Beni-Suef University
Faculty of Veterinary Medicine
Department of physiology
Program Specification for Ph Degree
2017-2018

A-Basic information:
1- **Course title:** *PhD VSC.* **Specialty:-**
2- **Program type:** *Single*
3- **Department offering program: physiology department**
4- **Academic year:** *2017-2018*
5- **Approval date of Department Council:**
6- **Approval date of Faculty Council:**
7-External evaluator:

B-Professional information:

1- Overall aims of the program:

1-Recognize all theories, principles and basics of his/her area of learning and other related sciences .
2- Provide graduates the opportunity to develop communication skills.
3- Master the various methods of data collection and application of analytical and critical approach in relevant specialty.
4- Integrate the specialized and related knowledge to conclude and develop the interdisciplinary relation
5- Be aware of current physiology and public health problems and recent related approaches.

2- Intended learning outcomes of course (ILOs):

a- Knowledge and understanding:
By the end of this PhD program the graduate should be able to:

al- Describe advanced research techniques used in the field of physiology.
a2- apply their knowledge and understanding of physiology to the critical analysis and discussion of the scientific literature.
a3- Connect up to date physiology professional practice regulations and ethics.

a4- Sustain quality control in physiology professional practices

a5- Be aware efficiently of the physiology professional practice effects on community development and environment protection.

b- Intellectual capacity:
By the end of this PhD program the graduate should be able to:
    b1- Identify , conceptualize and define research problems and questions
    b2- critically evaluate the research data and develop new approach to deal with the research questions
    b3- develop creative approaches to solve technical problems or issues associate with running and researches project.
    b4- identify , summarize and evaluate prior researches finding in a specific area
    b5- Assess the risk in physiology professional practice.

c- Professional and practical skills:
By the end of this PhD program the graduate should be able to:
    c1- Apply the principles of good experimental design and analysis to their own research project .
    c2- Select and perform relevant statistical analysis on data obtained for their own research .
    c3- Plan a research project in the field of physiology with a consideration to technical , ethical and safety issues and associated costs.
    C4-. Utilize the regulations and indicators for performance evaluation.

d- General and transferable skills:
On successful completion of this program the graduate should be able to:
    dl- Demonstrate an ability to learn independently in preparation for a career of lifelong learning .
    d2- Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects
    d3- present research finding in oral and written from using arrange of appropriate soft ware (e.g., power point , word , excel and data base).

3- Academic standers:

* 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 (March 2009) Master 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, Beni-Suef University, Beni-Suef, Egypt are selected to confirm the appropriateness of the academic standards .

ARS (National Academic Reference Standards) prepared by NAQAAE.

4- Curriculum Structure and Contents

a-Program duration: 48 weeks.

b-Program structure: 3-5 preliminary courses
☒ Hours/ week:

Theoretical | 5-8 | Practical | 6-8 | Total | 11-16

Preliminary courses

| Code | Course title | Hours /week | | Academic year | Teaching duration |
		theoritical	practical		
According to selected courses	Selected (3-5) PhDcourses from the various Faculty Departments programs depending on the thesis title.	5-8	6-8	Preliminary year	36 weeks

D- Courses contents
See courses specification

5- Program Admission Requirements
* According to the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate Programs, applicants should have a master degree in the

specialization subject he will register in one of the Egyptian Universities or an equivalent degree from any approved university or another recognized scientific institute.

* According to Beni-Suef University requirements, all applicants for postgraduate studies should fulfill preliminary courses on the following subjects:

1-English language (Toefl or equivalent degree)

* Admission to the program is open during March and September annually.

*The faculty council has the right to suspend the student enrolment for a certain period if he has acceptable excuse preventing him from continuing his study or research.

6. Regulations for Progression and Program Completion

After finishing the preliminary courses, the graduate student will be eligible to sit for the examination according to the following roles:

No. of course teaching hours/ week	Allowed written examined time	Degree	
		Theoretical	Practical and oral exam
≥ 3 hours	3 hours	50	50
≤ 3 hours	2 hours	25	25

-The faculty council has the right to deprive the applicant from entering the exams if his attendance courses is less than 75% .

-Failure or depriving from entering one or more course did not requires reexamination of successful passed courses.

-The applicant should submit a seminar within 2years after registration about his research and specialization subject filed that accepted by a committee of professors and assistant professors(3 in number).

-the applicant should submit the thesis that accepted by the judging committee in an open discussion and the following polices should be met

 -pass all preliminary curriculums successful

 -acceptance of the seminar presented by the applicant.

-The applicant should publish at least two scientific papers from the thesis in local or international journals

Qualification grades:

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

After passing, the graduate starts research for Ph.D. Thesis at the beginning of the second year.

The candidate will receive his degree after evaluating and approving the thesis by a committee according to University regulations.

7-Graduate student assessment

A: Assessment Tools

According the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate, students should be assessed at the end of preliminary year and the thesis should be evaluated and approved by a committee after at least three years from registration date according to University regulations.

