Beni-Suef University
Faculty of Veterinary Medicine
Department of pathology

Program Specification for doctorate of philosophy
2017-2018

A-Basic information:

1- Course title: *PhD VSC.* **Specialty:-**
2- Program type: *Single*
3- Department offering program:
4- Academic year: *2018-2019*
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- Use efficiently the most advanced techniques and improve the skills pathology scientific research.
2- Collect, manage and analyze the scientific data in pathology.
3- Develop communication skills and improve scientific co-operation in research groups within the related fields.
Provide graduate with the knowledge of advanced histopathologyl and molecular pathology technique as well as -3 biostatistics.
5- Write the dissertation, scientific papers and apply for scientific projects in the field of histology. *-4*

5- 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 techniques used in the field of veterinary pathology
a2- apply their knowledge and understanding of pathology to the critical analysis and discussion of the scientific literature.
a3- Acquire up to date concepts in veterinary pathology and public health practice.
a4- Perceive advanced veterinary pathology scientific research principles, regulations, ethics and its different tools.
a5- Be aware efficiently of the veterinary professional practice effects on community development and environment protection
a6- Sustain quality control in veterinary pathology professional practices and techniques.
a7– Identify the dialogue and discussion based on pathological evidence evidence.

b- Intellectual capacity:
By the end of this PhD program the graduate should be able to:

b 1- Analyze and evaluate relevant veterinary pathology information for standardization and conclusion.
b2- Differentiate between the different pathological alterations using advanced molecular techniques.
b3- Perform scientific pathology research studies with applied impact.
b4- Risk assessment in professional practice and planning for the development of performance in the different areas of pathology.
b5- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b6- Plan for the improvement of veterinary pathology performance.
b7- Specialized problem-solving based on the available data
b8- Invent and innovate.
b9- Analyze and evaluate relevant pathological information for standardization and conclusion.

c- Professional and practical skills:
By the end of this PhD program the graduate should be able to:
c1- Select the necessary advanced techniques for sample reception & processing according to the nature of specimen received.
c2- Write and assess the veterinary pathology professional reports.
c3- Evaluate and improve the available and required material, tools and equipment in veterinary pathtology research projects.
c4 Detect the proficiency basic professional skills and modern techniques in the area of general pathology
c5- Interpret the development of existing methods and tools in the areas of pathology

d- General and transferable skills:
On successful completion of this program the graduate should be able to:
d1- Present research finding in oral and written from using arrange of appropriate soft ware (e.g., power point , word , excel and data base).
d2- Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects
d3- Demonstrate an ability to learn independently in preparation for a career of lifelong learning.
d4- Educate the others and evaluate their performance.
d5- Utilize the resources to obtain knowledge and information.
d6- Work in research group and lead a team work in different veterinary professional and research practice.
d7- Manage the scientific pathological meetings and discussions.
d8- Manage the time efficiently

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 (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 1-3 Practical 1-2 Total 2-5

Preliminary courses

Code	Course title	Hours/week		Academic year	Teaching duration
		theoritical	practical		
According to selected courses	Selected (3-5) PhD courses 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 By laws 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 successfully.
-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

Assessments methods	Matrix alignment of the measured ILOs			
	K&U (a)	I.S (b)	P&P. S (c)	G&T. S (d)
Written exam	1,2,3,4,5,6,7	1,2,3,4,5,6,7,8,9	-	1
Practical exam	-	1,2,3,4,5,6,7,8,9	1.2.3.4.5	1,2,3,4,5,6,7,8
Oral exam	1,2,3,4,5,6,7	1,2,3,4,5,6,7,8,9	2,3,4,5,6	1,8

Ph.D. Thesis:

The Ph.D. students should prepare a thesis in veterinary pathology. 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
1. Post graduate Students	Questionnaire at the end of the program	All the PG students
2. External Evaluators	Review program and courses Attending the final exam	Once before implementation annual report
3. College Quality Assurance committee	Annual program reviewer	

Course coordinator **Head of the Department**

PhD Program Specification Matrix (Program Courses with ILOS)

Program ILOs		courses
Knowledge and understanding	**a1**	59-72
	a2	Thesis, 59-72
	a3	Thesis, 59-72
	a4	59-72
	a5	Thesis, 59-72
	a6	Thesis, 59-72
	a7	59-72
Intellectual skills	**b1**	Thesis, 59-72
	b2	Thesis, 59-72
	b3	Thesis, 59-72
	b4	59-72
	b5	Thesis, 59-72
	b6	Thesis, 59-72
	b7	Thesis, 59-72
	b8	Thesis, 59-72
	b9	Thesis, 59-72
Professional and practical skills	**c1**	Thesis, 59-72
	c2	Thesis, 59-72
	c3	Thesis, 59-72
	c4	Thesis, 59-72
	c5	Thesis, 59-72
General and transferable skills	**d1**	Thesis, 59-72
	d2	59-72
	d3	Thesis, 59-72
	d4	59-72
	d5	Thesis, 59-72
	d6	59-72
	d7	Thesis, 59-72
	d8	59-72

Academic standers / Program ILOs		Knowledge and understanding					Intellectual skills									Professional and practical skills					General and transferable skills						
		a 1	a 2	**a 3**	**a 4**	**a 5**	**b 1**	**b 2**	**b 3**	**b 4**	**b 5**	**b 6**	**b 7**	**b 8**	**b 9**	**c 1**	**c 2**	**c 3**	**c 4**	**c 5**	**d 1**	**d 2**	**d 3**	**d 4**	**d 5**	**d 6**	**d 7**
Knowledge and understanding	a 1		√		√																						
	a 2	√																									
	a 3	√																									
	a 4			√																							
	a 5					√																					
	a 6		√			√																					
	a 7					√																					
Intellectual skills	b 1						√																				
	b 2							√																			
	b 3									√																	
	b 4								√																		
	b 5										√																
	b 6											√															
	b 7												√														
	b 8													√													
	b 9														√												
Professional and practical skills	c 1															√											
	c 2																√										
	c 3																	√									
	c 4															√			√								
	c 5															√				√							
General and transferable	**d 1**																						√	√			
	d 2																						√			√	

skills	**d 3**																					√						
	d 4																				√	√						
	d 5																			√								
	d 6																								√			
	d 7																								√	√		
	d 8																										√	

Program aims – ILOS Matrix for the Master Degree

مصفوفة اهداف البرنامج مع مخرجات التعلم المستهدفة

Program ILOS		Program aims				
		1- Use efficiently the most recent techniques and improve the skills of pathology scientific research.	2- Collect, manage and analyze the scientific data in pathology	3- Develop communication skills and improve scientific co-operation in research groups within the related fields.	4- Provide graduate with the knowledge of histopathology and molecular pathology as well as biostatistics.	5- Write the dissertation, scientific papers and apply for scientific projects in the field of pathology.
Knowledge and understanding	a1-Describe advanced techniques used in the field of veterinary pathology	√			√	
	a2- apply their knowledge and understanding of pathology to the critical analysis and discussion of the scientific literature.	√			√	
	a3- Acquire up to date concepts in veterinary pathology and public health practice.	√		√	√	
	a4- Perceive advanced veterinary pathology scientific research principles, regulations, ethics and its different tools.		√		√	
	a5- Be aware efficiently of the veterinary professional practice effects on community development and environment protection	√				√
	a6- Sustain quality control in veterinary pathology professional practices and techniques.					
	a7– Identify the dialogue and discussion based on pathological evidence evidence.					

Program ILOS		Program aims				
		1- Use efficiently the most recent techniques and improve the skills of pathology scientific research.	2- Collect, manage and analyze the scientific data in pathology	3- Develop communication skills and improve scientific co-operation in research groups within the related fields.	4- Provide graduate with the knowledge of histopatholog y and molecular pathology as well as biostatistics.	5- Write the dissertation, scientific papers and apply for scientific projects in the field of pathology.
Intellectual skills	b 1- Analyze and evaluate relevant veterinary pathology information for standardization and conclusion.		√			√
	b2- Differentiate between the different pathological alterations using advanced molecular techniques.		√			√
	b3- Perform scientific pathology research studies with applied impact.			√	√	
	b4- Risk assessment in professional practice and planning for the development of performance in the different areas of pathology.					√
	b5- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.			√		
	b6- Plan for the improvement of veterinary pathology performance.	√		√		
	b7- Specialized problem-solving based on the available data					
	b8- Invent and innovate.					
	b9- Analyze and evaluate relevant pathological information for standardization and conclusion.					
pr of es	c1- Select the necessary advanced	√				√

Program ILOS		Program aims				
		1- Use efficiently the most recent techniques and improve the skills of pathology scientific research.	2- Collect, manage and analyze the scientific data in pathology	3- Develop communication skills and improve scientific co-operation in research groups within the related fields.	4- Provide graduate with the knowledge of histopatholog y and molecular pathology as well as biostatistics.	5- Write the dissertation, scientific papers and apply for scientific projects in the field of pathology.
	techniques for sample reception & processing according to the nature of specimen received..					
	c2- Write and assess the veterinary pathology professional reports.		√			√
	c3- Evaluate and improve the available and required material, tools and equipment in veterinary pathtology research projects.	√			√	
	c4 Detect the proficiency basic professional skills and modern techniques in the area of general pathology		√		√	
	c5- Interpret the development of existing methods and tools in the areas of pathology			√		√
general and transfe rable skills	d1- Present research finding in oral and written from using arrange of appropriate soft ware (e.g., power point , word , excel and data base).			√	√	
	d2- Demonstrate interpersonal skills and team working ability by the successful completion of collaborative learn assignment and the honors researches projects	√			√	
	d3- Demonstrate an ability to learn independently in preparation for a		√			√

Program ILOS		Program aims				
		1- Use efficiently the most recent techniques and improve the skills of pathology scientific research.	2- Collect, manage and analyze the scientific data in pathology	3- Develop communication skills and improve scientific co-operation in research groups within the related fields.	4- Provide graduate with the knowledge of histopatholog y and molecular pathology as well as biostatistics.	5- Write the dissertation, scientific papers and apply for scientific projects in the field of pathology.
	career of lifelong learning.					
	d4- Educate the others and evaluate their performance.			√		
	d5- Utilize the resources to obtain knowledge and information.	√		√		
	d6- Work in research group and lead a team work in different veterinary professional and research practice. d7- Manage the scientific pathological meetings and discussions.					
	d8- Manage the time efficiently					

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification

A- Administrative Information:

Course Code:	**Ph-59**
Course title :	General Pathology.
Academic year:	Postgraduate students 2018.
Program title:	Course 59
Degree:	PhD
Contact hours/ week	3 hours per week (1hr theoretical and 1hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS.
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

B-Professional information

1- Overall aims of course:

This course aims to:
After completing the postgraduate course in Pathology, the postgraduate student will be able to recognize the fundamentals of general Pathology.

2- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1 – Describe the advances theories and the basics of modern knowledge in the field of general pathology .

a2 – Enumerate the fundamentals and molecular methodologies and ethics of scientific research and the various tools

a3- Recall Knowledge about the molecular and cellular response of the living body when exposed to toxic agent

a4. Outline the relationship between causes and tissue/organ changes using advances techniques in diagnosis.

a5- Define the macroscopic and microscopic alterations by the aid of insitu hybridization.

a.6. Describe the macroscopic & microscopic tissue changes.

a7- Recognize Knowledge about typing and classification of different tissue/organ changes.

a.8- Illustrate the pathogenesis of pathological agents..

a9 – Identify The legal and ethical principles for professional practice in the area of general pathology

a10- Elicit he principles and basics of quality in professional practice in the area of general pathology using immunohistochemistry.

a11- Set about the effects on the environment of professional practice and methods of

development.
a12- Conclude the specialist subjects, including a command of literature in the field of general pathology.
a13- Describe the importance of information technology in scientific research.

b- Intellectual skills:

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

By successful completion of the course, the student should be able to:
b1 - Analyze of information in the field of general pathology
b2 - Analyze problem-solving based on the available data
b3 - Identify research studies adding to the knowledge
b4 –Explain the formulation of scientific papers.
b5 – Differentiate the risk assessment in professional practice and planning for the development of performance in the area of general pathology
b6 - Predict career decisions in the contexts of different professional
b7- Analyze the Innovation / Creativity.
b8 – Identify the dialogue and discussion based on evidence.
b9- Differentiate between tissue/organ appearance in health and diseased birds.
b10. Differentiate between the different pathological alterations
b11. Score the macroscopic and microscopic pathological lesions using image analysis.
b12. Identify the correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b13. Estimate the pathological alterations with injurious agents

c-Professional and practical skills

By successful completion of the course, the student should be able to:
c1. Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c2. Examine and identify the macroscopic criteria of the pathological alterations using advanced techniques.
c3. Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c4. Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c5. Write a report commenting on a pathological specimens
c6. Detect the proficiency basic professional skills and modern techniques in the area of general pathology
c.7. Write and evaluate the professional reports
c.8. Interpret the development of existing methods and tools in the area of general pathology

c9. Dissect the use of technological means to serve the professional practice
c10. Use the planning for the development of professional practice and development

d- General and transferable skills

By successful completion of the course, the student should be able to:
d1 - Appreciate the effective communication in its different forms
d2 - Use of information technology to serve the development of professional practice
d3- Maintain the teaching others and evaluate their performance
d4- Recognize the self-assessment and continuous learning
d5- Apply different sources for information and knowledge
d6- Be responsible in a team and leading teams
d7- Prepare scientific meetings and the ability to manage time

3- Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description Disturbances of cell protein metabolism: -Cloudy swelling, -hydropic degeneration, -mucous deg -Fibrinoid deg, - hyalinosis -gout	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7
Disturbances of cell lipids and carbohydrates - Fatty change - adiposity - Glycogen infiltration	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7
Disturbances of pigments and minerals -Bile pigments - Hemosidrin, - Lipofusin, - Hematin, Pyrphorin, - Pathological calcification - Necrosis, apoptosis	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7

and gangrene.								
- **Disturbances of circulation**	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7
Inflammation	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7
Disturbances in cell growth - **Hyperplasia,** - **hypoplasia,** - **atrophy,** - **hypertrophy** - **Tumors: causes, nomenclature. Classification, types**	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7
- differentiation between pathological lesions using of special stains	4	16	8	8	a1-a14	b1-b13	c1-c10	d1-d7
- application of immunohistochemistry for confirmation	4	16	8	8	a1-a14	b1-b13	c1-c10	d1-d7
Students activities - **Collect pathology, specimens.** - **Writing assays.** - **Pathology rounds.**	4	16	8	8	a1-a13	b1-b13	c1-c10	d1-d7
Total	36	174	72	72				

4-Teaching and learning methods

- Lectures: developed relies on student participation and discussion with the aid of multimedia
- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.
- Self-learning activities:
 * Samples collections and research from the internet and library
 * panel discussions (Histopathology and Gross pathology rounds).

