



Beni-Suef University
Faculty of Veterinary Medicine

Course specification of postgraduate

1-Basic information

Course Code:	D20- A
Course title :	Environmental and Epidemiological Hygiene
Program title:	Diploma of Vet. Med. Sciences (Environmental pollution)
Contact hours/ week	5 hours/ week (Lect. 3h./week; Pract. 2h./ week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to: identify causes and measurable effect of environmental pollution on animal health, recognize the impact of epidemic disease outbreak on animal health and productivity. Investigate the environmental problems and finding the solutions for improving animal health and productivity.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a1. Recognize the importance of an animal's environment to its health.
- a2. Outline uses of epidemiology and types of epidemiological studies.
- a3. List the effect of climatic changes on epidemic disease occurrence.
- a4. Recall the role of environmental component and vectors in disease spreading.
- a5. Know the different impurities of environmental components and their impact on the animal health and production.
- a6. Recognize methods of disinfection of farms with & without disease outbreaks
- a7. List different methods for control of external parasites of veterinary importance.

b- Intellectual skills

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

- b1. Collect and analyze different environmental samples from livestock farms.
- b2. Evaluate the effect of environmental stressors on animal health and production.
- b3. Interpret the measures applied for prevention and control of epidemic disease outbreak.
- b4. Create a plan for prevention and control of external parasites.
- b5. Evaluate methods of disposal and treatment of animal mortalities.

c- Professional and practical skills

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

- c1. Measure and monitor the environmental problems in livestock farms
- c2. Apply a new technology for hygienic disposal of animal wastes
- c3. Carry out disinfection for livestock farms routinely and after disease outbreaks.
- c4. Plan a program for control of external parasites exists in livestock farms
- c5. Solving problems related to environment in livestock farms.



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c6. Apply a plan for mitigation of environmental stressors in animal farms

d- General and transferable skills

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

- d1. Demonstrate and solving environmental problem.
- d2. Utilize group working in diseases prevention and control.
- d3. Able to communicate with specialists.
- d4. Participate in private business

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Course Title: Environmental and epidemiological Hygiene (Lec.3 h./week, Pract. 2 h./week)	1-Introduction	4	4	-
	2- Environmental Hygiene	16	8	8
	3- Environmental pollution	12	6	6
	4-Environment and animal health	12	6	6
	5- Air Hygiene	14	8	6
	6- Water Hygiene	14	8	6
	7- Soil Hygiene	14	8	6
	8-Stress and animal health	6	6	-
	9-Disposal of animal wastes	14	8	6
	10-Epidemiology of diseases	22	12	10
	11- Disinfection& disinfectants	18	8	10
	11-Investigation of environmental problems	12	8	4
	12- Solving environmental and health problems	12	8	4
Student activities	-	-	1	
Total			108	72

5-Teaching and learning methods

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



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5.4- Training visits: to animals and poultry farms

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	LS	P&P.S	G.S
written Exam	a1 to a7	b2,b3,b4	c4,c5	D1
Practical Exam	a6	b1,b2,b3	c1 to c5	d2,3,4
Oral Exam	a1 to a7	b1 to b5	C4, c5	d1

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:

1. Water pollution (causes, effects and control) P.K Goel
2. Farm animal Health and Disease control John K. Philadelphia 1982
3. Animal Health and Housing. "David Sainsbury", London, Bailliere, Tindal and Cassel 1997.
4. Keeping livestock healthy, N Bruce Haynes (2001).

Disinfection, Sterilization and preservation Seymour S Block, Block Lea Febiger (1991)

8.3. Recommended texts

1. Veterinary Hygiene by Robert Georg Linton (Paperback - 8 Jan 2010)
2. Veterinary Hygiene by R.G Linton (Hardcover - 1940)



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3. Veterinary Epidemiology: An Introduction [Paperback] Dirk Pfeiffer Dirk Pfeiffer (Author) ›
Visit Amazon's Dirk Pfeiffer Page
4. Fundamental pollution: By Krishman Kannan 1997, S. Chard and Company LTD.
5. Veterinary Hygiene by Robert Georg Linton (Paperback - 8 Jan 2010)
Veterinary Hygiene by R.G Linton (Hardcover - 1940)

8.4. Journals, Websitesetc

Journals:

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

www.educations.com

- www.thepigsite.com/

www.disinfectants1.com

Course Coordinators

Dr. Asmaa Nady Mohammed

Head of Department

Prof. Mohamed Ali



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	Topics	week	Intended learning outcomes of course (ILOs)			
	1 st semester		K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1-2	a1,a2	-	-	-
2	Environmental Hygiene	3-5	a1	b1	C1	d1,d2
3	Environmental pollution	6-7	a2	b2	C1	d2
4	Environment and animal health	8-9	a3	b3	C1	d2
5	Air Hygiene	10-12	a4	b4,b5	C1	d1
6	Water Hygiene	12-14	a4	b4	C1	d1
7	Soil Hygiene	15-17	a4	b4	C1	d2
8						
9						
	2nd semester					
10	Stress and animal health	17-18	a2,a3	b2	C1,C4,C6	d2
11	Disposal of animal wastes	19-21	a4	b5	C2	d2
12	Epidemiology of diseases	22-25	a2	b5	c2	d1,d2
13	Disinfection& disinfectants	26-28	a5	b 1	C3	d2
14	Investigation of environmental problems	29-31	a2	b 1	C5	d1
15	Student activities	32-34	a1,2	b1	C5,C6	d1,d2,d3,d4
16						



