



Beni-Suef University  
Faculty of Veterinary Medicine

## Course specification of postgraduate

### 1-Basic information

<b>Course Code:</b>	D3- A
<b>Course title :</b>	<b>Animal Hygiene</b>
<b>Program title:</b>	Diploma of Vet. Med. Sciences (Veterinary Public health)
<b>Contact hours/ week</b>	4 hours/week (Lect.2h./week; Pract. 2h/week)
<b>Approval Date</b>	

### 2-Professional information

#### **Overall aims of course:**

**This course aims to:** Understanding the role of veterinarian in maintaining animal health and food safety, identify the health problems in different animal farms and applying a strategy for disease prevention, control and eradicate infectious diseases.

### 3- Intended learning outcomes of course (ILOs)

#### **a- Knowledge and understanding:**

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

- a1. Recall the terms of animal hygiene, epidemiology, sanitation and veterinary public health.
- a2. Realize different methods used for hygienic disposal of animal wastes, principles of prevention, control and eradication of parasitic, epidemic, emerging and re-emerging disease.
- a3. Describe the role of the veterinarian in maintaining animal and environmental health.
- a4. Explain the environmental role in transmission of diseases to animals.
- a5. Discuss the relation between hygienic measures and occurrence of the disease.
- a6. Recognize the different types of disinfection process and methods of application.
- a7. Recognize the health problems in the different animal farms that can lead to spreading of diseases.

#### **b- Intellectual skills**

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

- b1. Collect and analyze data about risk factors and disease occurrence
- b2. Judge the efficiency of hygienic measures in animal production farms.
- b3. Investigate the hygienic problems facing dairy animals in field.
- b4. Differentiate between emerging and re-emerging disease.
- b5. Judge on the most important diseases affecting different animals.
- b6. Interpret between agent – host – environment and the interaction of disease determinants, herd immunity and causation of diseases.
- b7. Suggest methods of assessing the economic benefits of diseases control.
- b8. Apply a strategy for disease prevention, control and eradicate parasitic and infectious diseases.

#### **c- Professional and practical skills**

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

- c1. Able to describe the disease events precisely.
- c2. Examine the different methods for assessing the environmental role on occurrence of diseases.



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- c3. Estimate pattern and frequency of disease occurrence.
- c4. Collect samples from the affected populations for further investigations to ascertain the disease.
- c5. Demonstrate the different important hygienic problems associated with intensive animal production.
- c6. Apply the basis of disease control in animal production farms.
- c7. Examine the best methods for solving health problems of animal production farms.

### **d- General and transferable skills**

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

- d1. Utilize group working and time managing.
- d2. Able to communicate with specialists.
- d3. Participate in private business.
- d4. Use computer and internet skills in communication and presentation.
- d5 Use statistical methods for analysis of the obtained data.

### 4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
<b>Course Title: Animal Hygiene</b> <b>(Lec.2 h./week, Pract. 2 h./week)</b>	Introduction	2	2	-
	Environnement and diseases	12	6	6
	Environnemental sanitation	12	6	6
	Epidemiology (definition, uses, principles)	18	10	8
	Investigation of disease outbreaks	12	8	4
	Eradication of epidemic diseases	10	6	4
	Principles of control of contagious diseases	12	6	6
	Emerging and Re-emerging diseases	10	4	6
	Disinfectants and disinfectants	24	6	18
	Control of external parasites	12	4	8
	Animal wastes( medical, mortalities, biological, etc	10	4	6
Student activities	-	-	-	
	<b>Total</b>	<b>144</b>	<b>72</b>	<b>72</b>

### 5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and faculty library)



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- 5.3- Practical and small groups' sessions.  
5.4- Field visits: to animals and poultry farms

### 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 to a6.	b2 to b7.	c1,2,3, 5,6.	d5
Practical Exam	a2, a6.	b1-b2-b3-b4- b5-b7.	c1 to c7.	d1,2,3
Oral Exam	A1 to a6.	b5, b6	C1-c5.	d2

#### 7.2. Assessment schedules

Method	Week(s)
Practical exams	45
written exams	45-48
Oral Exam	45-48

#### 7.3. Weight of assessments

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

### 8- List of references

#### 8.1. Notes and books

Departmental notes on:

- Text book of Animal, Poultry and Environmental Hygiene(Parts I & II) Professor/  
Mohammed Abdel Rahman Elbably and Dr/ Asmaa Nady Mohammed

Practical notes on Animal, Poultry and Environmental Hygiene (Parts I & II)

Professor/ Mohammed Abdel Rahman Elbably and Dr/ Asmaa Nady Mohammed

#### 8.2. Essential books:

- Veterinary Epidemiology. Principles and Methods. **Martin, S. W.; Meek, A. H. and Willeberg, P. (1987):** Iowa State University Press, Ames.