***E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)5-Student assessment**

5.1. Assessments methods:

exam	KU	IS	PPS	GT
Written exams	a1-a14	b1-b13		-
Practical exams	-	b1-b13	c1-c10	
Oral examination	a1-a14	b1-b13	c1-c10	d1-d7

5.2. Assessment schedules/semester:

exam	week
Wriiten Exams	fifty-three to fifty-five week
Practical exams	fifty-three week
Oral examination	fifty-three to fifty-five week

5.3. Weight of assessments:

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

6- List of references

6.1. Notes and books:

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

6.2. Recommended textbooks:

Jubb,K.V., P.C.Kennedy and N.Palmer (1993) Pathology of Domestic Animal, 6th ed. San Diego, New YorkJones, T.C., Hunt, R.D. and King, N.W (2008)
Gallin, J. and Synder , R (1999), Inflammation 3rd. ed. Lippincott Williams,Wilkins. Philadelphio
- by Norman F. Cheville "Introduction to Veterinary Pathology" 1999
- Ramz-I S. and Kumar, V. and Collin, T. (1999) Pathological Basis of Disease , 6th ed .
- Guido Majno (2004) Cells, Tissues, and Disease: Principles of General Pathology (Majno, Cells, Tissues, and Disease)
- Thomson, R.G. (2000) General Veterinary Pathology) Saunders, Philadelphia

Websites and Journals

- Egyptian Journal of Comparative Pathology and Clinical Pathology.
- Pathologia Veterinaria
- American Journal of Pathology
- Journal of Pathology and Bacteriology
- Archive of Pathology
- Veterinary Record
- Journal of Comparative Pathology
- Canadian Journal of comparative Medicine
- American Journal of veterinary research

- Research on veterinary Science

Websites:

http/cms.nelc.edu.eg

www.asvp.asn.au.com

www.geneng news.com

www.altcancer.com

Course Coordinator

Dr. EL-Shaymaa N. EL-NAHASS

Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed

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

Course specification Matrix

Topic		Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Anatomy of general parthology 2 hours / weak (Lec. 1hr/wk - Pract.	1. **Disturbances of cell protein metabolism.**	1,3,5,6,10	1,2,3,4	1, 2,6,7,8,9,10	1-7
	2. **Disturbances of cell lipids and carbohydrates**	1,3,4,5,6,10	1,2,3,4,5,6	1, 2,6,7,8,9,10	
	3. **Disturbances of pigments and minerals**	1,2,4,6,7,10	7,8,9,10,11,12,15	3,4,6,7,8	
	4. **Necrosis, apoptosis and gangrene.**	2,4,6,7,8	7,13	7,8,9,10	
	5. **Disturbances of circulation**	2,4,5,6,7,10	7,8,9,10,11,12	3, 4,5,6,7,8	
	6. **Inflammation**	2,4,6,7,10	7,8,9,10,11,12	3, 4, 5,6,7,8	
	7. **Disturbances in cell growth**	2,4,5,6,7,10,12	7,8,9,10,11,12,13	3, 4,5,6,7,8	
	8. **differentiation between pathological lesions using of special stains**	2,4,5,6,7,10,11	7,8,9,10,11,12,13	3, 4, 5,6,7,8	
	9. **application of immunohistochemistry for confirmation**	1,2,4,6,7,9,11,12,13	7,8,9,10,11,12,13	5,6,7,8	

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification

A- Administrative Information:

Course Code:	**Ph-60**
Course title :	Pathology of Tumors
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 60
Degree:	PhD
Contact hours/ week	2 hours per week (1hr theoretical and 1hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS.
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

B-Professional information

1- Overall aims of course:

This course aims to:
After completing the postgraduate course in Pathology, the postgraduate student will be able to recognize the fundamentals of pathology of tumors.

2- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

a1 – Outline the theories and the basics of molecular knowledge in the field of oncopathology
a2 – Enumerate the fundamentals and methodologies and ethics of scientific research and the various tools
a3- Recall Knowledge about the molecular and cellular response of the living body when exposed to toxic agent
a4- Outline the relationship between causes and tissue/organ changes.
a5- Describe the macroscopic & microscopic tissue changes.
a6-Record the macroscopic and microscopic alterations using advanced techniques.
a7- Recognize Knowledge about typing and classification of different tissue/organ changes.
a8- Illustrate the molecular basis of pathogenesis of pathological agents..
a9– Identify The legal and ethical principles for professional practice in the area of oncopathology
a10 - The principles and basics of quality in professional practice in the area of oncopathology
a11- Knowledge about the effects on the environment of professional practice and molecular methods of development.
a12- Define the specialist subjects, including a command of literature in the field of oncopathology.
a13- Define the importance of information technology in scientific research.
a14- Describe the molecular basis (molecular pathology) of common types of neoplasms.

Intellectual skills:

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

b1- Evaluate the information in the field of oncopathology
b2- Identify the problem-solving based on the available data.
b3- Conduct a research studies adding to the knowledge
b4- Formulate a scientific papers.
b5- Risk assessment in professional practice and planning for the development of performance in the area of oncopathology
b6 - Making career decisions in the contexts of different professional
b7- Innovation / Creativity in molecular pathology diagnosis.
b8 - The dialogue and discussion based on evidence.
b9- Discriminate between tissue/organ appearance in health and diseased birds.
b10. Differentiate between the different pathological alterations
b11. Score the macroscopic and microscopic pathological lesions
b12. Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b13. Integrate the pathological alterations with injurious agents

c-Professional and practical skills

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

c1. Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c2. Examine and identify the macroscopic criteria of the pathological alterations.
c3. Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c4. Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c5. Write a report commenting on a pathological specimens
c6 - Proficiency basic professional skills and modern techniques in the area of oncopathology.
c.7- Writing and evaluation of professional reports.
c.8 - Evaluation and development of existing methods and tools in the area of oncopathology.
c9 - The use of technological means to serve the professional practice.
c10 - Planning for the development of professional practice and development

d- General and transferable skills

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

By successful completion of the course, the student should be able to:
d1 - Effective communication in its different forms
d2 - Use of information technology to serve the development of professional practice
d3- Teaching others and evaluate their performance
d4- Self-assessment and continuous learning
d5- The use of different sources for information and knowledge
d6- Work in a team and leading teams
d7- Manage a scientific meetings and the ability to manage time

3- Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
<u>Course description</u> - Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction - Malformations	4	12	4	8	a1-a14	b1-b13	-	d1-d7
Disturbances of cell growth: - Aplasia, Hypoplasia, hyperplasia, atrophy	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
- Disturbances of cell growth : Hypertrophy, metaplasis, neoplasia	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
<u>Neoplasia</u> Initiation and DNA aberration or mutation (genetic)- Mechanism of chemical carcinogenesis- Mechanism of radiation carcinogenesis Mechanism of viral carcinogenesis	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
Promotion (pregenetic) hormones, mitogens, growth factors, dietic factors, chronic infflammation. Progression genetic and pregenetic) leading to progressed anaplasia	6	20	6	12	a1-a14	b1-b13	c1-c10	d1-d7
General features of tumourogenesis and molecular bases of metastasis and local spread.- Loss of contact inhibition. Defect in gap function.- Defect in cadherin	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7

adhesion molecules. Tumour suppressor genes.- Tumour Immunology- Nomeclature of tumors								
The epithelial tumors-	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
The non-epithelial tumors	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Diagnostic aspect of tumors and tumor markers.	5	15	5	10	a1-a14	b1-b13	c1-c10	d1-d7
- Immunohistochemistry using tissue microarray -Molecular pathological examination using tissue microarray	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Total	36	108	36	72				

4-Teaching and learning methods

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

- Lectures: developed relies on student participation and discussion with the aid of multimedia
- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.
- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds).

***E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)** 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:

exam	KU	IS	PPS	GT
Written Exams	a1-a14	b1-b13	-	-
Practical exams	-	b1-b13	c1-c10	-
Oral examination	a1-a14	b1-b13	c1-c10	d1-d7

5.2. Assessment schedules/semester:

exam	week
Theoretical Exams	fifty-three to fifty-five week
Practical exams	fifty-three week
Oral examination	fifty-three to fifty-five week

5.3. Weight of assessments:

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

6- List of references

8.1. Notes and books:

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

-Fisher, C. (2010) Diagnostic Pathology: Soft Tissue Tumors: Published by Amirsys

- Miettinen, M (2010) Modern Soft Tissue Pathology: Tumors and Non-Neoplastic Conditions . academic press, London

- Soslow, R and Tornos, C (2011) Diagnostic Pathology of Ovarian Tumors . academic press, London

8.3. Recommended textbooks:

- Olsen, Richard G. (Comparative Pathobiology and Viral Diseases)
- Boca Raton, Fla and Cheville, Norman F. , (Cytopathology in Viral Diseases (Karger, Basel))
- Herenda, Drago C. , (Food Animal Pathology and Meat Hygiene)
- Jennings, A.R. (Animal Pathology)
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al (Atlas of veterinary Pathology) Saunders, Philadelphia
- Thomson, R.G. (General Veterinary Pathology) Saunders, Philadelphia

8.4. Journals, Websites ……..etc

- Egyptian Journal of Comparative Pathology and Clinical Pathology.
- Pathologia Veterinaria
- American Journal of Pathology
- Journal of Pathology and Bacteriology
- Archive of Pathology
- Veterinary Record
- Journal of Comparative Pathology
- Canadian Journal of comparative Medicine
- American Journal of veterinary research
- Research on veterinary Science

Websites:

http/cms.nelc.edu.eg
www.asvp.asn.au.com
www.geneng news.com
www.altcancer.com

Course Coordinator

Dr. EL-Shaymaa N. EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department,
Faculty of Veterinary Medicine,
Beni-Suef University

Course specification Matrix

Topic		Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Postgraduate students Anatomy of laboratory animals 2 hours / weak (Lec. 1hr/wk - Pract. 1hr/wk)	1. **- Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction - Malformations**	1,3,5,6,10	1,2,3,4	-	1-7
	2. **Disturbances of cell growth I:**	1,3,4,5,6,10	1,2,3,4,5,6	1, 2,6,7	
	3. **- Disturbances of cell growth II :**	1,2,4,6,7,10	7,8,9,10	3,4,6,7	
	4. **Neoplasia**	2,4,6,7,8	7	7	
	5. **Promotion (pregenetic) hormones, mitogens, growth factors, dietic factors, chronic infflammation. Progression genetic and pregenetic) leading to progressed anaplasia**	2,4,5,6,7,10, 14	7,8,9,10	3, 4,5,6,7	
	6. **General features of tumourogenesis and molecular bases of metastasis and local spread.- Loss of contact inhibition. Defect in gap function.- Defect in cadherin adhesion molecules. Tumour suppressor genes.- Tumour Immunology- Nomeclature of tumors**	2,4,6,7,10,1 4	7,8,9,10	3, 4, 5,6,7	
	7. **The epithelial tumors**	2,4,5,6,7,10, 14	7,8,9,10	3, 4,5,6,7	
	8. **The non-epithelial tumors**	2,4,5,6,7,10, 14	7,8,9,10	3, 4, 5,6,7	
	9. **Diagnostic aspect of tumors and tumor markers.**	2,4,6,7,11,1 2,13,14	7,8,9,10,11,12,13	5,6,7,8,9,10	
	10. **Immunohistochemistry using tissue microarray -Molecular pathological examination using tissue microarray**	2,4,6,7,8 9,12,13	9,10,11,12,13	6,7,8,9,10	

Beni-Suef University
Faculty of Veterinary Medicine
Pathology department

Course specification

A- Administrative Information:

Course Code:	**Ph-61**
Course title :	Pathology of Microbial disease
Academic year:	Postgraduate students 2017/2018.
Program title:	Course 61
Degree:	PhD
Contact hours/ week	2 hours per week (2hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS.
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

B-Professional information

1- Overall aims of course:

This course aims to:

After completing the postgraduate course in pathology, the postgraduate student will be able to recognize the fundamentals of pathology of microbial diseases as the following:

1- Recognize the fundamentals o pathology of microbial diseases
2- Master the skills and management of scientific research.
3- Work continuously for increasing knowledge in pathology practice especially in the field of microbial diseases.
4- Master the various advanced methods of data collection and application of analytical and critical Approach in relevant specialty.
5- Integrate the specialized and related knowledge to conclude and develop the interdisciplinary relations.
6- Be aware of current veterinary and public microbial diseases and recent related approaches.
7- Master the identification of problems and finding solutions based on sound scientific research concepts.
8- Develop the appropriate use of modern techniques and applications for pathological diagnosis of wide range of microbial diseases.
9- Develop the communication and IT skills effectively and leading the team.
10- Utilize efficiently the available resources for gross and histopathological identification of microbial diseases.
11- Make a decision based on pathological examination for microbial diseases diagnosis.
12- Be aware of the postgraduate role in community development and environment protection.
13- Be committed to veterinary professional practice regulations and ethics.
14- Consider continuous, self-learning and experience transfer.

15- Plan and steer the progress of research projects.
16- Master the skills of writing dissertations and scientific papers.

a-Knowledge and understanding:

a1- List the advanced and molecular methodologies and ethics of hitopathological techniques and scientific research.
a2. Recall knowledge about the molecular and cellular response of the living body when exposed to infectious agent.
a3. Outline the relationship between causes and tissue/organ changes.
a4. Describe the macroscopic & microscopic tissue changes based on each of microbial disease.
a5- Comprehend on macroscopic and microscopic alterations.
a6- Recognize knowledge about typing and classification of different tissue/organ changes.
a7- Illustrate the pathogenesis of pathological agents..
a8- Describe the molecular basis (molecular pathology) of common microbial diseases.

b-Intellectual skills:

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

b1 - Analyze and evaluate the pathological information of microbial diseases
b2- Discriminate between tissue/organ appearance in health and diseased animals and birds.
b3- Differentiate pathologically and immunohistochemically between the different infectious diseases.
b4- Score the macroscopic and microscopic pathological lesions
b5- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis, using advanced tools as immunohistochemistry and molecular pathology.
b6- Integrate the pathological alterations with infectious agents.
b7- Make a decision making in variable pathological practices in microbial diseases diagnosis.
b8- Invent and innovate.
b9- Do open discussion and seminar based on evidence on pathological diagnosis of microbial diseases.

c-Professional and practical skills

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

c1- Select the appropriate advanced techniques for sample reception & processing according to the nature of specimen received.
c2- Examine the macroscopic and microscopic criteria of the pathological alterations.
c3- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination.
c4- Write a report commenting on pathological specimens.
c5- Employ the proficiency basic of professional skills and modern techniques in the pathology of microbial diseases.
c6-Use the advanced histopathological technological tools to serve the professional practice.
c7- Plan for the development of professional practice.
c8- Utilize the up to date technology in veterinary pathology and research practice.

d- General and transferable skills

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

d1-Effective communication in its different forms
d2 - Use of information technology to serve the development of professional practice
d3- Teaching others and evaluate their performance
d4- Self-assessment and continuous learning
d5- The use of different sources for information and knowledge
d6- Work in a team and leading teams
d7- Management of scientific pathological meetings and the ability to manage time
Manage the scientific meetings and discussions.