Preliminary year

Assessments methods for each course	practical exam	Oral exam	Written exam
Time of Assessments	By the end of the year	By the end of the year	By the end of the year
Marks	25	25	50

Ph.D. Thesis:

The Ph.D. students should prepare a thesis in physiology The department and the ethical committees must approve the protocol of the research. The thesis includes a review part with a practical part. The thesis is supervised by two or more staff members and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee according to University regulations.

B- Matrix alignment of the measured ILOs

8- Evaluation of Program Intended Learning Outcomes

Evaluator	Tool	Sample

Assessments methods	Matrix alignment of the measured ILOs			
	K&U (a)	I.S (b)	P&P. S (c)	G&T. S (d)
Written exam	5,7,8	1,3,6	1,2,4,5,6,	-----
Practical exam	1,2,3,4,	3,4,5,6,	1.2.3.4.6.	1.2.3.4
Oral exam	1,2,3,4,5	1,2,4,5,6,	1.7	1,2,3,4

1. Post graduate Students	Questionnaire at the end of the program	All the PG students
4. External Evaluators	Review program and courses Attending the final exam	Once before implementation annual report
5. College Quality Assurance committee	Annual program reviewer	

Course coordinator   **Head of the Department**

Program ILOS		1- Recognize all theories, principles and basics of his/her area of learning and other related sciences.	2- Provide graduates the opportunity to develop communication skills.	3- Master the various methods of data collection and application of analytical and critical approach in relevant specialty.	4- Integrate the specialized and related knowledge to conclude and develop the interdisciplinary relation.	5- Be aware of current physiology and public health problems and recent related approaches.
Knowledge and understanding	a1- Describe advanced research techniques used in the field of physiology.	√			√	
	a2- apply their knowledge and understanding of physiology to the critical analysis and discussion of the scientific literature.	√				
	a3- Connect up to date physiology professional practice regulations and ethics.	√		√		
	a4- Sustain quality control in physiology professional practices.		√	√		
	a5- Be aware efficiently of the physiology professional practice effects on community development and environment protection.			√		√
Intellectual skills	b1- Identify , conceptualize and define research problems and questions		√			√
	b2- critically evaluate the research data and develop new approach to deal with the research questions		√			√
	b3- develop creative approaches to solve technical problems or issues associate with running and researches project.			√	√	
	b4- identify , summarize and evaluate prior researches finding in a specific area.				√	√

Program ILOS		Program aims				
		1- Recognize all theories, principles and basics of his/her area of learning and other related sciences.	2- Provide graduates the opportunity to develop communication skills.	3- Master the various methods of data collection and application of analytical and critical approach in relevant specialty.	4- Integrate the specialized and related knowledge to conclude and develop the interdisciplinary relation.	5- Be aware of current physiology and public health problems and recent related approaches.
	b5- Assess the risk in physiology professional practice.			√	√	
Practical and professional skills	c1- Apply the principles of good experimental design and analysis to their own research project .	√				√
	c2- Select and perform relevant statistical analysis on data for their own research .		√			√
	c3- Plan a research project in the field of physiology with a consideration to technical , ethical and safety issues and associated costs.	√			√	
	c4- Utilize the regulations and indicators for performance evaluation.		√		√	
general and transferable skills	d1- Demonstrate an ability to learn independently in preparation for a career of lifelong learning .			√	√	
	- d2- Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects	√			√	
	- d3- present research finding in oral and written from using arrange of appropriate soft ware (e.g., power point , word , excel and data base).		√			√

PhD Program Specification Matrix (Program Courses with ILOS)

Program ILOs		courses
Knowledge and understanding	a1	ph-23, ph-24,ph-25, ph-26, ph-27, ph-28, ph-29, ph-30, ph-31, ph-33 ,ph-156,ph-47 and thesis.
	a2	ph-23, ph-24,ph-25, ph-26, ph-27, ph-28, ph-29, ph-30, ph-31, ph-33, ph-35,ph-36 ,ph-37 and thesis.
	a3	ph-23, ph-24,ph-25, ph-26, ph-27, ph-28, ph-29, ph-30, ph-31, ph-33 ,ph-38 ,ph-39 and thesis.
	a4	ph-23, ph-24,ph-25, ph-26, ph-27, ph-28, ph-29, ph-30, ph-31, ph-33,ph-32,ph-75,ph-76,ph-77 and thesis.
	a5	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -34, ph -35, ph -36 and thesis .
Intellectual skills	b1	ph-1, ph-2, ph-3, ph -4, ph -5, ph -6, ph -7, ph -8, ph -9, ph -10, ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33 .
	b2	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -34, ph -35, ph -36 and thesis .
	b3	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -37, ph -38 ,ph -39 and thesis.
	b4	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -75, ph -76, ph -77 and thesis.
	b5	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -34, ph -35, ph -36 and thesis .
Professional and practical skills	c1	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -34, ph -35, ph -36, ph -37 , ph -38.
	c2	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33 and thesis.
	c3	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29,

		ph -30, ph -31, ph -33 and thesis.
	c4	ph -26, ph -27
General and transferable skills	**d1**	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -156, ph -47, ph -109 and thesis.
	d2	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -75, ph -76, ph -77 and thesis.
	d3	ph -23, ph -24, ph -25, ph -26, ph -27, ph -28, ph -29, ph -30, ph -31, ph -33, ph -54, ph -156 and thesis.