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Farm Animal Health. A practical Guides. **Cullen, P.T. (1991)**: 1<sup>st</sup> Ed.

### **8.3. Recommended texts**

1. Pollution Science. **Pepper, I. L.; Gerba, C. P. and Prussea, M. L. (1996)**: Academic Press, Inc., California, and USA.
2. Principles of Cattle Production. **Philips, C. J. C. (2001)**: CABI Publishing, Wallingford, UK.
3. Poultry Health and Management. **Sainsbury, D. (1993)**: 3<sup>rd</sup> Ed. Blackwell, Scientific Publication, U.k.
4. Guidelines for Drinking Water Quality. **W.H.O. (1985)**: Geneva.

### **8.4. Journals, Websites .....etc**

#### **Journals:**

Journal of Animal Science - Poultry Science - J. Environ. Quality - Environmental pollution -Journal of Veterinary Research - J. Environmental managing- Journal of Toxicology and Environmental Health

#### **Websites:**

- 1-[www.educations.com](http://www.educations.com)..... 2- [www.thepigsite.com/](http://www.thepigsite.com/) 3- [www.disinfectants1.com](http://www.disinfectants1.com)  
4- [www.rvc.ac.uk](http://www.rvc.ac.uk) 5- [www.educations.com](http://www.educations.com)

**Course Coordinators**

**Head of Department**

**Dr. Asmaa Nady Mohammed**

**prof. Mohamed Ali**



## Course specification

	Topics	Intended learning outcomes of course (ILOs)				
		1 <sup>st</sup> semester	K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction		a1,a2	b3	C1	d1
2	Environnent and diseases		a1,4	b2	c2,5	d2,3
3	Environnemental sanitation		a1,4	b2	c2,5	d2.3
4	Epidemiology (definition, uses, principles)		a1,4, 7	b1,4,6,8	C1,3,4,6	d1,2,3,5
5	Investigation of disease outbreaks		a4, 5	b 1,4	C1,3, 4	d 1
6	Eradication of epidemic diseases		a 2,5	b1,5,6	C1,3,6	d 2,3
7	Principles of control of contagious diseases		a 2,5	b1,5,6	C1,6	d 2,3
8						
9						
	<b>2<sup>nd</sup> semester</b>					
10	Emerging and Re-emerging diseases		a 2	b 4	C3	d 2,3
11	Disinfectants and disinfectants		a5,6	b2,3	c6	d2,3
12	Control of external parasites		a2	b7,8	C5,6,7	d2
13	Animal wastes( medical, mortalities, biological, etc		a2	b5	C5,7	d 2
14	Student activities		a1,2	b1	c2,3	d 1, 2,3,4
15						
16						
17						
18						



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### 1-Basic information

<b>Course title :</b>	Infectious diseases and epidemiology
<b>Program title:</b>	Diploma of Veterinary public health
<b>Contact hours/ week</b>	4 hours/week, (2 Lect./week, 2 Practical/week)

### 2-Professional information

**Overall aims of course:**

**This course aims to:**

1. Deal with field problems of farm animal infectious diseases.
2. Support the basic knowledge about etiology, epizootiology, clinical sings, and diagnosis and control measures of infectious diseases of farm animals.
3. Apply and demonstrate an understanding of basic control management procedures and protocols including isolation, quarantine and disinfection.
4. Provide opportunities to understand the molecular and cellular mechanisms of disease process.
5. Gain skills and ability to deal with field differential diagnosis, treatment and control of infectious diseases.

### 3- Intended learning outcomes of course (ILOs)

**A-Knowledge and understanding:**

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

- a1- Identify the basic knowledge about etiological agents and pathogenesis of different infectious diseases of farm animals.
- a2- list the major field problems concerned with infectious diseases of farm animals.
- a3- Mention the basic knowledge about the treatment and control measures of different infectious diseases farm animals.
- a4- Identify the important aspects regarding the diagnosis of different infectious diseases of farm animals .

**B- Intellectual skills**

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

- b1- analyze the field problems to reach a preliminary diagnosis.
- b2- suggest the suitable solutions during outbreaks and interpret the available data .
- b3- use the basic information for analysis of epidemics of domestic animals and to enable the students how to interpret the available data to achieve diagnosis.
- b4 -Enhance the ability to differentiate between infectious diseases of farm animals.

**C-Professional and practical skills**

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

- c1- Perform the different methods and techniques of clinical examination.



