cvm.umn.edu/neurolab/>
Carnivore and developmental anatomy lectures <http://vanat.cvm.umn.edu/TFFlect.html>
Rooney's guide to the dissection of the horse <http://www.vet.cornell.edu/oed/horsedissection/>
Interactive drawings for veterinary anatomists <http://www.images4u.com/>
Veterinary anatomy: directions and planes <http://vanat.cvm.umn.edu/anatDirections/>
Canine planar anatomy <http://vanat.cvm.umn.edu/planar/>
Gaits: gait foot-fall patterns <http://vanat.cvm.umn.edu/gaits/>
Sheep brain dissection guide <http://academic.uofs.edu/departments/psych/sheep/>
Anatomical Society of Great Britain and Ireland, <http://www.anatsoc.org.uk/>
Sheep brain atlas <https://www.msu.edu/~brains/brains/sheep/index.html>
Neuroanatomy correlation lab <http://instruction.cvhhs.okstate.edu/neurology/>
Primate anatomy and physiology <http://pin.primat.wisc.edu/aboutp/anat/>
Functional anatomy of the horse foot
<http://extension.missouri.edu/xplor/agguides/ansci/g02740.htm>

Course Coordinator

Dr. Ashraf Sayed Awaad

Assistant professor of Anatomy and Embryology
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Zein Elabdein Adam

Professor and Head of Anatomy and Embryology
department, Faculty of Veterinary Medicine,
Beni-Suef University

Course specification Matrix

Topic		Week	Intended learning outcomes of course (ILOs)			
			K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Postgraduate students Comparative anatomy of male genital system 2 hours/week (Lec. 1hr/wk - Pract. 1hr/wk)	1. Comparative anatomy of urinary system (kidney, urters, urinary bladder and urethra)	1, 2, 3	1,3,5,6,9	1,2,3,4	1, 2,6,7,8,9	1-8
	2. Dissection of equine abdominal cavity	4	1,3,4,5,6,9	1,2,3,4,5,6	1, 2,6,7,8,9	
	3. Comparative anatomy of testes and scrotum	5, 6, 7	1,2,4,6,7,9	7,8,9,10,11	3,4,6,7,8	
	4. Comparative anatomy of male accessory genital glands	8, 9, 10, 11, 12	2,4,6,7,8	7,11	7,8	
	5. Comparative anatomy of male external genitalia	13, 14, 15, 16	2,4,5,6,7,9	7,8,9,10,11	3, 4,5,6,7,8	
	6. Dissection of equine male pelvis	17, 18, 19, 20, 21	2,4,6,7,9	7,8,9,10,11	3, 4, 5,6,7,8	
	7. Surface anatomy of equine perineal and inguinal regions	22, 23, 24, 25, 26	2,4,5,6,7,9	7,8,9,10,11	3, 4,5,6,7,8	