Program ILOs with academic standers matrix

Academic standers / Program ILOs		a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	b6	b7	b8	b9	c1	c2	c3	c4	c5	d1	d2	d3	d4	d5	d6	d7
		Knowledge and understanding					Intellectual skills									Professional and practical skills					General and transferable skills						
Knowledge and understanding	a1	√																									
	a2		√																								
	a3			√																							
	a4				√																						
	a5					√																					
Intellectual skills	b1								√																		
	b2							√		√			√														
	b3										√																
	b4											√		√													
	b5						√					√			√												
Professional and practical skills	c1															√											
	c2																√										
	c3																	√		√							
	c4																		√								
	c5																										
General and transferable skills	d1																				√						
	d2																				√					√	
	d3																					√		√			
	d4																								√		√

11

==

Course specification of postgraduate

Course Code:	PH-23
Course title :	Physiology of mammalian endocrine glands and reproduction
Program title:	PH.D. Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture) 4hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1- ensure that students reserve a comprehensive theoretical base in veterinary endocrinology and reproduction**.**

2- provide students with the opportunities to develop communication, practical scientific research and teaching skills.

3- provide the students with the ability to advance biotechnology science and disseminate it for animal production.

-

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

 a.l- recognize the control of endocrine glands.

a.2- explain the hormonal cycle.

a.3- identify the hormones produced by endocrine glands and specify their physiological effects.

a.4- know about reproductive endocrinology and infertility.

a.5- outline the process of gametogenesis.

a.6- summarize the difference between male and female in anatomical, physiological and hormonal aspects of reproductive system.

b-Intellectual skills

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

 . **bl-**To deal with ethical and professional issues pertaining to large and small animal production.

b.2-To compare the physiological effects and mechanism of action of hormones regulating body functions.

b.3-To discuss the subjects related to endocrinology and reproduction in the form of seminars, reports and presentations.

C- Professional and practical skills

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

 c.l- collect, examine and describe samples of semen and vaginal smears.

c.2- demonstrate practical skills in handling small and large animals.

c.3- differentiate between different phases of estrous cycle in farm animals.

c4- To undertake advanced laboratory techniques used in animal production.

d- General and transferable skills

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

d.l- demonstrate a spirit of intellectual curiosity through research work.

d.2- demonstrate a degree of independence in research and use self initiatives in solving problems.

d.3- demonstrate the ability to learn independently for a career of lifelong learning.

4-Topics and contents				
Course	**Topic**	**No. of hours**	**Lectures**	**Practical**
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Control of endocrine glands	18hrs	9hrs	9hrs
	Hormonal cycle	18hrs	9hrs	9hrs
	Factors that affecting hormonal levels	18hrs	9hrs	9hrs
	Composition of hormones	18hrs	9hrs	9hrs
	Reproductive endocrinology and infertility	18hrs	9hrs	9hrs
	Organs act as endocrine glands	18hrs	9hrs	9hrs
	Hormones secreted by reproductive system	18hrs	9hrs	9hrs
	Hormones storage	18hrs	9hrs	9hrs
	Total	144	72hrs	72hrs

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 library)

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

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-a4-a5-a6-	b1- b2- b3-	c1- c2- c3- c4	d1-d2-d3

===

Practical Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3-	c1- c2- c3-c4	d1-d2-d3
Oral Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3-	C1-c2-c3c4	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	Last **Week**
Practical exam	Last **Week**
Oral exam	Last **Week**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs.

8.2. Essential books: Veterinary endocrinology and reproduction. Mauricio,H; Pineda Michael,P and Doole,Y, 2003. Blackwell Publishing Iowa State Press (5th edition).

8.3. Recommended texts * Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

8.4. Journals, Websites ……..etc

<u>Journals:</u> * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

<u>Websites:</u>
WWW.Science direct
WWW. Pubmed.com
<u>WWW.Scholar</u> google.com
<u>WWW.welly</u> interscience

    Course Coordinators   **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni-Suef University
Faculty of Veterinary Medicine

═══

Course specification of postgraduate

Course Code:	PH-24
Course title :	Poultry physiology
Program title:	**PH.D. Degree of Veterinary Medical Sciences (Animal physiology**
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

1- ensure that students reserve a comprehensive theoretical base in poultry physiology**.**

2- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of birds and rabbits production

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

   a.l-develop an understanding of basic avian physiology and anatomy as they relate to management.

   a.2- explain different physiological factors and nutrition on meat and egg production.

   a.3- describe advanced techniques for improve avian reproduction.

   a.4-develop skills in avian taxonomy.

b-Intellectual skills

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

   b.l- differentiate between body systems in mammals and birds.

   b.2- deal with ethical and professional issues pertaining to animal research.