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Course Specification of Postgraduate

1-Basic information

Course Code:	D14-D
Course title :	Veterinary toxicology
Program title:	Diploma of Veterinary Pharmacology
Contact hours/ week	2 hours/ week, (Lect.1hr/week, Practical. 1hr/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

The aim of the course is to identify the potential harmful effects of drugs and chemicals to humans, animals and the environment, and to provide their prevention and treatment. As well as Appropriate risk assessment experimentation and expert judgment to minimize the probability of the occurrence of adverse effects.

- Identify and to characterize adverse effects of drugs and chemical compounds.
- Elucidate mechanisms of action at the cellular, biochemical and molecular level,
- Review and to assess safety data generated for a specific drugs and chemicals.
- Estimate the probability of the occurrence of adverse effects (risk assessment),
- Contribute responsibly to risk-benefit evaluation, risk management and risk communication.
- Develop approaches for prevention, diagnosis and treatment of adverse effects.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a1. Understand the different toxicological concepts
- a2. Be aware of the different classification of poison and dose relationship.
- a3. Recognize the different toxicity testing and the animal models requirements.
- a4. Realize the toxicological biotransformation and different mechanistic pathways.
- a5. Be able to collect suspected samples and detect the expected toxicants.
- a6. Emphasize the toxicokinetic and toxicodynamic of poison.
- a7. Recognize the different methods for diagnosis and treatment of poisoning
- a8. Be aware with the toxic effects in different organs and the corresponding organ



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toxicity testing.

b-Intellectual skills

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

- b1. Weigh up the expected acute and chronic hazards.
- b2. Appraise the molecular basis and mechanistic pathways of toxic actions.
- b3. Assess the toxicological impacts for different organ toxicity.
- b4. Estimate the socio-economic for ideal poisoning treatment.

C- Professional and practical skills

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

- c1. Follow the NIH and WHO guidelines of safety.
- c2. Carry out sampling, labeling, transport and preservation of suspected samples.
- c3. Perform different methods of poison detection.
- c4. Monitor the main organ target for toxicants.
- c5. Treat the different expected poisoning cases in animals.

d- General and transferable skills

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

- d1. Work effectively as part of a team, demonstrating decision making and time management.
- d2. Efficiently make use of library facilities and IT tools.
- d3. Explore appropriate computer / keyboard skills including word processing, spreadsheets, presentation packages and graph plotting,
- d4. Undertake written assignments and oral presentations.

4-Topics and contents

Time/ Week	Topics	No. of hours	Credit Hours/week	
			T	P
1	Toxicological concepts and terminology	2	1	-----
	Dose-response relationship		-----	1
2	Classification of poisons and toxic effects	2	1	-----



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	Proper sampling for toxicological assessment		-----	1
3	Common causes of animal poisoning	2	1	-----
	Samples handling and shipping		-----	1
4	Transport of poisons across membranes	2	1	-----
	Optimum methods for samples storage		-----	1
5	Absorption of poisons	2	1	-----
	Instrumentation used for toxicological assessment		-----	1
6	Distribution and excretion of poisons	2	1	-----
	Analytical methods for toxicological assessment		-----	1
7	Biotransformation: Phase I	2	1	-----
	Statistical methods for analytical results		-----	1
8	Biotransformation: Phase II	2	1	-----
	Interpretation of analytical results		-----	1
9	Bioactivation: Free radicals and electrophiles formation	2	1	-----
	Detection of active ingredient in toxic plants (1)		-----	1
10	Mechanistic toxicology (a): Lipid peroxidation and antioxidants	2	1	-----
	Detection of active ingredient in toxic plants (2)		-----	1
11	Mechanistic toxicology (b): covalent and non-covalent bindings	2	1	-----
	Detection of antioxidants		-----	1
12	Mechanistic toxicology (c): Reaction with enzymes	2	1	-----
	Detection of Lipid peroxidation		-----	1
13	Mechanistic toxicology (d):		1	-----