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- c2- Perform the different sampling methods .
- c3- Acquire the experience of planning of a control programs.
- c4- Plan and apply the different methods of control programs.
- c5- Use epidemiological information of the early warning system for early diagnosis of infectious diseases.

### **D-General and transferable skills**

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

- d1-Enhance the skills of problem definition and how to deal with it.
- d2-Enhance skills of epizootiological data analysis, and clinical and laboratory examinations.
- d3- Enhance the experience of taking history in infected farms and increase the ability of organizing control programs.
- d4- Collect the data of diseased animals in an informative and suitable manner.

### 4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
	Introduction of infectious diseases (Epidemiologic Triad, The chain of infection, An introduction to epidemiology, Maintenance of infection, and Principles of disease control).	20	20	
	Infectious diseases of newly born animals	18	8	10
	Infectious diseases causing abortion.	26	6	20
	Infectious diseases causing digestive disorders.	24	4	20
	Infectious diseases causing respiratory manifestation.	32	18	14
	Parasitic diseases of farm animals	24	18	6
	Total	144	72	72

### 5-Teaching and learning methods

**5.1- Lectures and oral presentations**

**5.2- Clinical sections.**

**5.3- The use of multimedia aids e.g slide projector, data show, video tapes.**

### 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





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Final Exam	a1- a2- a3-a4	b1- b2- b3-b4	c4	
Practical Exam		b1	c4	d1
Oral Exam	a1- a2- a3- a4	b1- b2- b3- b4-		

### 6.2. Assessment schedules/semester:

Method	Week(s)
Writing exam	Managed by Faculty administration
Practical exam	Managed by Department administration
Oral exam	Managed by Department administration
Student activities	Along the course

### 6.3. Weight of assessments:

Assessment	Weight of assessment
Writing exam	<b>50%</b>
Practical exam	<b>25%</b>
Oral exam	<b>25%</b>
Student activities	-
Total	100%

## 8- List of references

### 8.1. Notes and books

- Infectious diseases of domestic animals (2004/1588) by H.I.Hosein (2015) 3<sup>th</sup> Ed.

### 8.2. Essential books:

- Veterinary medicine 7<sup>th</sup> ed (A text book of the diseases of cattle, sheep, pigs, goats and horses) 1983.

- Veterinary clinical diagnosis 3<sup>th</sup> Ed. 1984

- Cattle diseases 1984

- Diseases of sheep 2<sup>nd</sup> Ed. 1982

- A color atlas of small animal dermatology 1985

### 8.3. Recommended texts

- The Merck veterinary manual 9<sup>th</sup> 2005

### 8.4. Journals, Websites .....etc

#### Journals:

Journal of Veterinary Science

Research in Veterinary Science



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Preventive Veterinary Medicine  
The veterinary journal  
Journal of Veterinary Diagnostic Investigation

### **Websites:**

- 1-www.google.com
- 2-www.OIE
- 3-www.FAO
- 4-www.Canine web sites

### **Course Coordinators**

Ragab Azzam Ali

### **Head of Department**

Prof. Dr. Hosein Abd Al Aal



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Topic	Week	Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
Introduction of infectious diseases	1-6	a1,a2			
Infectious diseases of newly born animals	7-11	a1- a2- a3-a4	b1-b2- b3- b4		d1- d2 d3
Infectious diseases causing abortion.	12-16	a1- a2- a3-a4	b1-b2- b3- b4		
Infectious diseases causing digestive disorders.	17-21	a1- a2- a3	b1-b2- b3- b4	c2, c4	d3, d4
Infectious diseases causing respiratory manifestation.	22-26	a1- a2- a3- a4	b3-b4	c2	
Parasitic diseases of farm animals	27-36	a1- a2	b1-b2- b3		





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### 1-Basic information

<b>Course Code:</b>	
<b>Course title :</b>	General parasitology
<b>Program title:</b>	Diploma of Veterinary Public Health
<b>Contact hours/week</b>	1h lecture – 2h practical Total 3h
<b>Approval Date</b>	

### 2-Professional information

#### Overall aims of course:

- Understand the morphology and life cycles of the parasites of zoonotic importance.
- Illustrate the pathogenesis of parasites of zoonotic importance.
- Recognize helminths and protozoan parasites and their effect on veterinary public health.
- Estimate methods of diagnosis and control of these parasites.

### 3- Intended learning outcomes of course (ILOs)

#### Knowledge and understanding:

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

- a-1 Summarize life cycle and pathogenesis of different zoonotic helminths (digenea, cestodes, nematodes).
- a-2 Illustrate life cycle and pathogenesis of different zoonotic protozoa and arthropods (trypanosomes, trichomonads, *Eimeria*, *Toxoplasma*, *Sarcocystis*, Piroplasms, Siphonaptera, Phthiraptera, Hemiptera, Orthoptera, Coleoptera, Hymenoptera, ticks and mites).
- a-3 Recognize the zoonotic importance of different parasites.
- a-4 Familiarize the different methods of control of zoonotic parasites.