C- Professional and practical skills

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

   c.l- examine blood samples of birds.

   c.2- make use of statistical techniques.

   c.3- localize endocrine glands of birds.

   c.4- examine reproductive system of birds

d- General and transferable skills

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

   d.l- summarize research findings in oral form in seminars and workshops.

   d.2- communicate effectively with supervisors.

   d.3- demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Avian fertility; Mating and insemination	18hrs	9hrs	9hrs
	Effect different Physiological factors and nutrition on meat production	18hrs	9hrs	9hrs
	Survival and activity (transport) of spermatozoa in the oviduct and Fertilization	18hrs	9hrs	9hrs
	Embryo development	18hrs	9hrs	9hrs
	Growth and Feed consumption	18hrs	9hrs	9hrs
	avian taxonomy	18hrs	9hrs	9hrs
	Rabbit breeding and production	18hrs	9hrs	9hrs
	Control of poultry reproduction	18hrs	9hrs	9hrs
	Total	144	72hrs	72hrs

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 library)

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

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- a4	b1- b2	c1- c2- c3-c4	d1-d2-d3
Practical Exam	a1- a2- a3-a4	b1- b2	c1- c2- c3-c4	d1-d2-d3
Oral Exam	a1- a2- a3-a4	b1- b2	c1- c2- c3-c4	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books

   Student handbook of physiology prepared by the department staffs.

   8.2. Essential books: Veterinary endocrinology and reproduction. Mauricio,H; Pineda Michael,P and Doole,Y, 2003. Blackwell Publishing Iowa State Press (5th edition).

   8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

   * Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

  Course Coordinators   **Head of Department**

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	PH-25
Course title :	Fish physiology
Program title:	**PH.D.** Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)- 1 hrs(lecture) 3 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- ensure that students reserve a comprehensive theoretical base in fish physiology**.**

b- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of fish farming.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

  al- understand the terminology and taxonomy of fish physiology.

  a2- explain the Fish Diversity.

  a3- clarify how can fish operate in three dimensions with different problems of orientation, location and osmoregulation.

  a4- explore the variety of fish strategies for reproduction.

  a5- recognize Acoustic communication in fish.

  a6- understand about Buoyancy.

b-Intellectual skills

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

  bl- compare the physiological processes between fish and land vertebrates.

  b2- interpret the appropriate behavior and coordination with environmental factors.

  b3- recognize the different developing adaptations in fish.

C- Professional and practical skills

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

  cl- collect, prepare and examine blood samples.

  c2- collect, prepare and examine semen samples.

  c3- plan and execute a research project in the field of fish physiology.

Course specification of postgraduate

d- General and transferable skills

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

dl- summarize research findings in oral form in seminars and workshops.

d2- communicate effectively with supervisors.

d3- demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec, 1hrs/wk,prac2hrs/wk	Evolution of fish	12hrs	6hrs	6hrs
	Fish Diversity	12hrs	6hrs	6hrs
	Taxonomy of fish	12hrs	6hrs	6hrs
	Acoustic communication in fish	12hrs	6hrs	6hrs
	Artificial spawning	12hrs	6hrs	6hrs
	Muscular system	12hrs	6hrs	6hrs
	Immune system	12hrs	6hrs	6hrs
	Buoyancy	12hrs	6hrs	6hrs
	Endocrine glands of fish	12hrs	6hrs	6hrs
	Reproduction	12hrs	6hrs	6hrs
	Osmoregulation	12hrs	6hrs	6hrs
	Sense organs	12hrs	6hrs	6hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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- a4-a5	b1- b2- b3-	c1- c2- c3-	d1-d2-d3-
Practical Exam	a1- a2- a3- a4-a5	b1- b2- b3-	c1- c2- c3-	d1-d2-d3-
Oral Exam	a1- a2- a3-- a4-a5	b1- b2- b3-	c1- c2- c3-	d1-d2-d3-

Course specification of postgraduate

7.2. Assessment schedules

Method	Week(s)
Writing exam	**LAST WEAK**
Practical exam	**LAST WEAK**
Oral exam	**LAST WEAK**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books

Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Introduction to fish physiology. Smith,LS, 1982. TFH Publication, Inc. USA.

* Anatomy and physiology of fishes. Kumar,S and Tembhre,M, 1997. Vikas publishing house, PVT Ltd., New Delhi.

* The physiology of fishes. David H. Evans, 1998. CRC Press, New York.

8.3. Recommended texts* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Fish physiology. Nancy M. Sherwood and Choy L. Hew, 1994. Academic press, San Diego.

* 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.

8.4. Journals, Websites ……..etc

Journals: * **Egyptian J. of Basic and Applied Physiology. Cairo, Egypt**

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

Course Coordinators   **Head of Department**

Beni-Suef University
Faculty of Veterinary Medicine
Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	PH-26
Course title :	Physiology of muscle and nerve
Program title:	**PH.D.** Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- ensure that students reserve a comprehensive theoretical base in veterinary physiology**.**

b- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of physiology of ruminants.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

  a.l- understand Principle of electrical neutrality and Electromyography.

  a.2- explain the Evoked potentials.

  a.3- understand the Explain the functions of the nerve cell and muscle fiber grossly and at the molecular level.

  a.4- explain Point out the basis of excitability (membrane potentials) in all living cells especially in nerve and muscle cells.

  a.5- understand the postmortem stiffness.

b-Intellectual skills

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

  b.l- Studying of the effect of ions and drugs on NMJ in frogs and rats.

  b.2- Preparation of physiological solutions (Tyrode–Ringer-frog' saline).

  b.3- deal with ethical and professional issues pertaining to animal research.