3-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction**	**4**	**16**	**8**	**8**	**a1, a2,**	**b2-b3**	**c1, c2, c6,**	**d1**
Disease causing stomatitis	**2**	**8**	**4**	**4**	**a2, a4, a5, a6, a7, a8**	**b1, b4, b5, b6,**	**c2, c3, c4, c5, c6, c7, c8**	**d2**
Diseases causing abortion	**3**	**12**	**6**	**6**	**a2, a4, a5, a6, a7, a8**	**b1, b3, b4, b5, b6**	**c2, c3, c4, c5, c6, c7 c8**	**d2**
Diseases causing nervous signs	**2**	**8**	**4**	**4**	**a2, a4, a5, a6, a7, a8**	**b1, b3, b4, b5, b6**	**c2, c3, c4, c5, c6, c7,**	**d2**

							c8	
Diseases affecting skin	3	12	6	6	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7 c8	d2
Pathology of chronic diseases	3	12	6	6	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7 c8	d2
- Diseases affecting new born animals	3	12	6	6	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7 c8	d2
-diseases causing respiratory affections	3	12	6	6	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7 c8	d2
Pathology of equine diseases	3	12	6	6	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7 c8	d2
Pathology of diseases affecting pet animals	3	12	6	6	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7	d2

							c8	
Disease affecting sheep and goats	2	8	4	4	a2, a4, a5, a6, a7, a8	b1, b3, b4, b5, b6	c2, c3, c4, c5, c6, c7 c8	d2
- Postmortem examination - Immunohistochmeical application - Molecular detection of pathogens	2	8	4	4	a4, a5, a6, a7, a8	b3, b4, b5, b6, b7, b8, b9	C1, c2, c3, c4, c8,	d3, d4, d5, d6, d7
Students activities - Collect pathology, specimens. - Writing assays. - Writing report. - Pathology rounds.	3	12	6	6	a4, a5, a6, a7, a8	b3, b4, b5, b6, b7, b8, b9	C1, c2, c3, c4, c8,	d3, d4, d5, d6, d7
Total	36	144	72	72				

4-Teaching and learning methods

1- Lectures: developed relies on student participation and discussion with the aid of multimedia
2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.
3-Self-learning activities:
- Samples collections and research from the internet and library
- panel discussions(Histopathology and Gross pathology rounds).
4-E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg

5-Student assessment

5.1. Assessments methods:

exam	KU	IS	PPS	GT
Writing Exams	a1-a8	b1-b9	-	-
Practical exams	-	b1-b9	c1-c8	d6-d7
Oral examination	a1-a8	b1-b9	c1-c8	

Student activities	-	b1-b9	c1-c8	d1-d7

5.2. Assessment schedules:

exam	week
Writing Exams	fifty-three to fifty-five week
Practical exams	fifty-three week
Oral examination	fifty-three to fifty-five week
Studentactivities	thirteen week & twenty-six week

5.3. Weight of assessments:

exam	weighing
writingExams	50%
Practicalexams	25%
Oral examination	25%
Studentactivities	-

6- List of references

8.1. Notes and books:

Textbook of General Pathology------- (Staff members of the dep.)

Practical of General Pathology------- (Staff members of the dep.)

Textbook of Systemic Pathology ------- (Staff members of the dep.)

Practical of Systemic Pathology------- (Staff members of the dep.)

Textbook of Pathology of Specific Diseases.--- (Staff members of the dep.)

8.2. Essential books:

-Jubb,K.V., P.C.Kennedy and N.Palmer (2007) Pathology of Domestic Animal, 6th ed. San Diego, New YorkJones, T.C.,

Jones, T.C., Hunt, R.D. and King, N.W (1996): Veterinary pathology. 6th ed. Williams and wilkins Awaverly company.

- Naysk, NC; Roy, S. and P.chopra (2000) Pathology of Diseases, 1st ed . JaypeeBrathers medical publishers (p) Ltd-

-Ramz-I S. and Kumar, V. and Collin, T. (1999) -- Pathological Basis of Disease , 6th ed .

8.3. Recommended textbooks:

-Boca Raton, Flaand Cheville, Norman F. , (Cytopathology in Viral Diseases (Karger, Basel)

- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al (2008) Atlas of veterinary Pathology) Saunders, Philadelphia

- Thomson, R.G. (1996) General and systemic Veterinary Pathology, Saunders, Philadelphia

8.4. Journals, Websites ……..etc

journals:

- Egyptian Journal of Comparative Pathology and Clinical Pathology.
- PathologiaVeterinaria
- American Journal of Pathology
- Journal of Pathology and Bacteriology

- Archive of Pathology
- Veterinary Record
- Journal of Comparative Pathology
- Canadian Journal of comparative Medicine
- American Journal of veterinary research
- Research on veterinary Science

Websites:

http/cms.nelc.edu.eg
www.asvp.asn.au.com
www.geneng news.com
www.altcancer.com

Course Coordinator

Dr. EL-Shaymaa N. EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali El-Nesr
Professor and Head of Pathology 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 Pathology of microbial diseases 2 hours/weak (Lec. 1hr/wk - Pract. 1hr/wk)	**Course description** - Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction	1, 2	1,2	2,3	-	1
	Disease causing stomatitis	3,4	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Diseases causing abortion	5-7	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Diseases causing nervous signs	8-10	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Diseases affecting skin	11-13	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Pathology of cronic diseases	14-18	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	- Diseases affecting new born animals	`19-22	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	-diseases causing respiratory affections	23-25	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Pathology of equine diseases	26-28	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Pathology of diseases affecting pet animals	29-30	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Disease affecting sheep and goats	31-32	2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	- Postmortem examination - Immunohistochmeical application - Molecular detection of pathogens	33-34	1,2,4,5,6,7,8	1,3,4,5,6	2,3,4,5,6,7,8	2
	Students activities - Collect pathology, specimens. - Writing assays. - Writing report. - Pathology rounds.	35-36	3,4,5,6,7,8	3,4,5,6,7,8,9	1,2,3,4,8	3,4,5,6,7

Course specification

A- Administrative Information:

Course Code:	**Ph-62**
Course title :	Pathology of parasitic diseases.
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 62
Degree:	Ph.D
Contact hours/ week	2 hours per week (1hr theoretical and 1hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS.
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

B-Professional information

1- Overall aims of course:

This course aims to:
After completing the postgraduate course in Pathology, the postgraduate student will be able to recognize the fundamentals of molecular Pathology basis of parasitic diseases.

2- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1 – List the theories and the basics of modern knowledge in the pathology of parasitic diseases
a2 – Understand the fundamentals and methodologies and ethics of scientific research and the various tools
a3- Recall Knowledge about the molecular and cellular response of the living body when exposed to injurious agent
a4- Outline the relationship between causes and tissue/organ changes in relation to molecular aspects.
a5- Record the macroscopic and microscopic alterations.
a6- Describe the macroscopic & microscopic tissue changes nematode, cestoda, trematoda, protozoa, and insect infection.
a7- Recognize Knowledge about typing and classification of different helminth affections.
a8. Illustrate the pathogenesis of parasitic diseases.
a9– Identify The legal and ethical principles for professional practice in the pathology of parasitic diseases
a10 – List the principles and basics of quality in professional practice in the pathology of parasitic diseases
a11 – Describe the effects on the environment of professional practice and methods of development.

a12- Define the specialist subjects, including a command of literature in the pathology of parasitic diseases
a13- Discuss the importance of information technology in scientific research.
a14- Describe the molecular basis (molecular pathology) of common parasitic lesions.

b- Intellectual skills:

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

b1 - Analyze and evaluation of information in the molecular pathology of parasitic diseases
b2 - Specialize problem-solving based on the available data
b3 - Conduct research studies adding to the knowledge
b4 – Formulate a scientific papers.
b5 – Edit an assessment in professional practice and planning for the development of performance in the pathology of parasitic diseases
b6 - Make career decisions in the contexts of different professional
b7- Invent and innovate
b8 - The Do open discussion based on evidence..
b9- Discriminate between tissue/organ appearance in health and diseased birds.
b10. Differentiate between the different pathological alterations
b11. Score the macroscopic and microscopic pathological lesions
b12. Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b13. Integrate the pathological alterations with injurious agents

c-Professional and practical skills

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

c1. Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c2. Examine and identify the macroscopic criteria of the pathological alterations.
c3. Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c4. Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c5. Write a report commenting on a pathological specimens
c6 - Proficiency basic professional skills and modern techniques in the pathology of parasitic diseases
c.7 - Write and evaluation of professional reports
c.8 - Evaluate and development of existing methods and tools used in studying of the pathology of parasitic diseases
c9 - Use technological means to serve the professional practice
c10 - Plan for the development of professional practice and development

d- General and transferable skills

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

d1 - Communicate effectively and utilize the advanced information technology in the improvement of veterinary professional practice.
d2 - Use of information technology to serve the development of professional practice
d3- Teach others and evaluate their performance

d4- Own self-evaluation and discipline with continuous learning
d5- Use different sources for information and knowledge
d6- Work in a team and leading teams
d7- Manage of scientific meetings and the ability to manage time

3- Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction** **- Malformations**	**6**	**18**	**6**	**12**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
- Host response to parasites- Classification of helminthes- Parasitic infestation of the skin (mites,ticks, fleas and lice myiasis and filiariasis (leishmaniasis,)	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Parasitic infestation of the respiratory system:nasal cavity- trachea- lung and pleura	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Parasitic infestation of the gastrointestinal tract.(ascariasis, strongyloids and trichostrongyloids, hookworms, coccidiosis cryptospridiosis))	**5**	**15**	**5**	**10**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Parasitic infestation of the liver (trematodes, coccidiosis)	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Parasitic infestation of the muscles (toxoplasmosis, sarcocystosis	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

trypanosomiasis, trichniasis, (cysticercosis)								
Visceral larval migrans	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Theleriasis-. babesiasis thelaziasis	5	15	5	10	a1-a14	b1-b13	c1-c10	d1-d7
- application of immunohistochemistry and molecular detections of parasites in tissues	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
total	36	108	36	72				

4-Teaching and learning methods

- Lectures: developed relies on student participation and discussion with the aid of multimedia
- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.
- Self-learning activities:
 * Samples collections and research from the internet and library
 * panel discussions (Histopathology and Gross pathology rounds).

*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

5-Student assessment

5.1. Assessments methods:

exam	KU	IS	PPS	GT
Written exams	a1-a14	b1-b13	-	-
Practical exams	-	b1-b13	c1-c10	-
Oral examination	a1-a14	b1-b13	c1-c10	d1-d7

5.2. Assessment schedules/semester:

exam	week
Written exams	fifty-three to fifty-five week
Practical exams	fifty-three week

Oral examination	**fifty-three to fifty-five week**

5.3. Weight of assessments:

exam	weighing
Written exams	**50%**
Practical exams	**25%**
Oral examination	**25%**

6- List of references

6.1. Notes and books:

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

Jubb,K.V., P.C.Kennedy and N.Palmer (2008) Pathology of Domestic Animal, 6th ed. San Diego, New YorkJones, T.C., Hunt, R.D. and King, N.W

- Jone J and Hunts J (2008) "Veterinary pathology" , 8th ed. Williams and wilkins, Waverly company

-Naysk, NC; Roy, S. and P.chopra (2000) Pathology of Diseases, 1st ed . Jaypee Brathers medical publishers (p) Ltd

- Yezid Gutierrez (2000) "Diagnostic Pathology of Parasitic Infections with Clinical Correlations "

- Karlhanns Salfelder (1992) "Atlas of Parasitic Pathology (Current Histopathology)

8.3. Recommended textbooks:

- **Olsen, Richard G. (Comparative Pathobiology and Viral Diseases)**
- **Boca Raton, Fla and Cheville, Norman F. , (Cytopathology in Viral Diseases (Karger, Basel))**
- **Herenda, Drago C. , (Food Animal Pathology and Meat Hygiene)**
- **Jennings, A.R. (Animal Pathology)**
- **Bailliere, Tindall and Cassell, London Mouwen, J.M. et al (Atlas of veterinary Pathology) Saunders, Philadelphia**
- **Thomson, R.G. (General Veterinary Pathology) Saunders, Philadelphia**

8.4. Journals, Websites ……..etc

- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**

- Veterinary Record
- Journal of Comparative Pathology
- Canadian Journal of comparative Medicine
- American Journal of veterinary research
- Research on veterinary Science

Websites:

http/cms.nelc.edu.eg
www.asvp.asn.au.com

www.geneng news.com

Course Coordinator

Dr. EL-Shaymaa N. EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology 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 Anatomy of laboratory animals 2 hours / weak (Lec. 1hr/wk - Pract. 1hr/wk)	1. **Course description** **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction** **- Malformations**		1, 2	1,3,5,6,10	-	1-7
	2. **Host response to parasites- Classification of helminthes- Parasitic infestation of the skin (mites,ticks, fleas and lice myiasis and filiariasis (leishmaniasis,)**		2, 3, 4	1,3,4,5,6,10,12,13	1,2,3,4,5,6	
	3. **- Parasitic infestation of the respiratory system:nasal cavity- trachea- lung and pleura**		5, 6, 7, 8, 9	1,2,4,6,7,10	7,8,9,10	
	4. **Parasitic infestation of the gastrointestinal tract.(ascariasis, strongyloids and trichostrongyloids, hookworms, coccidiosis cryptospridiosis)**		10, 11	2,4,6,7,8,11,12	7	
	5. **Parasitic infestation of the liver (trematodes, coccidiosis)**		12, 13	2,4,5,6,7,10	7,8,9,10	
	6. **Parasitic infestation of the muscles (toxoplasmosis, sarcocystosis trypanosomiasis, trichniasis, (cysticercosis)**		12,13	2,4,6,7,10	7,8,9,10	
	7. **Visceral larval migrans**		6,7,13	2,4,5,6,7,10	7,8,9,10	
	8. **Theleriasis-. babesiasis thelaziasis**		6,7,13,14	2,4,5,6,7,10	7,8,9,10	
	9. **- application of immunohistochemistry and molecular detections of parasites in tissues**		6,7,13,14	2,4,6,7,	7,8,9,10	

Course specification

A- Administrative Information:

Course Code:	**Ph-63**
Course title :	Pathology of deficiency diseases.
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 63
Degree:	Ph.D
Contact hours/ week	2 hours per week (1hr theoretical and 1hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS.
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

B-Professional information

1- Overall aims of course:

This course aims to:
After completing the postgraduate course in Pathology, the postgraduate student will be able to recognize the fundamentals of molecular pathology of deficiency diseases.

2- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

a1 – List the theories and the basics of modern knowledge in the field of avian pathology .
a2 – Define the fundamentals and methodologies and ethics of scientific research and the various tools
a3. Recall Knowledge about the molecular and cellular response of the living body when exposed to toxic agent
a4. Outline the relationship between causes and tissue/organ changes using advanced techniquess.
a5- Record the macroscopic and microscopic alterations.
a.6. Describe the macroscopic & microscopic tissue changes.
a7. Recognize Knowledge about typing and classification of different tissue/organ changes.
a.8. Illustrate the pathogenesis of pathological agents..
a9 – Identify legal and ethical principles for professional practice in the area of deficiencies.
a10 – List the principles and basics of quality in professional practice in the area of pathology of deficiency diseases.
a11 - Define the effects on the environment of professional practice and molecular methods of development.
a12- Define the specialist subjects, including a command of literature in the field of pathology of deficiency diseases.
a13- Discuss the importance of information technology in scientific research.
a14- Describe the molecular basis (molecular pathology) of common pathology of deficiency

diseases.

b- Intellectual skills:

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

b1 - Analyze and evaluate information in the field of pathology of deficiency diseases.
b2 - Specialize problem-solving based on the available data
b3 - Conducting research studies adding to the knowledge
b4 –Formulate a scientific papers.
b5 –Assist the risk in professional practice and planning for the development of performance in the area of pathology of deficiency diseases.
b6 - Make career decisions in the contexts of different professional
b7- Invent and innovate b8 - Dialogue and discuss based on evidence.
b9- Discriminate between tissue/organ appearance in health and diseased birds.
b10. Differentiate between the different pathological alterations
b11. Score the macroscopic and microscopic pathological lesions
b12. Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b13. Integrate the pathological alterations with injurious agents

c-Professional and practical skills

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

c1. Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c2. Examine and identify the macroscopic criteria of the pathological alterations.
c3. Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c4. Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c5. Write a report commenting on a pathological specimens
c6 - Select basic professional skills and modern techniques in the area of pathology of deficiency diseases.
c.7 – Write and evaluate a professional reports
c.8 - Evaluate and existing methods and tools in the area of pathology of deficiency diseases.
c9 - Use of technological means to serve the professional practice
c10 - Planning for the development of professional practice and development

d- General and transferable skills

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

d1 - Communicate effectively and utilize the advanced information technology in the improvement of deficiency diseases practice
d2 - Use of information technology to serve the macroscopic and microscopic lesions related to defeiceny diseases.
d3- Teach others and evaluate their performance
d4- Self-assessment and continuous learning
d5- Use of different sources for information and knowledge
d6- Work in a team and leading teams

d7- Manage a scientific meetings and the ability to manage time

3- Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description Introduction - Sampling and preservation - Cell and tissue reaction to injury. - interrelationship of vascular response and reaction	6	18	6	12	a1-a14	b1-b13	-	d1-d7
Fat soluble vitamins - Avitaminosis A- Hypervitaminosis A- Avitaminosis D- Hypervitaminosis D-	4	12	4	8	a1-a14	b1-b13	c1-c10	d1-d7
Fat soluble vitamins Avitaminosis K- HypervitaminosisK Avitaminosis E- Hypervitaminosis E	4	12	4	8	a1-a14	b1-b13	c1-c10	d1-d7
water soluble vitamins Deficiency of vitamin C- Deficiency and toxicity of riboflavin	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Deficiency and toxicity of vitamin B12- Deficiency of folic acid- Deficiency of Biotin	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
- Deficiency of minerals and electrolytes: - Phosphorus- calcium- magnesium- manganese	4	12	4	8	a1-a14	b1-b13	c1-c10	d1-d7
Deficiency of minerals and electrolytes: -Zinc-sodium and chloride-copper-Iron-potassium-	4	12	4	8	a1-a14	b1-b13	c1-c10	d1-d7

Molybednum-iodine-flourine								
Application of immunohistochemical techniques in on nutritional deficiency	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Molecular pathology applications on nutritional deficiency	3	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
	36	108	36	72				

4-Teaching and learning methods

- Lectures: developed relies on student participation and discussion with the aid of multimedia
- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.
- Self-learning activities:
 * Samples collections and research from the internet and library
 * panel discussions (Histopathology and Gross pathology rounds).
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

5-Student assessment

5.1. Assessments methods:

exam	KU	IS	PPS	GT
Written exams	a1-a14	b1-b13	-	-
Practical exams	-	b1-b13	c1-c10	-
Oral examination	a1-a14	b1-b13	c1-c10	d1-d7
Student activities	a1-a14	b1-b13	c1-c10	d1-d7

5.2. Assessment schedules/semester:

5.3. Weight of assessments:

exam	week
Written exam	fifty-three to fifty-five week

Practical exams	**fifty-three week**
Oral examination	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

exam	weighing
Written exams	**50%**
Practical exams	**25%**
Oral examination	**25%**
Student activities	**-**

6- List of references

6.1. Notes and books:

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

6.2. Essential books:

Ramz-I S. and Kumar, V. and Collin, T. (1999) Pathological Basis of Disease , 6th ed .

- Bruce R. Smoller and Franco Rongioletti "Clinical and Pathological Aspects of Skin Diseases in Endocrine, Metabolic, Nutritional and Deposition Disease"(2010)

- H. Sidransky "Nutritional Pathology (Biochemistry of Disease)""1985)

6.3. Recommended textbooks:

- **Olsen, Richard G. (Comparative Pathobiology and Viral Diseases)**
- **Boca Raton, Fla and Cheville, Norman F. , (Cytopathology in Viral Diseases (Karger, Basel))**
- **Herenda, Drago C. , (Food Animal Pathology and Meat Hygiene)**
- **Jennings, A.R. (Animal Pathology)**
- **Bailliere, Tindall and Cassell, London Mouwen, J.M. et al (Atlas of veterinary Pathology) Saunders, Philadelphia**
- **Thomson, R.G. (General Veterinary Pathology) Saunders, Philadelphia**

6.4. Journals, Websites ……..etc

Journals

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**

- Canadian Journal of comparative Medicine
- American Journal of veterinary research
- Research on veterinary Science

Websites:

http/cms.nelc.edu.eg
www.asvp.asn.au.com
www.geneng news.com
www.altcancer.com

Course Coordinator

Dr. EL-Shaymaa N. EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department,
Faculty of Veterinary Medicine,
Beni-Suef University

Course specification Matrix

Topic		Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Postgraduate students Anatomy of laboratory animals 2 hours / weak (Lec. 1hr/wk - Pract. 1hr/wk)	1. **Introduction** **- Sampling and preservation** **- Cell and tissue reaction to injury.** **- interrelationship of vascular response and reaction**	1,3,5,6,10	1,2,3,4	1, 2,6,7,8,9	1-7
	2. **Fat soluble vitamins** **Avitaminosis A- Hypervitaminosis B- Avitaminosis C- Hypervitaminosis D-**	1,3,4,5,6,10	1,2,3,4,5,6	1, 2,6,7,8,9	
	3. **Fat soluble vitamins** **Avitaminosis K- HypervitaminosisK Avitaminosis E- Hypervitaminosis E**	1,2,4,6,7,10	7,8,9,10,11,12	3,4,6,7,8	
	4. **water soluble vitamins** **Deficiency of vitamin C- Deficiency and toxicity of riboflavin**	2,4,6,7,8	7,13	7,8	
	5. **De ciency and toxicity of vitamin B12- Deficiency of folic acid- Deficiency of Biotin**	2,4,5,6,7,10	7,8,9,10,11,12	3, 4,5,6,7,8	
	6- Deficiency of minerals and electrolytes: **- Phosphorus-calcium-magnesium-manganese**	2,4,6,7,10	7,8,9,10,11,12	3, 4, 5,6,7,8	
	7. **Deficiency of minerals and electrolytes:** **-Zinc-sodium and chloride-copper-Iron-potassium-Molybednum-iodine-flourine**	2,4,5,6,7,10	7,8,9,10,11,12	3, 4,5,6,7,8,9,10	
	8. **Application of immunohistochemical techniques in on nutritional deficiency**	2,4,5,6,7,10, 14	7,8,9,10,11,12,13	3, 4, 5,6,7,8,9	
	9. **Molecular pathology applications on nutritional deficiency**	2,4,6,7,11,12,13	7,8,9,10,11,12,13	5,6,7,8,9,10	

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification

A- Administrative Information:

Course Code:	**Ph-64**
Course title :	Environmental Pathology
Academic year:	Postgraduate students.
Program title:	Course 64.
Degree:	Ph.D
Contact hours/ week	2 hours per week (1hr theoretical and 1hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS.
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

B-Professional information

1- Overall aims of course:

This course aims to:
After completing the postgraduate course in Pathology, the postgraduate student will be able to recognize the fundamentals of molecular enviromental Pathology.

2- 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 theories and the basics of modern knowledge in the field of environmental pathology .
a2- Describe the fundamentals and methodologies and ethics of scientific research and the various tools
a3. illustrate the molecular and cellular response of the living body when exposed to toxic agent
a4. Outline the relationship between causes and tissue/organ changes.
a5- Record the macroscopic and microscopic alterations.
a6- Describe the macroscopic & microscopic tissue changes.
a7- Recognize Knowledge about typing and classification of different tissue/organ changes.
a8- Illustrate the pathogenesis of pathological agents..
a9– Identify The legal and ethical principles for professional practice in the area of environmental pathology
a10 – Be aware the principles and basics of quality in professional practice in the area of environmental pathology.
a11 - Perceive the effects on the environment of professional practice and methods of development.
a12- Define the specialist subjects, including a command of literature in the field of environmental pathology.
a13- Discuss the importance of information technology in scientific research.

a14-Describe the molecular basis (molecular pathology) of common environmental pollutants.

b- Intellectual skills:

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

b1 - Analyze and evaluation of information in the field of environmental pathology
b2 - Specialize problem-solving based on the available data
b3 – Conduct a research studies adding to the knowledge
b4 – Edit and formulate of scientific papers.
b5- Assess the risk assessment in professional practice and planning for the development of performance in the area of environmental pathology
b6 – Make a career decisions in the contexts of different professional
b7- Innovation / Creativity
b8 – Discuss and dialogue based on evidence.
b9- Discriminate between tissue/organ appearance in health and diseased birds.
b10. Differentiate between the different pathological alterations
b11. Score the macroscopic and microscopic pathological lesions
b12. Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b13. Integrate the pathological alterations with injurious agents

c-Professional and practical skills

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

c1. Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c2. Examine and identify the macroscopic criteria of the pathological alterations.
c3. Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c4. Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c5. Write a report commenting on a pathological specimens
c6 - Proficiency basic professional skills and modern techniques in the area of environmental pathology
c.7 - Writing and evaluation of professional reports
c.8 - Evaluate and develop an existing methods and tools in the area of environmental pathology
c9 - Use technological means to serve the professional practice
c10 - Planning for the development of professional practice and development

d- General and transferable skills

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

d1 - Utilize the advanced information technology in the improvement of environmental pathology professional practice
d2 - Use of information technology to serve the development of professional practice
d3- Teach others and evaluate their performance
d4- Self-assessment and continuous learning
d5- Use of different sources for information and knowledge
d6- Work in a team and leading teams

d7- Manage a scientific meetings and the ability to manage time

3- Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description - Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction - Malformations	4	12	4	8	a1-a14	b1-b13	-	d1-d7
Toxins, xenobiotics, and toxicity: - Classification, Absorption of toxins and their routes. Distribution, storage and storage sites. Brain and placental barrier- Biotransformation of xenbiotics, detoxification and bio-activation (phase I: cytochrome p-450 and other enzymes – (phase II: conjugation	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
Factors affecting toxic effects: Genetic factors (species-- Dose and site of action- Metabolic factors (induction or depletion).-	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
- Mechanism of toxic cell injury : - Elimination of oxygen radicals and oxidation stress	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7

Covalent binding to cell macromolecules **- Peroxidation of cell membrane lipid. Protein – thiol depletion- Alteration in calcium homeostasis**								
- **Enviromental pollutants (gases, chemicals (particulates and pneumoconiosis**	**6**	**20**	**6**	**12**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- **Toxicologic pathology of relevant optional system (mechanism – response – lesions).**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathogenesis and tissue reaction to infectious pollutants **- (viral, parasitic).**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathogenesis and tissue reaction to infectious pollutants - **(bacterial,mycotic,).**	**5**	**15**	**5**	**10**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Application of immunohistochemical techniques	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Molecular pathology applications	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities - **Collect pathology, specimens.** - **Writing assays.** - **Pathology rounds.**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**108**	**36**	**72**				

4-Teaching and learning methods

- Lectures: developed relies on student participation and discussion with the aid of multimedia

- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.
- Self-learning activities:
*** Samples collections and research from the internet and library**
*** panel discussions (Histopathology and Gross pathology rounds).**
***E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)**

5-Student assessment

5.1. Assessments methods:

exam	KU	IS	PPS	GT
Written xams	a1-a14	b1-b13	-	-
Practical exams	-	b1-b13	c1-c10	
Oral examination	a1-a14	b1-b13	c1-c10	d1-d7

5.2. Assessment schedules/semester:

exam	week
Theoretical Exams	fifty-three to fifty-five week
Practical exams	fifty-three week
Oral examination	fifty-three to fifty-five week

5.3. Weight of assessments:

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

6- List of references

8.1. Notes and books:

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

Rolla Bennett, ; Terzian, James A. (1980) Topics in environmental pathology ; Universities

Associated: Hill

N. Karle Mottet (2006)"Environmental Pathology" (Oxford Medicine Publications)

8.3. Recommended textbooks:

- **Olsen, Richard G. (Comparative Pathobiology and Viral Diseases)**
- **Boca Raton, Fla and Cheville, Norman F. , (Cytopathology in Viral Diseases (Karger, Basel))**
- **Herenda, Drago C. , (Food Animal Pathology and Meat Hygiene)**
- **Jennings, A.R. (Animal Pathology)**
- **Bailliere, Tindall and Cassell, London Mouwen, J.M. et al (Atlas of veterinary Pathology) Saunders, Philadelphia**
- **Thomson, R.G. (General Veterinary Pathology) Saunders, Philadelphia**

8.4. Journals, Websites ……..etc

journals:

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

http/cms.nelc.edu.eg
www.asvp.asn.au.com
www.geneng news.com
www.altcancer.com

Course Coordinator
Dr. EL-Shaymaa N. EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department
Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology 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 Anatomy of laboratory animals 2 hours / weak (Lec. 1hr/wk - Pract. 1hr/wk)	1. **- Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction - Malformations**	1, 2	1,3,5,6,10	1,2,3,4	-	1-7
	2. **Toxins, xenobiotics, and toxicity: - Classification, Absorption of toxins and their routes. Distribution, storage and storage sites. Brain and placental barrier- Biotransformation of xenbiotics, detoxification and bio-activation (phase I: cytochrome p-450 and other enzymes – (phase II: conjugation**	2, 3, 4	1,3,4,5,6,10	1,2,3,4,5,6	1, 2,6,7,8,9	
	3. **Factors affecting toxic effects: Genetic factors (species-- Dose and site of action- Metabolic factors (induction or depletion).-**	5, 6, 7, 8, 9	1,2,4,6,7,10	7,8,9,10	3,4,6,7,8	
	- 4. **Mechanism of toxic cell injury : - Elimination of oxygen radicals and oxidation stress Covalent binding to cell macromolecules - Peroxidation of cell membrane lipid. Protein – thiol depletion- Alteration in calcium homeostasis**	10, 11	2,4,6,7,8	7	7,8,9,10	
	5. **Enviromental pollutants (gases, chemicals (particulates and pneumoconiosis**	12, 13	2,4,5,6,7,10, 11,12,13	7,8,9,10	3, 4,5,6,7,8	
	6. **Toxicologic pathology of relevant optional system (mechanism – response –lesions).**	14, 15	2,4,6,7,10, 11,12	7,8,9,10	3, 4, 5,6,7,8	
	7. **Pathogenesis and tissue reaction to infectious**	15, 16	2,4,5,6,7,10	7,8,9,10	3, 4,5,6,7,8	

	pollutants **- (viral, parasitic).**					
	8. **Pathogenesis and tissue reaction to infectious pollutants** **(bacterial,mycotic,).**	16, 17, 18, 19	2,4,5,6,7,10, 13	7,8,9,10,11,12,14,15	3, 4, 5,6,7,8	
	9. **Application of immunohistochemical techniques**	20, 21, 22	2,4,6,7,8,11, 12	7,8,9,10,11,12	5,6,7,8,9,10	
	10. **Molecular pathology applications**	23, 24, 25	2,4,6,7, 9	12	6,7,8,9,10	