#### b-Intellectual skills

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

- b-1 Interpret the morphology of different zoonotic parasites.
- b-2 Correlate the zoonotic importance of different parasites.
- b-3 Differentiate life cycle and pathogenesis of different zoonotic parasites.
- b.4- Utilize basic measurements to control the parasites of zoonotic importance.

#### C- Professional and practical skills

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

- c.1. Manage field visits for collection soil and parasitic samples.
- c.2. Practice of fresh and preserved samples.
- c.3. Implement samples staining and examination.

#### d- General and transferable skills

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

- d1. Work effectively in a team.
- d2. Use efficiently source of knowledge.
- d3. Able to transfer the experience to others.



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d4. Characterize and differentiate of different parasitic affections.

### Topics and contents

Week	Topic	No. of hours	Lectures	Practical
1-3	Zoonotic digenea ( <i>Fasciola</i> , <i>Schistosoma</i> , <i>Heterophyes</i> ) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	9	3	6
4-6	Zoonotic cestodes ( <i>Moniezia</i> , <i>Taenia</i> , <i>Echinococcus</i> ) (morphology, life cycle, zoonotic importance, pathogenesis, diagnosis and control).	9	3	6
7-11	Zoonotic nematodes ( <i>Parascaris</i> , <i>Toxocara</i> , <i>Toxascaris</i> , <i>Trichostrongylids</i> , <i>Ancylostoma</i> , <i>Spirocerca</i> , <i>Filaria</i> ) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	15	5	10
12-16	Trypanosomes & trichomonads (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	15	5	10
17-20	<i>Eimeria</i> , <i>Toxoplasma</i> , <i>Sarcocystis</i> (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	12	4	8
21-24	Piroplasms ( <i>Babesia</i> , <i>Theileria</i> and piroplasms) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	12	4	8
25-27	Diptera (mosquitoes, sand flies and flies, flies producing myiasis) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	9	3	6
28-30	Siphonaptera, Phthiraptera, Hemiptera, Orthoptera, Coleoptera, Hymenoptera) and its role in transmission of diseases (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	9	3	6
31-33	Ticks and mites (morphology, life cycle, pathogenesis, diagnosis and control).	9	3	6
34-36	Field visits for collection soil and parasitic samples (sample preparation, staining, preservation and examination).	9	3	6
	Total	108	36	72

### 5-Teaching and learning methods

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

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



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5.3- Laboratory work using Microscopic mount specimens, fresh or permanent. Museum models and preserved helminth specimens. Drawing and simulation of teaching helminth specimens, their life cycles, ..... etc

5.4- Video movies for students of special needs.

### 6-Student assessment

#### 6.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Written Exam	A1, a2, a3, a4	B1, b2, b3, b4	C1, c2, c3	D1, d2, d3,d4
Practical Exam	A1, a2, a3, a4	B1, b2, b3, b4	C1, c2, c3	D1, d2, d3,d4
Oral Exam	A1, a2, a3, a4	B1, b2, b3, b4	C1, c2, c3	

#### 6.2. Assessment schedules

Method	Week(s)
Practical exams	Managed by department administration
Written exams	Managed by faculty administration
Oral Exam	Managed by department administration

#### 6.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25%
Written exams	50%
Oral Exam	25%
Total	100%

### 7- List of references

#### 7.1. Notes and books:

- a. Department lecture book.
- b. Illustrated practical notes of the Department .

#### 7.2. Essential books:

- Veterinary Protozoology. Levine, et al 1980
- Parasitology for Veterinarians: Georgi, J.R. and Georgi, M.E., 5th editions. W.B. Saunders, (1990).
- Helminths , Protozoa and Arthropods of Domesticated Animals: Soulsby, E.J.L., 7th edition. Bailliere Tindall, London, (1982).



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- Diagnostic Veterinary Parasitology: Hendrix, C.M. 2nd edition. Mosby, (1998). :  
Hendrix, C.M. 2nd edition. Mosby, (1998).

### **7.3. Recommended texts:**

- 1- Encyclopedic Reference of Parasitology: Mellhorn, H. 2nd edition. Springer, Berlin, (2001).
- 2- Foundation of Parasitology: 4th edition, Schmidt, G.D & Robinson, E.J., Times Mirror/Mosby College Publishing, St. Louis, (1989).
- 3- Animal Parasitology: Smyth, J.D. 3rd edition. Cambridge University Press. UK, (1998).
- 4- Veterinary Ectoparasites: Biology, Pathology and control:  
Richard, W & Shearer, D., 2nd ed., Blackwell science, Oxford, (2001).
- 5- Medical and veterinary entomology: Mullen, G. and Durden, L., Academic Press, Amsterdam, (2002).