C- Professional and practical skills

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

  c.l- Analyze & interpret research results.

  c.2- examine Record and read an electrocardiogram.

  c.3- make use of statistical techniques.

Course specification of postgraduate

d- General and transferable skills

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

  d.l- summarize research findings in oral form in seminars and workshops.

  d.2- Design research protocols.

  d.3- Present clearly and effectively a scientific topic in a tutorial , a staff meeting or the yearly scientific day.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Electromyography	16hrs	8hrs	8hrs
	Intraoperative neurophysiological monitoring	16hrs	8hrs	8hrs
	Evoked potentials	16hrs	8hrs	8hrs
	Electro encephalography	16hrs	8hrs	8hrs
	nerve conduction studies	16hrs	8hrs	8hrs
	Mechanism of muscle contraction	16hrs	8hrs	8hrs
	Role of calcium in muscle contraction	16hrs	8hrs	8hrs
	Changes occurring during muscle contraction	16hrs	8hrs	8hrs
	Factors affecting muscle contraction	16hrs	8hrs	8hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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-a4-a5	b1- b2- b3	c1- c2- c3-	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3

Course specification of postgraduate

Oral Exam	a1- a2- a3--a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books
Student handbook of physiology prepared by the department staffs.

8.2. Essential books:
* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.
* Physiology of Domestic Animals. William O. Reece 1991.
* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

8.3. Recommended texts
* Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.
* 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.

8.4. Journals, Websites ……..etc
Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt
Websites:
WWW.Science direct
WWW. Pubmed.com
WWW.Scholar google.com
WWW.welly interscience

Course Coordinators   **Head of Department**

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	PH-27
Course title :	Physiology of ruminants
Program title:	**PH.D. Degree of Veterinary Medical Sciences (Animal physiology**
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- ensure that students reserve a comprehensive theoretical base in veterinary physiology**.**

b- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of physiology of ruminants.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a.l- understand the process of microbial digestion and fate of its end products.

a.2- explain urea cycle.

a.3- know about control of cellulose digestion.

b-Intellectual skills

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

b.l- apply different advanced techniques in laboratory examination of urine, feces, and ruminal juice.

b.2- deal with ethical and professional issues pertaining to animal research.

C- Professional and practical skills

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

c.l- collect ruminal juice**.**

c.2- examine microflora and microfuana.

c.3- make use of statistical techniques.

d- General and transferable skills

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

d.l- summarize research findings in oral form in seminars and workshops.

d.2- communicate effectively with supervisors.

d.3- demonstrate information retrieval and library skills.

Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Digestion in ruminant	24hrs	12hrs	12hrs
	Laboratory examination of urine, feces, and ruminal juice	24hrs	12hrs	12hrs
	Metabolism of different food stuff	24hrs	12hrs	12hrs
	Function of microflora and microfona	24hrs	12hrs	12hrs
	Urea cycle	24hrs	12hrs	12hrs
	Control of cellulose digestion	24hrs	12hrs	12hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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	b1- b2	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs.

8.2. Essential 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.

8.3. Recommended texts* 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

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

    Course Coordinators   **Head of Department**

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information	

Course Code:	**PH-28**
Course title :	Physiology of environment and adaptation
Program title:	**PH.D.** Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- provide students with knowledge, skills and confidence that fit them for clinical, scientific, ethical and client-related problems met with in their career.

b- foster an enthusiastic interest in the physiology of environment, adaptation and cell that are primarily relevant to veterinary research.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

  a.l- realize the role of environment in managing cell function.

  a.2- discuss the nature and importance of the genetic code.

  a.3- define any information about cell "Homeostasis".

  a.4- describe the role of cell membrane in transmission between cell and the surrounding environment..

  a.5- identify the role of adaptation to the environment conditions.

b-Intellectual skills

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

  b.l- judge body Physiological parameters related to environmental adaptation.

  b.2- explore anatomical and physiological specializations for adaptations in different environments.

  b.3- interpret methods for body fluids sampling from different animal species.