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-65**
Course title :	Pathology of genital system
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 65
Degree:	Ph.D
Contact hours/ week	4 hours per week (2hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Acquire knowledge on different aspects and mechanism of disease development in gonads and reproductive tract of female and male genital system.
2- Identify the pathological lesions and Pathogenesis and tissue reaction to infectious agents by advanced aids.
3- aware with tissue specimen's preparations and full description to macroscopic and microscopic pathological changes
4- Proficiency basics of research methodologies and scientific.
5- Continuing work on the addition of knowledge in the area of genital pathology.
6- Application of the analytical and advanced techniques in histopathology-based diagnosis.
7- Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations
8- Show deep awareness of current problems and new theories in the area of genital pathology and find innovative solutions to solve them
9-Commitment to continuing self-development and transfer of knowledge and experience to others
10- Decision-making in light of available information

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. List the theories and the basics of modern knowledge in the field of genital pathology
a.2. Define the fundamentals and methodologies and ethics of scientific research and the various tools
a.3. Illustrate the pathogenesis of the disease
a.4. Recall Knowledge about the molecular and cellular response of the living body when exposed to injurious agent

Course specification of postgraduate

a.5. Outline the relationship between causes and tissue/organ changes.
a.6. Record the macroscopic and microscopic alterations.
a.7. Describe the macroscopic & microscopic tissue changes during diseases.
a.8. Recognize Knowledge about typing and classification of different tissue/organ changes.
a.9. Identify The legal and ethical principles for professional practice in the area of genital pathology
a.10.The principles and basics of quality in professional practice in the area of genital pathology.
a.11. Knowledge about the effects on the environment of professional practice and methods of development.
a.12. Define the specialist subjects, including a command of literature in the field of genital pathology.
a.13. Discuss the importance of information technology in scientific research.
a.14. Describe the molecular basis (molecular pathology) of common genital diseases.

b-Intellectual skills

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

b.1 - Evaluate the information in the field of genital pathology
b.2 – Assess a specialized problem-solving based on the available data
b.3 – Conduct a research studies adding to the knowledge
b.4 –Formulate and edit an scientific papers.
b.5 - Risk assessment in professional practice and planning for the development of performance in the area of genital pathology
b.6 - Plan for improvement of veterinary performance.
b.7 - Make a decision making in variable professional practices
b.8 - The dialogue and discussion based on evidence.
b.9 - Differentiate between tissue/organ appearance in health and diseased birds.
b.10 - Differentiate between the different pathological alterations
b.11- Score the macroscopic and microscopic pathological lesions
b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

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

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c.2- Examine and identify the macroscopic criteria of the pathological alterations.
c.3- Examine and identify the microscopic criteria of the pathological alterations using

Course specification of postgraduate

modern techniques.

c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques

c.5- Write a report commenting on a pathological specimens

c.6 – Evaluate basic professional skills and modern techniques in the area of genital pathology

c.7 - Write and evaluate of professional reports

c.8 - Evaluate and development of existing methods and tools in the area of genital pathology

c.9 - Use the technological means to serve the professional practice

c.10 - Planne for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate in its different forms

d.2 - Use of information technology to serve the development of professional practice

d.3- Teach others and evaluate their performance

d.4- Self-assessment and continuous learning

d.5- Use of different sources for information and knowledge

d.6- Work in a team and leading teams

d.7- Manage of scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **Introduction** **Response of avian tissues to injuries.** **-Cell and tissue reactions** **-Vascular reaction in relation to inflammatory reactions**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
Intersexuality Free martinism	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification of postgraduate

Pathology of ovary **-Congenital anomalies** **-Physiopathological disturbances (cysts in and around the ovary**	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of ovary **- Inflammation and Ovarian neoplasms**	**1**	**4**	**2**	**2**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of fallopian tube **- Congenital anomalies** **- Salpingitis and neoplasms**	**1**	**4**	**2**	**2**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of uterus **-Congenital anomalies** **-Degenerative and inflammatory lesions (Endometritis and Metritis)** **-Proliferative lesions Using of immunohsitochemistry**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of cervix , vagina and vulva Congenital anomalies and Inflammatory reactions	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Diseases causing abortion **-Bacterial diseases**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Diseases causing abortion **-Viral diseases** **-Parasitic and mycotic diseases**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Mastitis	**4**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of testes and scrotum **-Congenital anomalies and Intersex** **-Degenerative and**	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification of postgraduate

inflammatory lesions -Proliferative lesions and Tumors Using of immunohsitochemistry								
Pathology of spermatic cord and epididymis Pathology of vas deferens , prostate and vesicular glands Pathology of penis and prepuce -	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
application of molecular pathology on genital abnormalities	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
application of immunohistochemistry to detect steroid receptors	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities - Collect pathology, specimens. - Writing assays. Pathology rounds	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**144**	**72**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

7-Student assessment

7.1. Assessments methods:

Course specification of postgraduate

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Written Exam	a1- a14	b1- b13	c1- c10	d1-d7
Practical Exam	a1- a14	b1- b13	c1- c10	d1-d7
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	Week(s)
Writen exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**

7.3. Weight of assessments

Assessment	Weight of assessment
Written exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

- **Kenneth McEntee (1990)** Reproductive Pathology of Domestic Mammals.
- **Claus D. Buergelt (1997)** Color Atlas of Reproductive Pathology of Domestic Animals. Publisher: Mosby; 1st edition

8.3. Recommended texts

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**

Journals:

Course specification of postgraduate

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department, Faculty of Veterinary Medicine,
Beni-Suef University

Course specification

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-66**
Course title :	Avian Pathology
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 66
Degree:	Ph.D
Contact hours/ week	4 hours per week (2hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1-Identify Pathological changes in relation to viral, bacterial, mycotic and parasitic infectious diseases as well nutritional disorders in poultry

2-.Acquire Mechanism, by which the disease developed, progressed and squealed

3-Understand the mechanisms of pathological alterations

4-Proficiency basics of research methodologies and scientific.

5. Continuing work on the addition of knowledge in the area of avian pathology.

6. Application of the analytical and advanced techniques in histopathology-based diagnosis.

7. Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations

8. Show deep awareness of current problems and new theories in the area of avian pathology and find innovative solutions to solve them

9-Commitment to continuing self-development and transfer of knowledge and experience to others

10- Decision-making in light of available information

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 - List the theories and the basics of modern knowledge in the field of avian pathology.

a.2 – Define the fundamentals and methodologies and ethics of scientific research and the various tools

a.3 - Illustrate the pathogenesis of the disease

a.4 -Recall Knowledge about the molecular and cellular response of the living

Course specification of postgraduate

body when exposed to injurious agent

a.5- Outline the relationship between causes and tissue/organ changes.

a.6- Record the macroscopic and microscopic alterations.

a.7- Describe the macroscopic & microscopic tissue changes during diseases.

a.8- Recognize Knowledge about typing and classification of different tissue/organ changes.

a.9 - Identify The legal and ethical principles for professional practice in the area of avian pathology

a.10- Identify the principles and basics of quality in professional practice in the area of avian pathology.

a.11 – Discuss the knowledge about the effects on the environment of professional practice and methods of development.

a.12- Define the specialist subjects, including a command of literature in the field of avian pathology.

a.13- Discuss the importance of information technology in scientific research.

a.14- Describe the molecular basis (molecular pathology) of common avian diseases.

b-Intellectual skills

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

b.1 – Evaluate the information in the field of avian pathology

b.2 - Specialize problem-solving based on the available data

b.3 - Conduct research studies adding to the knowledge

b.4 – Formulate and edit a scientific papers.

b.5 – Assess the professional practice and planning for the development of performance in the area of avian pathology

b.6 - Make career decisions in the contexts of different professional

b.7 - Invent and innovate

b.8 - Dialogue and discuss based on evidence.

b.9 - Discriminate between tissue/organ appearance in health and diseased birds.

b.10 - Differentiate between the different pathological alterations

b.11- Score the macroscopic and microscopic pathological lesions

b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.

b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

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

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.

c.2- Examine and identify the macroscopic criteria of the pathological alterations.

c.3- Examine and identify the microscopic criteria of the pathological alterations using

modern techniques.
c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c.5- Write a report commenting on a pathological specimens
c.6 - Proficiency basic professional skills and modern techniques in the area of avian pathology
c.7 - Write and evaluate of professional reports
c.8 - Evaluate and development of existing methods and tools in the area of avian pathology
c.9 - Use the technological means to serve the professional practice
c.10- Plane for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate effectively in its different forms
d.2 - Use of information technology to serve the development of professional practice
d.3- Teach others and evaluate their performance
d.4- Self-assessment and continuous learning
d.5- Use of different sources for information and knowledge
d.6- Work in a team and leading teams
d.7- Manage of scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **Introduction** **Response of avian tissues to injuries.** **-Cell and tissue reactions** **-Vascular reaction in relation to inflammatory reactions**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**-**	**d1-d7**

Course specification of postgraduate

Postmortem examination	**1**	**4**	**2**	**2**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Application of immunohistochemical techniques	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Molecular pathology applications in poultry diseases	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of viral diseases: **- infectious bronchitis** **- infectious laryngeotracheitis** **- fowl pox** **- Marek's disease** **- leukosis** **- lymphoproliferative disease of turkeys** **- infectious bursal disease** **- avian encephalomyelitis** **- Viral hepatitis in ducklings** **- Newcastle** **- Avian flu** **- inclusion body hepatitis** **-**	**8**	**32**	**16**	**16**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of Bacterial diseases **-fowl typhoid** **-pullorum** **-fowl paratyphoid** **- avian tuberculosis** **-avian mycoplasmosis** **-colibacillosis** **- listeriosis** **-clostridial diseases**	**7**	**32**	**14**	**14**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification of postgraduate

-necrotic entritis -botulism -campylobacter infection -clamydiosis -staphylococcal arthritis								
- Pathology of Parasitic diseases.	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of Mycotic diseases	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of nutritional diseases - vitamin deficiency - Mineral deficiency).	**4**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**144**	**72**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

Course specification of postgraduate

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- a14	b1- b13	-	d1-d7
Practical Exam	-	b1- b13	c1- c10	d1-d7
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	Week(s)
Written exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

7.3. Weight of assessments

Assessment	Weight of assessment
Written exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

J.L. Vegad, (2008) A Color Atlas of Poultry Diseases: An Aid for Farmers and Poultry Professionals" International Book Distributing Co

H. L. Shivaprasad (2006) "Pathology of Birds – An Overview," California Animal Health and Food Safety Laboratory System

Christopher J. Randall MA Vet MB MRCVS, Rodney L. Reece B (2008) "Color Atlas of Avian Histopathology"

8.3. Recommended texts

Course specification of postgraduate

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**

Journals:

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed

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

Course specification

Topic	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
				KU	IS	PPS	GT
Course description **Introduction** **Response of avian tissues to injuries.** **-Cell and tissue reactions** **-Vascular reaction in relation to inflammatory reactions**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Postmortem examination	**4**	**2**	**2**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Application of immunohistochemical techniques	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Molecular pathology applications in poultry diseases	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

Pathology of viral diseases: **- infectious bronchitis** **- infectious laryngeotracheitis** **- fowl pox** **- Marek's disease** **- leukosis** **- lymphoproliferative disease of turkeys** **- infectious bursal disease** **- avian encephalomyelitis** **- Viral hepatitis in ducklings** **- Newcastle** **- Avian flu** **- inclusion body hepatitis** **-**	**32**	**16**	**16**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of Bacterial diseases **-fowl typhoid** **-pullorum** **-fowl paratyphoid** **- avian tuberculosis** **-avian mycoplasmosis** **-colibacillosis** **- listeriosis** **-clostridial diseases** **-necrotic entritis** **-botulism** **-campylobacter infection** **-clamydiosis** **-staphylococcal arthritis**	**32**	**14**	**14**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

- **Pathology of Parasitic diseases.**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- **Pathology of Mycotic diseases**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of nutritional diseases - **vitamin deficiency** - **Mineral deficiency).**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities - **Collect pathology, specimens.** - **Writing assays.** - **Pathology rounds.**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**144**	**72**	**72**				

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-67**
Course title :	Fish Pathology
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 67
Degree:	Ph.D
Contact hours/ week	3 hours per week (1hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Identify fish morphology and tissue reactions against injury

2.Acquire Mechanism, by which the disease developed, progressed and squealed

3. Understand the mechanisms of pathological alterations by advanced aids and interest to fish diseases of zoonotic importance from the pathological aspect of view.

4-Proficiency basics of research methodologies and scientific and continuing work on the addition of knowledge in the area of fish pathology.

5. Application of the analytical and advanced techniques in histopathology-based diagnosis.

6. Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations

7. Show deep awareness of current problems and new theories in the area of fish pathology and find innovative solutions to solve them

3- Intended learning outcomes of course methods ILOs)

a- Knowledge and understanding:

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

a.1 – Describe the theories and the basics of modern knowledge in the field of fish pathology.

a.2 – List the fundamentals and methodologies and ethics of scientific research and the various tools

a.3- Recall Knowledge about the molecular and cellular response of the living body when exposed to toxic agent

a.4- Outline the relationship between causes and tissue/organ changes.

a.5- Record the macroscopic and microscopic alterations.

Course specification of postgraduate

a.6. Describe the macroscopic & microscopic tissue changes.
a.7. Recognize Knowledge about typing and classification of different tissue/organ changes.
a.8. Illustrate the pathogenesis of pathological agents.
a.9. Identify The legal and ethical principles for professional practice in the area of fish pathology
a.10.List the principles and basics of quality in professional practice in the area of fish pathology.
a.11. Describe the effects on the environment of professional practice and methods of development.
a.12. Define the specialist subjects, including a command of literature in the field of fish pathology.
a.13. Discuss the importance of information technology in scientific research.
a.14. Describe the molecular basis (molecular pathology) of common fish diseases.

b-Intellectual skills

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

b.1 - Analysis and evaluation of information in the field of fish pathology
b.2 - Specialized problem-solving based on the available data
b.3 - Conduct research studies adding to the knowledge
b.4 –Formulate and edit a scientific papers.
b.5 Assess the professional practice and planning for the development of performance in the area of fish pathology
b.6 – Make a career decisions in the contexts of different professional
b.7 - Invent and innovate
b.8 - Dialogue and discuss an evidence.
b.9 - Discriminate between tissue/organ appearance in health and diseased fish.
b.10 - Differentiate between the different pathological alterations
b.11- Score the macroscopic and microscopic pathological lesions
b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

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

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c.2- Examine and identify the macroscopic criteria of the pathological alterations.
c.3- Examine and identify the microscopic criteria of the pathological alterations using modern techniques.