### **7.4. Journals, Websites .....etc**

**Journals:** Parasitology Research.

Egyptian Veterinary Medical Society of Parasitology Journal.

**Websites:**

<http://www.journals.elsevier.com/veterinary-parasitology/>

**Course Coordinators**

**Head of Department**





	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Zoonotic digenea ( <i>Fasciola</i> , <i>Schistosoma</i> , <i>Heterophyes</i> ) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	1-3	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	<b>D1, d2, d3, d4</b>
2	Zoonotic cestodes ( <i>Moniezia</i> , <i>Taenia</i> , <i>Echinococcus</i> ) (morphology, life cycle, zoonotic importance, pathogenesis, diagnosis and control).	4-6	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	<b>D1, d2, d3, d4</b>
3	Zoonotic nematodes ( <i>Parascaris</i> , <i>Toxocara</i> , <i>Toxascaris</i> , <i>Trichostrongylids</i> , <i>Ancylostoma</i> , <i>Spirocerca</i> , <i>Filaria</i> )(morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	7-11	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	<b>D1, d2, d3, d4</b>
4	Trypanosomes & trichomanids (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	12-16	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	<b>D1, d2, d3, d4</b>
5	<i>Eimeria</i> , <i>Toxoplasma</i> , <i>Sarcocystis</i> (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	17-20	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	<b>D1, d2, d3, d4</b>
6	Piroplasms ( <i>Babesia</i> , <i>Theileria</i> and piroplasms) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	21-24	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	<b>D1, d2, d3, d4</b>
7	Dipetra (mosquitoes,	25-27	A1,a2, a3, a4,	B1, b2,	C1,c2,c3,	<b>D1, d2,</b>



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	sand flies and flies, flies producing myiasis) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).			b3, b4		<b>d3, d4</b>
8	Siphonaptera, Phthiraptera, Hemiptera, Orthoptera, Coleoptera, Hymenoptera) and its role in transmission of diseases (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	28-30	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	<b>D1, d2, d3, d4</b>
9	Ticks and mites (morphology, life cycle, pathogenesis, diagnosis and control).	31-33	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	<b>D1, d2, d3, d4</b>
10	Field visits for collection soil and parasitic samples (sample preparation, staining, preservation and examination).	34-36	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	<b>D1, d2, d3, d4</b>

# PROGRAMME SPECIFICATIONS

## Programme Specification

**University:** Beni-Suef University

**Faculty:** Veterinary Medicine

### A- Administrative Information

1. Programme title: Diploma of Vet. Med. Sciences (**Diploma of Veterinary Public Health**)
2. Award/degree: Diploma
3. Department responsible: Dept. of Hygiene, Zoonoses and Epidemiology.
4. Coordinator:
5. External evaluator(s)
6. Date of most recent approval of programme specification by the Faculty Council:

### B- Professional Information

- 1. Program main goal:** The Diploma programme support the postgraduate student ability to: acquire skills for assessing the impact of diseases on the animal and human health and establish a plan for prevention and control of these diseases. Finding the solutions of health problems facing animals for improving its health and consequently adopt a strategic plan for adequate level of protection for human and food safety.

#### -Objectives:

- a) Recall the meaning of animal hygiene, epidemiology, sanitation and veterinary public health.
- b) Assess the impact of bacterial, parasitic, infectious and zoonotic diseases on the animal health.
- c) Implement and establish the plan for prevention and control of animal diseases.
- d) Acquire skills for solving a problem related to poor hygiene & control spread of infectious, contagious animal diseases, emerging and re-emerging zoonotic diseases.
- e) Understanding the role of veterinarian in maintaining healthy environment and food safety.

#### 2. Intended learning outcomes (ILOs) for programme

##### a- Knowledge and understanding:

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

- a1. Recall the terms of hygiene, sanitation and veterinary public health.
- a2. Discuss the relationship between hygiene and occurrence of the diseases.
- a3. Recognize the problems in the different animal farms that can lead to spreading of diseases.

a4. Realize methods used for prevention, control and eradication of disease and the role of animals in transmitting of zoonotic diseases.

a5. Outline specialized theories and knowledge in the field of Animal and Environmental Hygiene and related sciences.