C- Professional and practical skills

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

  c.l- perform methods for body fluids sampling from different animal species.

  c.2- asses body Physiological parameters related to environmental adaptation.

d- General and transferable skills

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

Course specification of postgraduate

d.l- use available presentation aids (e.g. overhead projectors or data show) to present clearly and effectively a scientific topic in a tutorial, a staff meeting.
d.2- work effectively as a member of a multidisciplinary team.
d.3- demonstrate information retrieval and library skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) — Lec,2hrs/wk,prac2hrs/wk	Improvement of animal environment	24hrs	12hrs	12hrs
	Effect of recycling on animal environment	24hrs	12hrs	12hrs
	Environmental stressors and systemic impacts	24hrs	12hrs	12hrs
	Environmental pollution and animal homeostasis	24hrs	12hrs	12hrs
	Adaptations in different environments	24hrs	12hrs	12hrs
	Effect of different solution on cell membrane (erythrocyte osmotic fragility test).	24hrs	12hrs	12hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Practical Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Oral Exam	a1- a2- a3-- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**

Course specification of postgraduate

Practical exam	**last weak**
Oral exam	**last weak**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs

8.2. Essential books: * Animal physiology: Adaptation and environment. Knut Schmidt-Nielsen, 1990 (5th ed.) Cambridge University Press (low price edition).

* Physiological ecology of animals: An evolutionary approach. Sibly, RM and Calow, B., 1986. Black well scientific publications.

* Environmental physiology of animals. Patwill Mer; Graham Stone and Ian Johnston, 2005. Black well scientific publications (2nd edition).

8.3. Recommended texts* 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.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

    Course Coordinators   **Head of Department**

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	PH-29
Course title :	Physiology of blood**.**
Program title:	**PH.D. Degree of Veterinary Medical Sciences (Animal physiology**
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- ensure that students reserve a comprehensive theoretical base in blood and blood forming elements**.**

b- provide students with knowledge, skills, experiences and confidence to qualify for employment in veterinary laboratories.

c- provide students with knowledge and skills in interpretation of their data.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a.l- understand the general and particular functions of blood and blood forming elements as well as their structure and regeneration.

a.2- apply the advanced techniques to detect blood parameters.

a.3- describe the disturbances related to blood elements and blood forming tissues.

b-Intellectual skills

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

b.l- perform hematological tests : estimation of blood Hb, bleeding and clotting times , determination of the hematocrite value , the bleeding and clotting times and blood groups.

b.2- evaluate their own research data precisely and develop new approaches to solve their research questions.

C- Professional and practical skills

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

c.l- perform essential laboratory skills concerning advanced techniques associated with hematological research.

c.2- Work separately or in a team to research and prepare a scientific topic.

c.3- select and perform relevant statistical techniques concerning their own research.

Course specification of postgraduate

d- General and transferable skills

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

d.l- summarize and present research findings in oral form in seminars and workshops.

d.2- demonstrate team-working ability by the successful achievement of collaborative learn assignment.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Advanced techniques to detect blood parameters	18hrs	9hrs	9hrs
	Hemostasis and Anticoagulants	18hrs	9hrs	9hrs
	Blood circulation	18hrs	9hrs	9hrs
	Blood grouping	18hrs	9hrs	9hrs
	Response of the body against infection	18hrs	9hrs	9hrs
	Blood Cells Types and Transfusion Reactions.	18hrs	9hrs	9hrs
	Regeneration of blood cells	18hrs	9hrs	9hrs
	Hematology & lymphatic tissue	18hrs	9hrs	9hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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	b1- b2	c1- c2- c3	d1-d2
Practical Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2

Course specification of postgraduate

Oral Exam	a1- a2- a3	b1- b2	c1- c2- c3	d1-d2

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books: Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Shalm' Veterinary Haematology. 4th edition. Nemi C. Jain, 1986. Lea & Febiger, Philadelphia, USA.

* 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.

8.3. Recommended texts * 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.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

    Course Coordinators   **Head of Department**

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	PH-30
Course title :	Physiology of digestion, metabolism and energy
Program title:	PH.D. Degree of Veterinary Medical Sciences (Animal physiology
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- ensure that students reserve a comprehensive theoretical base in veterinary physiology**.**

b- provide students with knowledge, skills and confidence to enable them to pursue a career in the field of nutrition of farm animals.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a.l- discuss the difference in digestion among different animal species.

a.2- know about Regulation and control of digestion and metabolism.

a.3- discuss function of different digestive hormones.

a.4- identify the different types of energy and metabolic balance.

a.5- discuss the cellular respiration.

a.6- discuss the factors affecting basal metabolic rate.

b-Intellectual skills

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

b.l- compare between digestion in simple and compound stomach animals.

b.2- compare between absorption in herbivorous and carnivorous animals.

b.3- compare between direct and indirect calorimetry in measuring BMR.

C- Professional and practical skills

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

c.l- collect and examine samples of digestive juices.

c.2- use the Spirometer in measuring BMR.

c.3- make use of statistical techniques.

d- General and transferable skills

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

d.l- summarize research findings in oral form in seminars and workshops.

d.2- communicate effectively with supervisors.

d.3- demonstrate information retrieval and library skill

Course specification of postgraduate

4-Topics and contents				

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Regulation and control of digestion and metabolism	18hrs	9hrs	9hrs
	Difference between metabolism in omnivores, ruminants and carnivore	18hrs	9hrs	9hrs
	Energy transformations	18hrs	9hrs	9hrs
	Types of energy	18hrs	9hrs	9hrs
	Digestive hormones	18hrs	9hrs	9hrs
	cellular respiration	18hrs	9hrs	9hrs
	Basal metabolic rate	18hrs	9hrs	9hrs
	Digestive & excretory systems	18hrs	9hrs	9hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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-a4-a5-a6	b1- b2- b3	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5-a6	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3- a4-a5-a6	b1- b2- b3	c1- c2- c3	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	last weak
Practical exam	last weak
Oral exam	last weak

Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books: Student handbook of physiology prepared by the department staffs.