Course specification of postgraduate

c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c.5- Write a report commenting on a pathological specimens
c.6 – Use the basic and professional skills and modern techniques in the area of fish pathology
c.7 – Write and evaluate of professional reports
c.8 - Development of existing methods and tools in the area of avian pathology
c.9 - Use of technological means to serve the professional practice
c.10- Planne for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate effectively in its different forms
d.2 - Use of information technology to serve the development of professional practice
d.3- Teach others and evaluate their performance
d.4- Self-assessment and continuous learning
d.5- Use of different sources for information and knowledge
d.6- Work in a team and leading teams
d.7- Manage of scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction** **- Malformations**	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
- Introduction **- General outline of fish morphology** **-General tissue reaction against injuries** **-Field application of**	**2**	**6**	**2**	**4**				

Course specification of postgraduate

fish pathology).								
Application of immunohistochemical techniques to detect protein execrated during healing or regeneration.	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Molecular pathology applications in fish pathology	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-<u>Bacterial diseases</u> motile aeromonas septicaemia "M.A.S."- pseudomonas septicaemia- vibriosis- furunclosis columnaris enetrobacteriaceae – flavobacteriumsp - mycobacteriosis – others). -	**6**	**20**	**6**	**12**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
<u>Parasitic diseases</u> (*Protozoa*: Ichthyophthirius multifilis "ICH" – trichodina and chilodonella – ichthyoboda "costia necatrix"- myxosporidia and microsporidia , *Helminths* : - **trematodes – cestodes . nematodes , *Crustaceans* : argulus – ergasilus – lernea).**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- **<u>Fungal diseases</u> (saprolegnia – brachiomycosis – Ichthyo phonus hoferi**	**3**	**9**	**3**	**6**				

Course specification of postgraduate

Viral diseases **- (infectious pancreatic necrosis "I.P.N." – infectious haemopoietic necrosis "I.H.N."** **- spring viraemia of carp "SVC" –** **- channel catfish virus "CCV").**	**5**	**15**	**5**	**10**				
Nutritional disorders **(avitaminosis A, E, C – trace elements deficiency, e.g., zinc, cobalt, copper, selenium).**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of zoonotic diseases : **Bacterial diseases (streptococcus spp. – clostridium spp. "lower motor disease"- Erysipelothrix rhusiopathie- fish sore "septicaemic form" - mycobacterium "arthritis" – nocardia spp. – vibrio spp. "septicaemia" - aeromonas spp. "wound infection" - food poisoning, e.g. E.coli, Klebsiella** **- parasitic diseases: (anasakiasis – diphyllatum – heterophyes) – viral diseases (San Miguel seaalion virus).**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities **- Collect pathology, specimens.**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification of postgraduate

- **Writing assays.** - **Pathology rounds.**								
Total	**36**	**108**	**36**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

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- a14	b1- b13	c1- c10	d1-d7
Practical Exam	a1- a14	b1- b13	c1- c10	d1-d7
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	**Week(s)**
Written exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

7.3. Weight of assessments

Assessment	**Weight of assessment**
Written exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Course specification of postgraduate

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

-Hugh Ferguson, Ellen Bjerkas and Oystein Evensen (2006) Systemic Pathology of Fish
-A Text and Atlas of Normal Tissue Responses in Teleosts, and Their Responses in Disease **by Ronald Robert (2007)** Fish Pathology
- Pathology of Fishes **by William E. Ribelin (Jun 15, 1975)**

8.3. Recommended texts

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**

Journals:

- Egyptian Journal of Comparative Pathology and Clinical Pathology.
- Pathologia Veterinaria
- American Journal of Pathology
- Journal of Pathology and Bacteriology
- Archive of Pathology
- Veterinary Record
- Journal of Comparative Pathology
- Canadian Journal of comparative Medicine
- American Journal of veterinary research
- Research on veterinary Science

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department
Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department, Faculty of Veterinary Medicine,
Beni-Suef University

Beni Suef University
Faculty of Veterinary Medicine

Course specification

Topic	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
				KU	IS	PPS	GT
Course description - Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction - Malformations	12	4	8	a1-a14	b1-b13	-	d1-d7
- Introduction - General outline of fish morphology -General tissue reaction against injuries -Field application of fish pathology).	6	2	4	a1-a14	b1-b13	-	d1-d7
Application of immunohistochemical techniques to detect protein execrated during healing or regeneration.	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
Molecular pathology applications in fish pathology	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
-Bacterial diseases motile aeromonas septicaemia "M.A.S."-pseudomonas septicaemia-vibriosis- furunclosis columnaris enetrobacteriaceae – flavobacteriumsp - mycobacteriosis – others).	20	6	12	a1-a14	b1-b13	c1-c10	d1-d7
Parasitic diseases (*Protozoa*: Ichthyophthirius multifilis "ICH" – trichodina and chilodonella – ichthyoboda "costia necatrix"- myxosporidia and microsporidia , *Helminths* : - trematodes – cestodes . nematodes , *Crustaceans* : argulus – ergasilus – lernea).	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
- Fungal diseases (saprolegnia – brachiomycosis – Ichthyo phonus hoferi	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Viral diseases - (infectious pancreatic necrosis "I.P.N." –	15	5	10	a1-a14	b1-b13	c1-c10	d1-d7

Course specification

infectious haemopoietic necrosis "I.H.N." - spring viraemia of carp "SVC" – - channel catfish virus "CCV").							
Nutritional disorders (avitaminosis A, E, C – trace elements deficiency, e.g., zinc, cobalt, copper, selenium).	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
- Pathology of zoonotic diseases : Bacterial diseases (streptococcus spp. – clostridium spp. "lower motor disease"-Erysipelothrix rhusiopathie- fish sore "septicaemic form" - mycobacterium "arthritis" – nocardia spp. – vibrio spp. "septicaemia" - aeromonas spp. "wound infection" - food poisoning, e.g. E.coli, Klebsiella - parasitic diseases: (anasakiasis – diphyllatum – heterophyes) – viral diseases (San Miguel seaalion virus).	12	6	6	a1-a14	b1-b13	c1-c10	d1-d7
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	9	3	6	a1-a14	b1-b13	c1-c10	d1-d7
Total	108	36	72				

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-68**
Course title :	Experimental Pathology
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 68
Degree:	Ph.D
Contact hours/ week	3 hours per week (1hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Show deep awareness of current problems and new theories in the area of experimental pathology and find innovative solutions to solve them

2- Application of the analytical and advanced techniques in histopathology-based diagnosis.

3- Identify the lesions and diseases of experimental animals that can interfere with results and their interpretation or seriously affect any experimental animal.

4- Acquire the ability to plan for an experiment in the field of pathology and understand Mechanism, by which the disease developed, progressed and squealed

5- Understand the mechanisms of pathological alterations and aware with tissue specimen's preparations and full description to macroscopic and microscopic pathological changes using traditional and advanced aids.

6- Proficiency basics of research methodologies and scientific and continuing work on the addition of knowledge in the area of experimental pathology

7- Commitment to continuing self-development and transfer of knowledge and experience to others

3- Intended learning outcomes of course methods ILOs)

a- Knowledge and understanding:

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

a.1 – Enumerate the theories and the basics of modern knowledge in the field of experimental pathology.

a.2 – List the fundamentals and methodologies and ethics of scientific research and the various tools

a.3. Recall Knowledge about the molecular and cellular response of the living

body when exposed to toxic agent

a.4. Outline the relationship between causes and tissue/organ changes.

a.5. Record the macroscopic and microscopic alterations.

a.6. Describe the macroscopic & microscopic tissue changes.

a.7. Recognize Knowledge about typing and classification of different tissue/organ changes.

a.8. Illustrate the pathogenesis of pathological agents.

a.9. Identify The legal and ethical principles for professional practice in the area of experimental pathology

a.10.Define he principles and basics of quality in professional practice in the area of experimentalpathology.

a.11. Knowledge about the effects on the environment of professional practice and methods of development.

a.12. Define the specialist subjects, including a command of literature in the field of experimental pathology.

a.13. Discuss the importance of information technology in scientific research.

a.14. Describe the molecular basis (molecular pathology) of common experimentally induced diseases.

b-Intellectual skills

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

b.1 – Analyze the information in the field of experimental pathology

b.2 - Specialize problem-solving based on the available data

b.3 - Conduct research studies adding to the knowledge

b.4 –Formulate and edit an scientific papers.

b.5 – Assess the professional practice and planning for the development of performance in the area of experimental pathology

b.6 – Make a career decisions in the contexts of different professional

b.7 - Invent and innovate

b.8 - Dialogue and discuss an evidence.

b.9 - Discriminate between tissue/organ appearance in health and experimentally diseased animals, birds, and fish.

b.10 - Differentiate between the different pathological alterations

b.11- Score the macroscopic and microscopic pathological lesions

b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.

b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

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

Course specification of postgraduate

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c.2- Examine and identify the macroscopic criteria of the pathological alterations.
c.3- Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c.5- Write a report commenting on a pathological specimens
c.6 - Proficien basic professional skills and modern techniques in the area of experimental pathology
c.7 - Write and evaluation of professional reports
c.8 - Evaluate and development of existing methods and tools in the area of experimental pathology
c.9 - Use of technological means to serve the professional practice
c.10- Planne for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate in its different forms of experimental pathology.
d.2 - Use of information technology to serve the development of professional practice
d.3- Teach others and evaluate their performance
d.4- Self-assessment and continuous learning
d.5- Use of different sources for information and knowledge
d.6- Work in a team and leading teams
d.7- Manage a scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **Introduction** **- Sampling and preservation** **- Cell and tissue reaction to injury.** **- Interrelationship of inflammatory reaction and vascular**	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**-**	**d1-d7**

Course specification of postgraduate

response								
- Types of studies according to article under experimentation and objectives of study. **- (Design (selection of experimental animal model** **- selection of dose and route of application and duration).**	**2**	**6**	**2**	**4**				
- Experimental procedures (allocation of animals to groups – treatment schedule – clinical observation, e.g., food and water consumption, body weight, etc. – sampling schedule for clinical pathology – sacrifice schedule – necropsy, organ weights, collection of tissue and organ specimens for microscopic examination.	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Evaluation of results (morphological alteration – functional alterations and changes in haematological and biochemical parameters – factors affecting evaluation and interpretation of results).	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of	**3**	**9**	**3**	**6**	**a1-**	**b1-**	**c1-**	**d1-**

Course specification of postgraduate

digestive system					**a14**	**b13**	**c10**	**d7**
- Pathology of respiratory system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of urinary system	**2**	**6**	**2**	**4**				
- Pathology of genital systems	**2**	**6**	**2**	**4**				
- Pathology of nervous system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of cardiovascular system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of musculoskeletal system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of lymphatic and heamopiotic system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Postmortem examination	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Application of immunohistochemical techniques	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Application of molecular pathology	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities **- Collect pathology, specimens.** **- Writing assays.** **- Pathology rounds.**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**108**	**36**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library

Course specification of postgraduate

* panel discussions (Histopathology and Gross pathology rounds).
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

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- a14	b1- b13	c1- c10	d1-d7
Practical Exam	a1- a14	b1- b13	c1- c10	d1-d7
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	Week(s)
Writing exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six 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

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

-Ramz-I S. and Kumar, V. and Collin, T. (1999) Pathological Basis of Disease, 6th ed .
-Richert, G and Epstein , M. (2008) international review of experimental pathology
- EörsBajusz; G Jasmin (1991)"Methods and achievements in experimental pathology"

8.3. Recommended texts

Course specification of postgraduate

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**

Journals:

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department, Faculty of Veterinary Medicine,
Beni-Suef University

Course specification

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **Introduction** **- Sampling and preservation** **- Cell and tissue reaction to injury.** **- Interrelationship of inflammatory reaction and vascular response**	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
- Types of studies according to article under experimentation and objectives of study. **- (Design (selection of experimental animal model** **- selection of dose and route of application and duration).**	**2**	**6**	**2**	**4**				
- Experimental procedures (allocation of animals to groups – treatment schedule – clinical observation, e.g., food and water consumption, body weight, etc. – sampling schedule for clinical pathology – sacrifice schedule – necropsy, organ weights, collection of tissue and organ specimens for microscopic examination.	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Evaluation of results (	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

morphological alteration – functional alterations and changes in haematological and biochemical parameters – factors affecting evaluation and interpretation of results).								
- Pathology of digestive system	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of respiratory system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of urinary system	**2**	**6**	**2**	**4**				
- Pathology of genital systems	**2**	**6**	**2**	**4**				
- Pathology of nervous system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of cardiovascular system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of musculoskeletal system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathology of lymphatic and heamopiotic system	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Postmortem examination	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Application of immunohistochemical techniques	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

Application of molecular pathology	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities **- Collect pathology, specimens.** **- Writing assays.** **- Pathology rounds.**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**108**	**36**	**72**				

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-69**
Course title :	Toxicological Pathology
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 69
Degree:	Ph.D
Contact hours/ week	4 hours per week (2hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Acquire the ability to plan for an experiment in the field of toxicological pathology and understand Mechanism, by which the disease developed, progressed and squealed

2- Understand the mechanisms of pathological alterations and aware with tissue specimen's preparations and full description to macroscopic and microscopic pathological changes using traditional and advanced aids.

3- Proficiency basics of research methodologies and scientific and continuing work on the addition of knowledge in the area of toxicological pathology

4- Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations

5- Show deep awareness of current problems and new theories in the area of toxicological pathology and find innovative solutions to solve them

6- Decision-making in light of available information

3- Intended learning outcomes of course methods ILOs)

a- Knowledge and understanding:

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

a.1 – Identify the theories and the basics of modern knowledge in the field of toxicological pathology.

a.2 – List the fundamentals and methodologies and ethics of scientific research and the various tools

a.3 - Acquire knowledge on different aspects and mechanism of toxicity with reference to environmental toxicants and pathogenesis of infectious pollutants.

a.4- Identify the pathological lesions and pathogenesis and tissue reaction to infectious

pollutants.

a.5- Understand Mechanism, by which the disease developed, progressed and squealed.

a.6- Aware with tissue specimens preparations and full description to macroscopic and microscopic pathological changes with the aid of advanced techniquesa

a.7- Describe the macroscopic & microscopic tissue changes of the toxic agents

a.8- Identify The legal and ethical principles for professional practice in the area of toxicological pathology

a.9 - The principles and basics of quality in professional practice in the area of toxicological pathology.

a.10 -Knowledge about the effects on the environment of professional practice and methods of development.

a.11-Define the specialist subjects, including a command of literature in the field of toxicological pathology.

a.12- Discuss the importance of information technology in scientific research.

a.13- Describe the molecular basis (molecular pathology) of common toxicological diseases.

b-Intellectual skills

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

b.1 - Analyses and evaluate the information in the field of toxicological pathology

b.2 – Define problem-solving based on the available data

b.3 – Conduct research studies adding to the knowledge

b.4 –Formulate and edit a scientific papers.

b.5 - Assessment in professional practice and planning for the development of performance in the area of toxicological pathology

b.6 - Make career decisions in the contexts of different professional

b.7 - Invent and innovate

b.8 - Dialogue and discuss based on evidence.

b.9 - Discriminate between tissue/organ appearance in health and experimentally diseased animals, birds, and fish.

b.10 - Differentiate between the different pathological alterations

b.11- Score the macroscopic and microscopic pathological lesions

b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.

b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

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

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.

c.2- Examine and identify the macroscopic criteria of the pathological alterations.