### **b- Intellectual skills**

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

b1. Investigate the hygienic problems in livestock field and their zoonotic importance.

b2. Judge on the most important diseases affecting different animals and humans.

b3. Interpret between agent – host – environment and the interaction of disease determinants, herd immunity and causation of diseases.

b4. Suggest methods of assessing the economic benefits of diseases control.

b5. Assess different risk factors for each practice related to animals and their surrounding environment.

b6. Suggest the appropriate solutions for problems related to Animal and their surrounding environment.

### **c- Professional and practical skills**

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

C1. Collect samples from the affected populations for further investigations to ascertain the disease then analyze and interpretation of data.

C2. Apply the basis of diseases prevention and control in animal production farms.

C3. Implement the best methods for solving health problems of animal production farms.

### **d- General and transferable skills**

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

d1. Utilize group working.

d2. Able to communicate with specialists.

d3. Use statistical methods for analysis of the obtained data.

d4. Learn how to work effectively as part of a team

d5. Use different facilities for gaining knowledge and information.

## **3- Academic standards**

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

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

#### 4 – Curriculum structure and content.

5.1) Programme duration: 1years

5.2) Programme structure:

Title	Lecture	Practical	Total
1. Animal Hygiene	2	2	4
2. General microbiology	1	2	3
3. General parasitology	1	2	3
4. Infectious diseases and epidemiology	2	2	4
5. Zoonoses diseases	2	-	2
6. Biostatistics and computer	2	1	3
Total	10	9	19

#### 5- Programme – course ILOS Matrix

Title	a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	b6	c1	c2	c3	d1	d2	d3	d4	d5
1. Animal Hygiene	x				x	x								x			x		
2. General microbiology		x						x				x			x				x
3. General parasitology		x	x			x					x		x	x	x			x	
4. Infectious diseases and epidemiology		x					x	x	x	x			x		x	x			
5. Zoonoses diseases		x		x		x	x						x		x				
6. Biostatistics and computer				x							x	x					x		x

#### 6- Programme admission requirement:

1- Obtaining a bachelor degree in veterinary medicine sciences from one of the Egyptian universities or equivalent degree from another recognized scientific institute with any grade

2- The bachelor degree must be obtained at least one year prior to registration

3- The applicant must have regular attendance in his courses according to the schedule of the faculty.

4- Registration will be during September of each year.

**7 - Regulations for progression and programme completion.**

1- Registration period is one year for diploma and the applicant not exceed a period of registration for two year.

2- The examinations of the diploma are 2 times / year in December & April.

3- The faculty council has the right to deprive the applicant from the exam if his attendance courses are less than 75%.

4- In case of failure, the exams will be hold 2 times / year and reexamination in all courses each time.

**8-System of examination for postgraduate studies as follow:**

Time of written exams, 3 hours for each curriculum have 3 hours or more for theoretical / practical hours/ week. If the curriculum less than 3 hours / week, the time of ex. is 2 hours only.

The final degree of each curriculum which have 3 hours (theoretical & practical) per week is 100 & less than 3 hours 50 degree & divided into 50 % for written ex. and 50 % for practical and oral ex.

**9-Grades of graduation are as follow:**

<b>Excellent</b>	<b>&gt; 90</b>
<b>Very good</b>	<b>&gt; 80</b>
<b>Good</b>	<b>&gt;70</b>
<b>Pass</b>	<b>&gt;60</b>
<b>Failed</b>	<b>45 to less than 60 weak</b>
	<b>Less than 45 very weak</b>

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

**Programme coordinator:**

**Name: AsmaaNady Mohammed.**

**Signature..... Date**

**Head of the Department of Hygiene, zoonoses and Epidemiology**

**Name: Mohamed Ali**

**Signature..... Date**



## Course specification

### A- Administrative Information:

<b>Course Code:</b>	
<b>Course title :</b>	General Microbiology
<b>Program title:</b>	Diploma of Veterinary Public Health
<b>Contact hours/ week</b>	3 hours per week (1hr theoretical and 2hr practical).
<b>Date of course approval:</b>	

### B-Professional information

#### 1- Overall aims of course:

##### Overall aims of course:

##### **This course aims to:**

- 1- Conclude the nature and structure of bacterial cells.
- 2- Set the classification of bacteria.
- 3- Recognize the requirements for the growth and reproduction of bacteria.
- 4- Elicit the molecular genetics of bacteria.
- 5- Identify different bacterial pathogens detecting their virulence factors and antimicrobial resistance.
- 6- Find solutions for the problems concerning with different veterinary bacterial affections and prevent the spread of the infection in the community.
- 7-Discuss physical, chemical and biological properties of viruses of public health importance .
- 8-Apply control measures for viral diseases of public health importance

#### 2- Intended learning outcomes of course (ILOs)

##### a-Knowledge and understanding:

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

- a1- Conclude the nature, structure and classification of bacterial cells
- a2- Recognize the nutritional and environmental requirements for growth and reproduction of bacteria.
- a3- Recognize the factors associated with the virulence of the pathogenic bacteria, its exaltation and attenuation.
- a4- Enumerate the by-products of pathogenic microorganisms.
- a5- Conclude factors leading to bacterial resistance & virulence.
- a6- Describe how genetic characters of bacteria could be expressed, transferred and changed.