8.2. Essential books: * Gastrointestinal Physiology. 2nd edition. Leonard R. Johnson. Toronto London 1981.

* 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.

8.3. Recommended texts * 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.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

   Course Coordinators   **Head of Department**

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	PH-31
Course title :	Physiology of cell
Program title:	**PH.D.** Degree of Veterinary Medical Sciences (Animal physiology).
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- provide students with knowledge, skills and confidence that fit them for clinical, scientific, ethical and client-related problems met with in their career**.**

b- foster an enthusiastic interest in the physiology of environment, adaptation and cell that are primarily relevant to veterinary research.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

  a.l- describe the cellular functions at the organelle and molecular level.

  a.2- describe the role of cell membrane in transmission between cell and the surrounding environment.

  a.3- define any information about cell "Homeostasis".

  a.4- describe the stage of cell life cycle and its regulation.

  a.5- recognize that animals with anatomical and physiological specializations often contribute much to our understanding of general principles.

b-Intellectual skills

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

  b.l- analyze the effect of different solutions on cell membrane.

  b.2- explore anatomical and physiological specializations for adaptations in different environments.

  b.3- interpret the relationship between cell division and cancer.

C- Professional and practical skills

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

  c.l- differentiate between body systems in different animals.

  c.2- discover that many problems can be understood, once a few fundamental principles are familiar.

Course specification of postgraduate

d- General and transferable skills

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

d.l- summarize research findings in oral form in seminars and workshops.

d.2- communicate effectively with supervisors.

d.3- Identify the essential ethical issues involved in scientific research.

4-Topics and contents

Course		Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week)	Lec,2hrs/wk,prac2hrs/wk	nuclear organelles	24hrs	12hrs	12hrs
		Transcription and mRNA splicing	24hrs	12hrs	12hrs
		Active transport and Passive transport	24hrs	12hrs	12hrs
		Life cycle of the cell & its regulation	24hrs	12hrs	12hrs
		Cell division	24hrs	12hrs	12hrs
		Physiological function of cell organells	24hrs	12hrs	12hrs
		Total	144hrs	72hrs	72hrs

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 library)

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

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- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Practical Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3
Oral Exam	a1- a2- a3-- a4-a5	b1- b2- b3	c1- c2	d1-d2-d3-

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs

8.2. Essential books: * Animal physiology: Adaptation and environment. Knut Schmidt-Nielsen, 1990 (5th ed.) Cambridge University Press (low price edition).

* Physiological ecology of animals: An evolutionary approach. Sibly, RM and Calow, B., 1986. Black well scientific publications.

* Environmental physiology of animals. Patwill Mer; Graham Stone and Ian Johnston, 2005. Black well scientific publications (2nd edition).

8.3. Recommended texts* 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.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

       Course Coordinators   **Head of Department**

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

Course Code:	PH-32
Course title :	Radioactive isotopes and its biological uses**.**
Program title:	**PH.D. Degree of Veterinary Medical Sciences (Animal physiology**
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- ensure that students reserve a comprehensive theoretical base on radioactive isotopes and their biological uses**.**

b- Provide students with knowledge, skills and confidence to deal with radioactive isotopes in medical laboratories.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

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

a.l- understand the basic concepts and terminology of radiation**.**

a.2- understand theoretical and practical concepts of isotope analyses..

a.3- explain the mode of action of radiation on animal tissues.

a.4- know about isotopic dilution.

a.5- explain how to use radiation in the applied physiology .

b-Intellectual skills

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

b.l- compare between types of radiation and their effects.

b.2- explore the factors affecting deleterious effects of radiation on the tissues.

b.3- explore theoretical and practical concepts of isotope analyses.

C- Professional and practical skills

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

c.l- analyze samples by RIA.

c.2- calculate the half life and effective half life of a radionuclide.

c.3- judge a sample for radio contamination.

d- General and transferable skills

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

d.l- summarize research findings in oral form in seminars and workshops.

d.2- communicate effectively with supervisors.

d.3- demonstrate information retrieval and library skills.

Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Types of radioisotopes and their uses	12hrs	6hrs	6hrs
	Importance of isotopes in biological studies	12hrs	6hrs	6hrs
	Examples of biologically useful radionuclei	12hrs	6hrs	6hrs
	Properties of radioisotopes used in biology	12hrs	6hrs	6hrs
	Control of radiation	12hrs	6hrs	6hrs
	Biological hazards of radiation on animal tissues	12hrs	6hrs	6hrs
	Measurements of precipitations	12hrs	6hrs	6hrs
	Qualitative and Quantitative detection of radioisotopes	12hrs	6hrs	6hrs
	Clinical uses of radioimmunoassay (RIA)	12hrs	6hrs	6hrs
	enzyme immunoassay (ELISA)	12hrs	6hrs	6hrs
	fluorescent immunoassay	12hrs	6hrs	6hrs
	Description of radioisotopes	12hrs	6hrs	6hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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- a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3

Course specification of postgraduate

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology prepared by the department staffs

8.2. Essential books: * Handbook of Radiobiology. Kedar N. Prasad, 1995. CRC press, Boca Raton, New York.

* Radioimmunoassay. Rosalyn S. Yalow, 1983. Hutchinson Ross Publishing Co., Pennsylvania.

* Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.

* Physiology of Domestic Animals. William O. Reece 1991.

8.3. Recommended texts * 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.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt.

Websites:

WWW.Science direct

WWW. Pubmed.com

WWW.Scholar google.com

WWW.welly interscience

Course Coordinators   **Head of Department**

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5

Beni Suef University
Faculty of Veterinary Medicine

Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information	

Course Code:	**PH-33**
Course title :	**PHYSIOLOGY OF ORGANS FUNCTION**
Program title:	**PH.D. Degree of Veterinary Medical Sciences (Animal physiology**
Contact hours/ week	2hr(practical)-2hrs(lecture)4 hrs(total)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- provide the students with basic background of important features of animal physiology.

b- provide the students with an appropriate background of physiology of healthy animal in its normal environment and understanding the mechanisms regulating body functions.

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- discuss function of different body systems and interaction between them during different physiological conditions.
- a.2- Point out the physiology of receptor organs.
- a.3- outline the clinical importance of deviations in physiological processes.

b-Intellectual skills

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

b.1. compare between the physiological effects and mechanism of action of hormones regulating a particular body function.

b.2. detect different body systems and their functions.

C- Professional and practical skills

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

c.1. examine and evaluate normal and abnormal functions of the animal body systems and muscles.

c.2. demonstrate basic practical skills in handling laboratory animals.

d- General and transferable skills

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

1- Insure effective communication.

2- Utilize the information technology (IT skills) in the development of physiology of body systems.

  3- Practice self-evaluation and need assessment about function of body systems.

1

Course specification of postgraduate

4-Topics and contents				
Course	**Topic**	**No. of hours**	**Lectures**	**Practical**
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Central nervous system and special sense	12hrs	6hrs	6hrs
	Autonomic nervous system	12hrs	6hrs	6hrs
	Muscle and Nerve	12hrs	6hrs	6hrs
	Cardiovascular system	12hrs	6hrs	6hrs
	Urinary system	12hrs	6hrs	6hrs
	Digestive system	12hrs	6hrs	6hrs
	Body temperature	12hrs	6hrs	6hrs
	Blood and Body fluids	12hrs	6hrs	6hrs
	Respiration	12hrs	6hrs	6hrs
	Endocrine glands	12hrs	6hrs	6hrs
	Female reproduction	12hrs	6hrs	6hrs
	Male reproduction	12hrs	6hrs	6hrs
	Total	144hrs	72hrs	72hrs

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 library)

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

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	b1- b2	c1- c2	d1-d2-d3
Practical Exam	a1- a2- a3	b1- b2	c1- c2	d1-d2-d3
Oral Exam	a1- a2- a3	b1- b2	c1- c2	d1-d2-d3

7.2. Assessment schedules

Method	Week(s)
Writing exam	**last weak**
Practical exam	**last weak**
Oral exam	**last weak**

Course specification of postgraduate

7.3. Weight of assessments

Assessment	Weight of assessment
Writing exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
total	100%

8- List of references

8.1. Notes and books Student handbook of physiology part prepared by the department staffs

8.2. Essential books: * Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.
 * Principles of Anatomy and Physiology. 4th edition. Gerard J. Tortora –Nicholas P. Anagnostakos 1975.

* 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.

8.3. Recommended texts * Animal physiology. ITTA Sambasiviah, A.P. Kamalakara RAO and S. Augustine Chellappa 1987.
 * Physiology of Domestic Animals. William O. Reece 1991.
 * Experiments in Physiology 6th Edition. Gerard P. Tharp 1993.

* Ruminant Physiology. F.B. Cornje 2000.

8.4. Journals, Websites ……..etc

Journals: * Egyptian J. of Basic and Applied Physiology. Cairo, Egypt

Websites:
WWW.Science direct
WWW. Pubmed.com
WWW.Scholar google.com
WWW.welly interscience

      Course Coordinators   **Head of Department**

Course specification of postgraduate

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
	Histology of lab animal		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	General structure of digestive system	1st w- 9th w	1,2,3	1,2,3	1,2,3,4	1,2,3,4,5
2	- General structure of respiratory system	10th w- 18th w	1,2,3	1,3	1,2,3,4	1,2,3,4,5
3	- General structure of urogenital system	19th w- 27th w	1,2	1,2,3	1,2,3	1,2,3,4,5
4	- General structure of lymphatic system	28th w- 36th w	1,2	1,2,3	1,2,3	1,2,3,4,5