Course specification of postgraduate

c.3- Examine and identify the microscopic criteria of the pathological alterations using modern techniques.
c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c.5- Write a report commenting on a pathological specimens
c.6 - Proficient basic professional skills and modern techniques in the area of toxicological pathology
c.7 - Write and evaluation of professional reports
c.8 - Evaluate and develop of existing methods and tools in the area of toxicological pathology
c.9 - Use of technological means to serve the professional practice
c.10- Plane for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate effectively and utilize the advanced information technology in the improvement of toxicological pathology professional practice.
d.2 - Use of information technology to serve the development of professional practice
d.3- Teach others and evaluate their performance
d.4- Self-assessment and continuous learning
d.5- Use of different sources for information and knowledge
d.6- Work in a team and leading teams
d.7- Manage a scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **Introduction** **Response of tissues to injuries.** **-Cell and tissue reactions** **-Vascular reaction in relation to inflammatory reactions**	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
Toxins, xenobiotics, and toxicity: **- Classification.** **- Absorption of toxins and their routes.** **- Distribution, storage and**	**4**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification of postgraduate

storage sites. - Brain and placental barrier. -Biotransformation of xenbiotics, detoxification and bio activation (phase I: cytochrome p-450 and other enzymes –(phase II: conjugation). - Factors affecting toxic effects: - Genetic factors (species. -Dose and site of action. - Metabolic factors (induction or depletion).								
Mechanism of toxic cell injury : - Covalent binding to cell acromolecules. - Elimination of oxygen radicals and oxidation stress. - Peroxidation of cell membrane lipid. - Protein-thiol depletion. - Alteration in calcium homeostasis.	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Environmental pollutants (gases, chemicals, particulates) and pneumonconiosis	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Toxicologic pathology of relevant optional system (mechanism – response – lesion	**5**	**20**	**10**	**10**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Local injury and application of molecular pathology and immunohistochemistry	**7**	**28**	**14**	**14**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Hepatotoxicity	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-Pathogenesis and tissue reaction to infectious pollutants (viral, bacterial, mycotic, parasitic).	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Nephrotoxicity - - Teratogenic effect	**4**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities	**3**	**12**	**6**	**6**	**a1-**	**b1-**	**c1-**	**d1-**

Course specification of postgraduate

- **Collect pathology, specimens.** - **Writing assays.** - **Pathology rounds.**					**a14**	**b13**	**c10**	**d7**
Total	**36**	**144**	**72**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

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- a14	b1- b13	-	-
Practical Exam	-	b1- b13	c1- c10	
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	**Week(s)**
Written exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

7.3. Weight of assessments

Assessment	**Weight of assessment**
Written exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Textbook of General Pathology------- (Staff members of the dep.)

Course specification of postgraduate

Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

- **Wanda M. Haschek & Colin G. Rousseaux (1998)** " Fundamentals of Toxicologic Pathology" Academic Press; 1st edition.
- **Foster , R.J. (2010)** Toxicologic Pathology**, AstraZeneca R&D Alderley Park, UK.**
- **Deschl U. and Mohr, U (2010)** Experimental and Toxicologic Pathology.

8.3. Recommended texts

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**

Journals:

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department, Faculty of Veterinary Medicine,
Beni-Suef University

Course specification

Topic	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
				KU	IS	PPS	GT
Course description **Introduction** **Response of tissues to injuries.** **-Cell and tissue reactions** **-Vascular reaction in relation to inflammatory reactions**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
Toxins, xenobiotics, and toxicity: **- Classification.** **- Absorption of toxins and their routes.** **- Distribution, storage and storage sites.** **- Brain and placental barrier.** **-Biotransformation of xenbiotics, detoxification and bio activation (phase I: cytochrome p-450 and other enzymes –(phase II: conjugation).** **- Factors affecting toxic effects:** **- Genetic factors (species.** **-Dose and site of action.** **- Metabolic factors (induction or depletion).**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Mechanism of toxic cell injury : **- Covalent binding to cell acromolecules.** **- Elimination of oxygen radicals and oxidation stress.** **- Peroxidation of cell membrane lipid.** **- Protein-thiol depletion.** **- Alteration in calcium homeostasis.**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Environmental pollutants (gases, chemicals, particulates) and pneumonconiosis	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

- Toxicologic pathology of relevant optional system (mechanism – response – lesion	20	10	10	a1-a14	b1-b13	c1-c10	d1-d7
- Local injury and application of molecular pathology and immunohistochemistry	28	14	14	a1-a14	b1-b13	c1-c10	d1-d7
Hepatotoxicity	12	6	6	a1-a14	b1-b13	c1-c10	d1-d7
-Pathogenesis and tissue reaction to infectious pollutants (viral, bacterial, mycotic, parasitic).	12	6	6	a1-a14	b1-b13	c1-c10	d1-d7
- Nephrotoxicity - - Teratogenic effect	16	8	8	a1-a14	b1-b13	c1-c10	d1-d7
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	12	6	6	a1-a14	b1-b13	c1-c10	d1-d7
Total	144	72	72				

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-70**
Course title :	Surgical Pathology
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 70
Degree:	Ph.D
Contact hours/ week	4 hours per week (2hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Identify Pathological changes in relation to damage induced by physical agents, superficial infections, regeneration and healing, malformations, tissue grafting and organ transplantation.

2- Acquire the ability to plan for an experiment in the field of surgical pathology and understand Mechanism, by which the disease developed, progressed and squealed

3- Understand the mechanisms of pathological alterations and aware with tissue specimen's preparations and full description to macroscopic and microscopic pathological changes using traditional and advanced aids.

4- Proficiency basics of research methodologies and scientific and continuing work on the addition of knowledge in the area of toxicological pathology

5- Application of the analytical and advanced techniques in histopathology-based diagnosis.

6- Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations

7- Show deep awareness of current problems and new theories in the area of surgical pathology and find innovative solutions to solve them

8- Commitment to continuing self-development and transfer of knowledge and experience to others

9- Decision-making in light of available information

3- Intended learning outcomes of course methods ILOs)

a- Knowledge and understanding:

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

a.1 – List the theories and the basics of modern knowledge in the field of surgical pathology.

a.2 – Identify the fundamentals and methodologies and ethics of scientific research and the

Course specification of postgraduate

various tools

a.3 - Acquire knowledge on different aspects and mechanism of healing with reference to surgical management to each system in different animals.

a.4- Identify the pathological lesions and pathogenesis and tissue reaction related to the specific surgical interference.

a.5- Define Mechanism, by which the disease developed, progressed and squealed.

a.6- Aware with tissue specimens preparations and full description to macroscopic and microscopic pathological changes with the aid of advanced techniques.

a.7- Describe the macroscopic & microscopic tissue changes related to different surgical techniques.

a.8- Identify The legal and ethical principles for professional practice in the area of surgical pathology

a.9 – Discuss the principles and basics of quality in professional practice in the area of surgical pathology.

a.10 -Enumerate the effects on the environment of professional practice and methods of development.

a.11-Define the specialist subjects, including a command of literature in the field of surgical pathology.

a.12- Discuss the importance of information technology in scientific research.

b-Intellectual skills

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

b.1 - Analyses and evaluation of information in the field of surgical pathology

b.2 – Specialize problem-solving based on the available data

b.3 - Conducting research studies adding to the knowledge

b.4 -The formulation of scientific papers.

b.5 – Assess the professional practice and planning for the development of performance in the area of surgical pathology

b.6 - Make career decisions in the contexts of different professional

b.7 - Invent and innovate

b.8 - Do open discussion based on evidence.

b.9 - Discriminate between tissue/organ appearance in health and experimentally diseased animals, birds, and fish.

b.10 - Differentiate between the different pathological alterations

b.11- Score the macroscopic and microscopic pathological lesions

b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.

b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

Course specification of postgraduate

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

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.

c.2- Examine and identify the macroscopic criteria of the pathological alterations.

c.3- Examine and identify the microscopic criteria of the pathological alterations using modern techniques.

c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques

c.5- Write a report commenting on a pathological specimens

c.6 - Proficiency basic professional skills and modern techniques in the area of surgical pathology

c.7 - Write and assess the veterinary professional surgical pathologyreports.

c.8 - Evaluate and improve the available and required material, tools and equipment in surgical pathology research projects.

c.9 - Use the technological means to serve the professional practice

c.10- Utilize the regulations and indicators for pathological evaluation.

d- General and transferable skills

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

d.1- Communicate effectively and utilize the advanced information technology in the improvement of surgical pathology professional practice.

d.2 - Use of information technology to serve the development of professional practice

d.3- Teach others and evaluate their performance

d.4- Self-assessment and continuous learning

d.5- Use of different sources for information and knowledge

d.6- Work in a team and leading teams

d.7- Manage the scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation o**	**4**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**-**	**d1-d7**

Course specification of postgraduate

inflammatory reaction - Malformations								
Application of immunohistochemical techniques to detect protein execrated during healing or regeneration.	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Molecular pathology applications in surgical pathology	**2**	**8**	**4**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Regeneration and repair of soft tissue - Regeneration and repair of surgical wound - Regeneration and repair of contaminated wound - Regeneration and repair of parenchymatous organs - Regeneration and repair of bone.	**8**	**32**	**16**	**16**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Angiopathy (pathology of blood vessels). - Pathology of the skin. - Pathology of muscles - Pathology of tendons. - Pathology of joints. - Pathology of bone. *Diseases due to nutritional deficiency *Infectious diseases of bone *Neoplasm	**7**	**32**	**14**	**14**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Tissue grafting - Organ	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification of postgraduate

transplantation and reaction								
- Pathology of hoof affections. - Pathology of eye affections. - Pathology of central nervous tissue - Pathology of peripheral nerves	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Pathology of hemic system - - Pathology of lymphatic system	**4**	**16**	**8**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	**3**	**12**	**6**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
total	**36**	**144**	**72**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

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- a14	b1- b12	-	-
Practical Exam	-	b1- b12	c1- c10	-
Oral Exam	a1- a14	b1- b12	c1- c10	d1-d7

7.2. Assessment schedules

Method	**Week(s)**

Course specification of postgraduate

Written exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

7.3. Weight of assessments

Assessment	Weight of assessment
Written exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

-Gallin, J. and Synder , R (1999), Inflammation 3rd.ed. **Lippincott Williams,Wilkins. Philadelphia.**

-Diana Weedman Molavi "The Practice of Surgical Pathology: A Beginner's Guide to the Diagnostic Process" **(2008)**

- Paolo Gattuso MD, Vijaya B. Reddy MD, Odile David MD and Daniel J. Spitz MD "Differential Diagnosis in Surgical Pathology: Expert Consult"**(2009)**

8.3. Recommended texts

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**
- Jubb *et al.,* **(2007) (pathology of domestic animals) Saunders, Philadelphia**

Journals:

- Egyptian Journal of Comparative Pathology and Clinical Pathology.
- Pathologia Veterinaria
- American Journal of Pathology
- Journal of Pathology and Bacteriology
- Archive of Pathology
- Veterinary Record

Course specification of postgraduate

- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department, Faculty of Veterinary Medicine,
Beni-Suef University

Course specification

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description - Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation o inflammatory reaction - Malformations	4	16	8	8	a1-a12	b1-b13	-	d1-d7
Application of immunohistochemical techniques to detect protein execrated during healing or regeneration.	2	8	4	4	a1-a12	b1-b13	c1-c10	d1-d7
Molecular pathology applications in surgical pathology	2	8	4	4	a1-a12	b1-b13	c1-c10	d1-d7
- Regeneration and repair of soft tissue - Regeneration and repair of surgical wound - Regeneration and repair of contaminated wound - Regeneration and repair of parenchymatous organs - Regeneration and repair of bone.	8	32	16	16	a1-a12	b1-b13	c1-c10	d1-d7
- Angiopathy (pathology of blood vessels). - Pathology of the skin. - Pathology of muscles - Pathology of tendons.	7	32	14	14	a1-a12	b1-b13	c1-c10	d1-d7

Course specification

- Pathology of joints. - Pathology of bone. *Diseases due to nutritional deficiency *Infectious diseases of bone *Neoplasm								
Tissue grafting - Organ transplantation and reaction	3	12	6	6	a1-a12	b1-b13	c1-c10	d1-d7
- Pathology of hoof affections. - Pathology of eye affections. - Pathology of central nervous tissue - Pathology of peripheral nerves	3	12	6	6	a1-a12	b1-b13	c1-c10	d1-d7
Pathology of hemic system - - Pathology of lymphatic system	4	16	8	8	a1-a12	b1-b13	c1-c10	d1-d7
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	3	12	6	6	a1-a12	b1-b13	c1-c10	d1-d7
total	36	144	72	72				

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

1-Basic information

Course Code:	**Ph-71**
Course title :	Genetic Pathology
Academic year:	Postgraduate students for academic students 2017/2018.
Program title:	Course 71
Degree:	Ph.D
Contact hours/ week	3 hours per week (1hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Ability to plan for an experiment in the field of genetic pathology and understand Mechanism, by which the disease developed, progressed and squealed

2- Acquire knowledge about the changes and abnormalities of the genetic makeup and mechanisms of hereditary nature that are associated with morphological abnormalities and their differentiation from abnormalities due to non-genetic causes by advanced aids.

3- Proficiency basics of research methodologies and scientific and continuing work on the addition of knowledge in the area of genetic pathology

4- Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations

5- Application of the analytical and advanced techniques in histopathology-based diagnosis.

3- Intended learning outcomes of course methods ILOs)

a- Knowledge and understanding:

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

a.1 – List the theories and the basics of modern knowledge in the field of genetic pathology.

a.2 – Define the fundamentals and methodologies and ethics of scientific research and the various molecular and advanced tools

a.3 - Recall Knowledge about the molecular and cellular response of the living body when exposed to genetic cause.

a.4- Identify the pathological lesions and pathogenesis and tissue reaction related to the specific surgical interference using advanced molecular techniques.

a.5- Describe the molecular Mechanism, by which the disease developed, progressed and squealed.

a.6- Aware with tissue specimens preparations and full description to macroscopic and

microscopic pathological changes with the aid of advanced techniques (IHC, FISH).
a.7- Describe the macroscopic & microscopic tissue changes related to different genetic causes and analysis of these lesions using advanced techniques.
a.8- Identify legal and ethical principles for professional practice in the area of genetic pathology
a.9 – Define the principles and basics of quality in professional practice in the area of genetic pathology.
a.10 –Aware the effects on the environment of professional practice and methods of development.
a.11-Define the specialist subjects, including a command of literature in the field of genetic pathology.
a.12- Discuss the importance of information technology in scientific research.
a.13- Discuss the importance of information technology in scientific research.
a.14- Describe the molecular basis (molecular pathology) of common genetic diseases

b-Intellectual skills

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

b.1 - Evaluate of information in the field of genetic pathology
b.2 – Specializ the problem-solving based on the available data
b.3 - Conduct research studies adding to the knowledge
b.4 – Formulate and edit a scientific papers.
b.5 – Assess the professional practice and planning for the development of performance in the area of genetic pathology
b.6 - Make career decisions in the contexts of different professional
b.7 - Invent and innovate
b.8 – Do a discussion based on evidence.
b.9 - Discriminate between tissue/organ appearance in health and experimentally diseased animals, birds, and fish.
b.10 - Differentiate between the different pathological alterations
b.11- Score the macroscopic and microscopic pathological lesions
b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b.13- Integrate the pathological alterations with genetic agents

C- Professional and practical skills

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

c.1- Select the necessary techniques for sample reception & processing according to the nature of specimen received.
c.2- Examine and identify the macroscopic criteria of the pathological alterations using image

analysis.

c.3- Examine and identify the microscopic criteria of the pathological alterations using modern molecular techniques.