##### b-Intellectual skills:

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





b1-Assess the infective potential of environmental materials to prevent the spread of the infection in the community.

b2- Suggest the solutions of the problems concerning with different veterinary bacterial affections.

C3-Differentiate between viruses affecting public health

**c-Professional and practical skills**

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

c1- Identify the causative microorganism depending on morphological, cultural and biochemical characters as well as serology.

c2- Determine the sensitivities of infected organism to antimicrobial drugs.

C3-interpret different serological test for laboratory diagnostic virology

**d-General and transferable skills**

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

d1- Work in a teamwork and manage time.

d2- use the internet to get information.

d3- Exhibits the sense of beauty and neatness.

**3-Topics and contents**

Course	Topic	No. of hours	Lectures	Practical
Bacteriology 3hours/week (Lec. 1hr/wk, Pr 2hr/wk) 1-General Bacteriology	-Morphology,structureand Classification of bacteria	6	6	-
	-Bacterial growth cycle and arrangement.	3	3	-
	-Bacterial Reproduction and Metabolism.	3	3	-
	-Relationships of the bacteria to the host and environment.	3	3	-
	-Bacterial products (pigments, toxins)	3	3	-
	-Bacterial infection and virulence	3	3	-
	-Koch's postulates and their exceptions.	3	3	-
	General virology	6	6	-
	Systemic virology (Viruses of public health importance)	6	6	
Bacteriology 3hours/week (Lec. 1hr/wk, Pr 2hr/wk) 2- Applications	-Microscopy	4	-	4
	-Bacterial Motility	4	-	4
	-Sterilization and disinfection	8	-	8
	-In-vitro antimicrobial sensitivity	4	-	8
	-Staining of bacteria	8	-	8
	-Bacteriological culture media	4	-	4
	-Cultivation and isolation of pure culture of bacteria	4	-	4
	-Tests for the identification of bacteria	6	-	6
	-Serological tests	6	-	6
	Serological tests for laboratory diagnostic virology	10	-	10



	Laboratory host system for virus isolation	6	-	6
	Molecular diagnostic virology	8	-	8
<b>Total</b>		<b>108</b>	<b>36</b>	<b>72</b>

#### 4-Teaching and learning methods

**5.1- Lectures (brain storming, discussion) using board and data shows.**

**5.2- Self learning** Electronic learning, Presentations, Essays or Seminars by scientific search on related websites, international, national and local journals, related books in faculty library.

**5.3- Practical sections.**

- Microscopical and colonial examination of microorganisms.
- Antimicrobial sensitivity testing.
- -serological tests in virology lab.

**5.4- Field visits:** Visits to diagnostic and references lab.

#### 5-Student assessment

**5.1. Assessments methods:**

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	<b>a1 to a7(all)</b>	<b>b1to b3 (all)</b>	<b>c1 to c4</b>	<b>all</b>
Practical Exam	<b>a1, a2, a3, a7</b>	<b>b1to b3 (all)</b>	<b>c1 to c4</b>	
Oral Exam	<b>a1 to a7 (all)</b>	<b>b1 tob3 (all)</b>	<b>c1 to c4</b>	

**5.2. Assessment schedules/semester:**

Method	Week(s)
<b>Practical exams</b>	45-48
<b>Final exams</b>	45-48
<b>Oral Exams</b>	45-48

**5.3. Weight of assessments:**

Assessment	Weight of assessment
<b>writing exam</b>	50%
<b>practical exam</b>	25%
<b>Final exam</b>	25%
<b>Total</b>	100%

#### 6- List of references

**8.1. Notes and books:**

Departmental notes on:

8.1.1- Notes on Bacteriology, Mycology and Immunology.



8.1.2- Notes on Practical Bacteriology, Mycology and Immunology.

8.1.3- Notes on Veterinary Microbiology

8.1.4. Basics of veterinary virology

## **8.2. Essential books:**

8.2.1- Prescott, Harley and Klein's Microbiology. J. M. Willey, L. M. Sherwood, and C. J. Woolverton – 17<sup>th</sup> Edition, International Edition , 2008, McGraw Hill

8.2.2- Diagnostic Microbiology, 2<sup>nd</sup> Edition 2000 Connie R. Mahon and George Manuselis.

## **8.3. Recommended textbooks:**

8.3.1- Clinical Veterinary Microbiology, P.J. Quinn, M.E. Carter, B. Markey and G.R. Carter, 6<sup>th</sup> Edition 2004

8.3.2- Veterinary Microbiology, Dwight C. Hirsh and Yuan Ghung Zee, 1999

8.3.3- Medical Microbiology, R. Cruickshank 1986.

8.3.4- Mackie and McCartney Medical Microbiology, 14th Edition 1992 (J. P. Duguid, B.P. Marmion and R. H. A. Swain). (The book present in the faculty library)

8.3.5- Topley & Wilson microbiology and microbial infections, 9<sup>th</sup> edition

## **8.4. Journals, Websites .....etc**

[Journal of Bacteriology](#)

[Microbiology](#)

[Microbiology and Immunology](#)

[Journal of Microbiology, Immunology and Infection](#)

[BMC Microbiology](#)

[Brazilian Journal of Microbiology](#)

[Microbiology and Molecular Biology Reviews](#)

[Internet Journal of Microbiology](#)

[Polish Journal of Microbiology](#)

[Journal of Microbiology and Biotechnology](#)

[African Journal of Microbiology Research](#)

[International Journal of Microbiology](#)

[Iranian Journal of Microbiology](#)

### **Websites**

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

<http://www.Pubmed>.

<http://www.AltaVista>.

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

<http://www.textbookofbacteriology.net>.

[http://www.ourfood.com/General\\_bacteriology.html](http://www.ourfood.com/General_bacteriology.html)

[http://www.Veterinary\\_Microbiology](http://www.Veterinary_Microbiology)

[http://www.Immunology\\_and\\_Immunopathology](http://www.Immunology_and_Immunopathology)



Beni-Suef university  
Faculty of Veterinary Medicine



### **Course Coordinators**

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**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)
1-General Bacteriology	-Morphology, structure and Classification of bacteria	1 <sup>st</sup> W-6 <sup>th</sup> W	1,2	2	1	1,2,3
	-Bacterial growth cycle and arrangement	7 <sup>th</sup> W-9 <sup>th</sup> W	1,3	2	1	
	-Bacterial Reproduction and Metabolism.	10 <sup>th</sup> W-12 <sup>th</sup> W	1,3	1,3	-	
	-Relationships of the bacteria to the host and environment.	13 <sup>th</sup> W-15 <sup>th</sup> W	3,4	1,3	-	
	-Bacterial products (pigments, toxins)	16 <sup>th</sup> W-18 <sup>th</sup> W	5	2	1	
	-Bacterial infection and virulence	19 <sup>th</sup> W-21 <sup>st</sup> W	4	1,2	1	
	-Koch's postulates and their exceptions.	22 <sup>nd</sup> W-24 <sup>th</sup> W	4	1,2	1	
	General virology	25 <sup>th</sup> W-30 <sup>th</sup> W	2,7	1,2,3	1,3	
	Systemic virology (Viruses of public health importance)	31 <sup>st</sup> W-36 <sup>th</sup> W	2,7	1,2,3	1,3	
2- Applications	-Microscopy	1 <sup>st</sup> W-2 <sup>nd</sup> W	1,2	2	1	1,2,3
	-Bacterial Motility	3 <sup>rd</sup> W-4 <sup>th</sup> W	1,2	2	1	
	-Sterilization and disinfection	5 <sup>th</sup> W-8 <sup>th</sup> W	6	1,2	-	
	-In-vitro antimicrobial sensitivity	9 <sup>th</sup> W-10 <sup>th</sup> W	6	1,2	-	
	-Staining of bacteria	11 <sup>th</sup> W-14 <sup>th</sup> W	1,2	2	1	
	-Bacteriological culture media	15 <sup>th</sup> W-16 <sup>th</sup> W	1,2,3	2	1	
	-Cultivation and isolation of pure culture of bacteria	17 <sup>th</sup> W-18 <sup>th</sup> W	1,2,3	2	1	
	-Tests for the identification of bacteria	19 <sup>th</sup> W-21 <sup>st</sup> W	4,5	2	1	
	-Serological tests	22 <sup>nd</sup> W-24 <sup>th</sup> W	-	-	1	
	-Serological tests for laboratory diagnostic virology	25 <sup>th</sup> W-30 <sup>th</sup> W	2,7	1,2,3	1,3	
	Laboratory host system for virus isolation	31 <sup>st</sup> W-33 <sup>th</sup> W	2,7	1,2,3	1,3	
	Molecular diagnostic virology	34 <sup>th</sup> W-36 <sup>th</sup> W	2,7	1,2,3	1,3	