c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques

c.5- Write a report commenting on a pathological specimens

c.6 - Proficiency basic professional skills and modern techniques in the area of genetic pathology

c.7 - Write and evaluation of professional reports

c.8 - Evaluate and develop of existing methods and tools in the area of genetic pathology

c.9 - Use of technological means to serve the professional practice

c.10- Plane for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate effectively and utilize the advanced information technology in the improvement of genetic professional pathology.

d.2 - Use of information technology to serve the development of professional practice

d.3- Teach others and evaluate their performance

d.4- Self-assessment and continuous learning

d.5- Use of different sources for information and knowledge

d.6- Work in a team and leading teams

d.7- Manage of scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction** **- Malformations**	**5**	**15**	**5**	**10**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
- Genomic imperfections **Chromosomal abnormalities.** **- Errors in**	**4**	**12**	**4**	**8**				

Course specification of postgraduate

histogenesis - disturbances of growth - Congenital anomalies of hereditary origin. - Genetics and immune response.								
- Innate resistance to diseases. - Genetics and tumour formation. - Non-genetic biologic variations (teratology and teratogens) - In-vitro fertilization and transgenic animals	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-Malformation and disturbance of growth of digestive system - Malformation and disturbance of growth of respiratory system - Malformation and disturbance of growth of urinary system	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Malformation and disturbance of growth of cardiovascular system - Malformation and disturbance of growth of genital system	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Postmortem examination	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Ultra structure of malformed tissues	**4**	**12**	**4**	**8**				
Molecular detections of genetics	**5**	**15**	**5**	**10**				

Course specification of postgraduate

Students activities - **Collect pathology, specimens.** - **Writing assays.** - **Pathology rounds.**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
total	**36**	**72**	**36**	**108**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

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- a14	b1- b13		
Practical Exam	a1- a14	b1- b13	c1- c10	
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	**Week(s)**
Written exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

7.3. Weight of assessments

Assessment	**Weight of assessment**
Written exam	**50%**
Practical exam	**25%**

Course specification of postgraduate

Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

- "Molecular Genetic Testing in Surgical Pathology**, John D. Pfeifer (2005)**
- **Ramz-I S. and Kumar, V. and Collin, T. (1999)** - Pathological Basis of Disease, 6th ed **.**
- Molecular Genetic Pathology **- Liang Cheng and David Zhang (2008)**

8.3. Recommended texts

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**
- Jubb *et al.,* **(2007) (pathology of domestic animals) Saunders, Philadelphia**

Journals:

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator
Dr. EL-Shaymaa Nabil EL-NAHASS

Head of the department
Prof. Dr. Khaled Ali Ahmed

Beni-Suef University
Faculty of Veterinary Medicine
Pathology Department

Course specification of postgraduate

Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

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

Course specification

Topic	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
				KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction** **- Malformations**	**15**	**5**	**10**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
- Genomic imperfections **Chromosomal abnormalities.** **- Errors in histogenesis** **- disturbances of growth** **- Congenital anomalies of hereditary origin.** **- Genetics and immune response**.	**12**	**4**	**8**				
- Innate resistance to diseases. **- Genetics and tumour formation.** **- Non-genetic biologic variations (teratology and teratogens)** **- In-vitro fertilization and transgenic animals**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-Malformation and disturbance of growth of digestive system **- Malformation and disturbance of growth of respiratory system** **- Malformation and disturbance of growth of urinary system**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

- Malformation and disturbance of growth of cardiovascular system **- Malformation and disturbance of growth of genital system**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Postmortem examination	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Ultra structure of malformed tissues	**12**	**4**	**8**				
Molecular detections of genetics	**15**	**5**	**10**				
Students activities **- Collect pathology, specimens.** **- Writing assays.** **- Pathology rounds.**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
total	**72**	**36**	**108**				

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

1-Basic information

Course Code:	**Ph-72**
Course title :	ImmunoPathology
Academic year:	Postgraduate students for academic year 2017/2018.
Program title:	Course 72
Degree:	Ph.D
Contact hours/ week	3 hours per week (1hr theoretical and 2hr practical).
Course coordinator:	Dr. EL-Shaymaa Nabil EL-NAHASS
External evaluator(s)	Prof. Dr. Sary Khalil
Date of course approval:	September 2017

2-Professional information

Overall aims of course:

This course aims to:

1- Proficiency basics of research methodologies and scientific and continuing work on the addition of knowledge in the area of immunopathology

2- Interest is also given to autoimmune diseases and immune deficiency.

3- Integration of specialized knowledge with relevant knowledge and discovering the developer of the relations

4- Understand the mechanisms of pathological alterations and aware with tissue specimen's preparations and full description to macroscopic and microscopic pathological changes using traditional and advanced aids.

5- Application of the analytical and advanced techniques in histopathology-based diagnosis.

6- Show deep awareness of current problems and new theories in the area of immunopathology and find innovative solutions to solve them

7- Decision-making in light of available information

3- Intended learning outcomes of course methods ILOs)

a- Knowledge and understanding:

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

a.1- Define the mechanism, by which the disease developed, progressed and squealed.

a.2 – Apply the theories and the basics of modern knowledge in the field of immunopathology.

a.3 – List the fundamentals and methodologies and ethics of advanced scientific research and the various tools

a.4 - Recall Knowledge about the molecular and cellular response of the living body when exposed to genetic cause.

a.5- Identify the pathological lesions and pathogenesis and tissue reaction related to the specific surgical interference using advanced molecular methods.

a.6- Aware with tissue specimens preparations and full description to macroscopic and microscopic pathological changes with the aid of advanced techniques.
a.7- Describe the macroscopic & microscopic tissue changes related to different immunological causes.
a.8- Identify The legal and ethical principles for professional practice in the area of immunopathology
a.9 – Discuss the principles and basics of quality in professional practice in the area of immunopathology .
a.10 –Define the about the effects on the environment of professional practice and methods of development.
a.11-Define the specialist subjects, including a command of literature in the field of immunopathology.
a.12- Discuss the importance of information technology in scientific research.
a.13- Describe the molecular basis (molecular pathology) of common immunopathological disorders.

b-Intellectual skills

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

b.1 - Analyze and evaluate the information in the field of immunopathology
b.2 - Specialize problem-solving based on the available data
b.3 - Conduct research studies adding to the knowledge
b.4 –Formulat and edit the scientific papers.
b.5 - Assess in professional practice and planning for the development of performance in the area of immunopathology
b.6 – Make a career decisions in the contexts of different professional
b.7 - Invent and innovate
b.8 - Do open discussion based on evidence of immunopathology.
b.9 - Discriminate between tissue/organ appearance in health and experimentally diseased animals, birds, and fish.
b.10 - Differentiate between the different pathological alterations
b.11- Score the macroscopic and microscopic pathological lesions using immunohistochemistry.
b.12- Interpret correctly the pathological data obtained by the macroscopic and microscopic examination to reach final diagnosis using advanced tools as immunohistochemistry and molecular pathology.
b.13- Integrate the pathological alterations with injurious agents

C- Professional and practical skills

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

c.1- Select the necessary advanced molecular techniques for sample reception & processing according to the nature of specimen received.
c.2- Identify the macroscopic criteria of the pathological alterations.

c.3- Examine the microscopic criteria of the pathological alterations using modern techniques.
c.4- Perform diagnosis and full description for the pathological picture based on the gross and histopathological examination and advanced techniques
c.5- Write a report commenting on a pathological specimens
c.6 - Proficiency basic professional skills and modern techniques in the area of immunopathology
c.7 - Write and evaluation of professional reports
c.8 - Evaluate and develop an existing methods and tools in the area of immunopathology .
c.9 - Use of technological means to serve the professional practice
c.10- Plane for the development of professional practice and development

d- General and transferable skills

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

d.1- Communicate effectively and utilize the advanced information technology in the improvement of immunopathology professional practice
d.2 - Use of information technology to serve the development of professional practice
d.3- Teach others and evaluate their performance
d.4- Self-assessment and continuous learning
d.5- Use of different sources for information and knowledge
d.6- Work in a team and leading teams
d.7- Manage of scientific meetings and the ability to manage time

4-Topics and contents

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description **- Introduction** **-Sampling and preservation** **- Cell and tissue reaction to injury.** **-Circulatory response in relation to inflammatory reaction** **- Malformations**	**6**	**18**	**6**	**12**	**a1-a14**	**b1-b13**	**-**	**d1-d7**
Course description **-Introduction** **-Sampling and preservation** **-Cellular and tissue reaction to injury** **-Vascular response to**	**6**	**18**	**6**	**12**				

agents **-Inflammation**								
- Vascular phenomenon of inflammatory reaction **- Cellular reaction Chemical mediators** **-Classification of inflammation** **-Acute inflammation** **-Chronic inflammation** **-Outcome of inflammation** **-Inflammation as a consequence of immune reaction.**	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-Type I hypersensitivity **-Type II hypersensitivity** **-Type III hypersensitivity** **-Type IV hypersensitivity** **-Autoimmunity** **-Organs-specific autoimmune diseases** **-Primary immune deficiencies**	**2**	**6**	**2**	**4**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-Pathogenesis of bacterial infection in cattle **-Pathological pictures of bacterial infection in cattle** **-Pathogenesis of bacterial infection in sheep** **-Pathological pictures of bacterial infection in sheep** **-Pathogenesis of bacterial infection in equine** **-Pathological pictures of bacterial infection in**	**6**	**20**	**6**	**12**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

equine **-Pathogenesis and pathological lesions of bacterial infection in pet animals**								
- Pathogenesis of viral infection in cattle **-Pathological pictures of viral infection in cattle** **-Pathogenesis of viral infection in sheep** **-Pathological pictures of viral infection in sheep** **-Pathogenesis and pathological lesions of viral infection in equine** **-Pathogenesis and pathological lesions of viral infection in pet animals**	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathogenesis and pathological lesions of parasitic infection **- Pathogenesis and pathological lesions of mycotic infection**	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
-Postmortem examination **-immunohistochmeical examination** **-Molecular pathological examination**	**5**	**15**	**5**	**10**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities **- Collect pathology, specimens.** **- Writing assays.** **- Pathology rounds.**	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**108**	**36**	**72**				

5-Teaching and learning methods

5.1- Lectures: developed relies on student participation and discussion with the aid of multimedia

5.2- Practical: an electronic show with macroscopic and microscopic screening of pathological lesions.

5.3- Self-learning activities:

* Samples collections and research from the internet and library
* panel discussions (Histopathology and Gross pathology rounds)**.**
*E-Learning (using and activation of electronic course of pathology – http//:cms.nelc.edu.eg)

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- a14	b1- b13		
Practical Exam	a1- a14	b1- b13	c1- c10	
Oral Exam	a1- a14	b1- b13	c1- c10	d1-d7

7.2. Assessment schedules

Method	Week(s)
Written exam	**fifty-three to fifty-five week**
Practical exam	**fifty-three week**
Oral exam	**fifty-three to fifty-five week**
Student activities	**thirteen week & twenty-six week**

7.3. Weight of assessments

Assessment	Weight of assessment
Written exam	**50%**
Practical exam	**25%**
Oral exam	**25%**
Total	**100%**

8- List of references

8.1. Notes and books

Textbook of General Pathology------- (Staff members of the dep.)
Practical of General Pathology------- (Staff members of the dep.)
Textbook of Systemic Pathology ------- (Staff members of the dep.)
Practical of Systemic Pathology------- (Staff members of the dep.)
Textbook of Pathology of Specific Diseases. --- (Staff members of the dep.)

8.2. Essential books:

- John D. Pfeifer (2005) - Stewart Sell (1996) Immunology, Immunopathology and Immunity

- Gallin, J. and Synder , R (1999), Inflammation **3rd.ed. Lippincott, Williams, Wilkins.**

- **Leon Neumann and Sophie Meier (2010)** Veterinary Immunology and Immunopathology

8.3. Recommended texts

- Olsen, Richard G. **(2005) (Comparative Pathobiology and Viral Diseases)**
- Boca Raton, Fla and Cheville, Norman F. **(Cytopathology in Viral Diseases**
- Jennings, A.R. **(Animal Pathology)**
- Bailliere, Tindall and Cassell, London Mouwen, J.M. et al **(Atlas of veterinary Pathology) Saunders, Philadelphia**
- Thomson, R.G. **(2000) (General Veterinary Pathology) Saunders, Philadelphia**
- Jubb *et al.,* **(2007) (pathology of domestic animals) Saunders, Philadelphia**

Journals:

- **Egyptian Journal of Comparative Pathology and Clinical Pathology.**
- **Pathologia Veterinaria**
- **American Journal of Pathology**
- **Journal of Pathology and Bacteriology**
- **Archive of Pathology**
- **Veterinary Record**
- **Journal of Comparative Pathology**
- **Canadian Journal of comparative Medicine**
- **American Journal of veterinary research**
- **Research on veterinary Science**

Websites:

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

Course Coordinator

Dr. EL-Shaymaa Nabil EL-NAHASS
Lecturer of Pathology Department
Faculty of Veterinary Medicine,
Beni-Suef University

Head of the department

Prof. Dr. Khaled Ali Ahmed
Professor and Head of Pathology department, Faculty of Veterinary Medicine,
Beni-Suef University

Course specification

Topic	week	Total (hr)	Lectures (hr)	Practical (hr)	ILOS shared			
					KU	IS	PPS	GT
Course description - Introduction -Sampling and preservation - Cell and tissue reaction to injury. -Circulatory response in relation to inflammatory reaction - Malformations	6	18	6	12	a1-a14	b1-b13	-	d1-d7
Course description -Introduction -Sampling and preservation -Cellular and tissue reaction to injury -Vascular response to agents -Inflammation	6	18	6	12				
- Vascular phenomenon of inflammatory reaction - Cellular reaction Chemical mediators -Classification of inflammation -Acute inflammation -Chronic inflammation -Outcome of inflammation -Inflammation as a consequence of immune reaction.	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7
-Type I hypersensitivity -Type II hypersensitivity -Type III hypersensitivity	2	6	2	4	a1-a14	b1-b13	c1-c10	d1-d7

Course specification

-Type IV hypersensitivity -Autoimmunity -Organs-specific autoimmune diseases -Primary immune deficiencies								
-Pathogenesis of bacterial infection in cattle -Pathological pictures of bacterial infection in cattle -Pathogenesis of bacterial infection in sheep -Pathological pictures of bacterial infection in sheep -Pathogenesis of bacterial infection in equine -Pathological pictures of bacterial infection in equine -Pathogenesis and pathological lesions of bacterial infection in pet animals	**6**	**20**	**6**	**12**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathogenesis of viral infection in cattle -Pathological pictures of viral infection in cattle -Pathogenesis of viral infection in sheep -Pathological pictures of viral infection in sheep -Pathogenesis and pathological lesions of viral infection in equine -Pathogenesis and pathological lesions of viral infection in pet animals	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
- Pathogenesis and pathological lesions of parasitic infection - Pathogenesis and pathological lesions of mycotic infection	**4**	**12**	**4**	**8**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**

Course specification

-Postmortem examination -immunohistochmeical examination -Molecular pathological examination	**5**	**15**	**5**	**10**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Students activities - Collect pathology, specimens. - Writing assays. - Pathology rounds.	**3**	**9**	**3**	**6**	**a1-a14**	**b1-b13**	**c1-c10**	**d1-d7**
Total	**36**	**108**	**36**	**72**				