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	Interaction with receptor	2		
	Dose/Vehicle selection and dose formulation		-----	1
14	Factors affecting toxicological action	2	1	-----
	Laboratory animal models for detection of poison(1)		-----	1
15	Diagnosis of toxicities	2	1	-----
	Laboratory animal models for detection of poison(2)		-----	1
16	Treatment of poisoning (a): Supportive measures	2	1	-----
	Toxicity testing (a)		-----	1
17	Treatment of poisoning (b): Common antidotes in veterinary practice	2	1	-----
	Toxicity testing (b)		-----	1
18	Hepatotoxicity	2	1	-----
	Hepatotoxicity testing assessment		-----	1
19	Nephrotoxicity	2	1	-----
	Nephrotoxicity testing assessment		-----	1
20	Neuronopathy and axonopathy	2	1	-----
	Dermal sensitization and irritation studies		-----	1
21	Toxic effects on synapsis and channels	2	1	-----
	Toxicological effects on blood		-----	1
22	Immunotoxicity	2	1	-----
	immunotoxicity testing assessment		-----	1
23	Cardiovascular toxicity	2	1	-----
	Cardiovascular testing assessment		-----	1
24	Male reproductive toxicity	2	1	-----
	Male fertility testing		-----	1
25	Female reproductive toxicity	2	1	-----
	Teratology testing		-----	1



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26	Mutagenesis	2	1	-----
	Assessment of Cell Toxicity (b): Determination of chromosomal abberation		-----	1
27	Carcinogenesis	2	1	-----
	Assessment of Cell Toxicity (c): Detection of covalent binding		-----	1
28	Pollution sources and classification	2	1	-----
	Case study of the toxic effects of pollution acute effects		-----	1
29	Pollution hazard effects	2	1	-----
	Case study of the toxic effects of pollution chronic effects		-----	1
30	Advanced methods for minimization of pollution	2	1	-----
	Field study to areas has significant pollution		-----	1
31	Metals intoxication (1)	2	1	-----
	Detection of irritant poisons (1)		-----	1
32	Metals intoxication (2)	2	1	-----
	Detection of irritant poisons (2)		-----	1
33	Pesticides intoxication (1)	2	1	-----
	Detection of pesticides using GC		-----	1
34	Pesticides intoxication (2)	2	1	-----
	Detection of pesticides using HPLC		-----	1
35	Mycotoxins	2	1	-----
	Qualitative and quantitative methods for detection of Mycotoxins		-----	1
36	Corrosives and alkalis poisoning	2	1	-----
	Experimental effects of corrosives		-----	1



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5-Teaching and learning methods

- 5.1- Lecture using PowerPoint presentations.
- 5.2- Learning through tutorials.
- 5.3- Independent reading throughout basic Text books and research papers.

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
Final Exam	a1-a8	b1-b4	c1- c5	d2-d4
Practical Exam	a1-a7	b1- b4	c1- c5	d1
Oral Exam	a1-a8	b1-b4	c1- c5	d3

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Final exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

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

8- List of references

8.1. Notes and books

Departmental notes on:

: Prepared by departments' staff

- Notebook: Advanced General Toxicology

8.2. Essential books:

- (*Present in library of Faculty of Veterinary Medicine, Beni-Suef University*)

*Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):

- Casarett and Doull's Toxicology. The Basic Science of Poisons: Klaassen, C.D., McGraw-Hill, New York.7th ed., 2008.
- Introduction to toxicology. Timbrell, J., - 3rd ed., Taylor & Francis, USA< 2003.

8.3. Recommended texts:

-- (*Present in library of Faculty of Veterinary Medicine, Beni-Suef University*)



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***Wellborn, T.L. (1985):**

- Principles and Methods of Toxicology: Hayes, A.W., 5th ed., CRC Press, New York, 2007.
- Handbook of Toxicology: Derelanko, M.J. and Hollinger, M.A., 2nd ed., CRC Press, Boca Raton, 2002.

- **Web Sites, ... etc**

- * *Toxicol. Appl. Pharmacol.*
- *Toxicol. In vitro.*
- <http://www.toxicology.org/>
- <http://www.ivis.org/advances/Beasley/>

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

Course Coordinators

Dr. Nour El-Houda Yassein

Head of Department

Prof. Dr. Khaled Abdou



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	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	1	1	1,2	1
2	Drugs and their action	2,3,4,5,6,7	2	1,2	2	2
3	Drug development	8,9	2,3	1,2	2	2,5
4	Lead compound	10,11	3	1	2	1,2
5	Sources of drugs and lead compound	12	3	1	2	3,4
6	Drug classifications	13	2	1	2	1
7	Drug administration	14,15,16,17	2	1	1,2	2,5
8	Drug pharmacokinetics	18,19,20,21,22	2,3	1,2	2	3
9	Formulation development	23,24,25,26	3	1,2	1,2	2,5
10	Computer Aided Drug Design	27	3	1,2	2	1
11	Target sites for drug action	28	2	1,2	1,2	1,5
12	Pharmacological and toxicological testing	29,30,31,32,33	2,3	1,2	1,2	1,5



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13	Structure-activity relationships	34	2	1,2	2	2,4
14	Chemical synthesis of some drugs	35	3	1,2	2	1,5
15	Metabolic pattern of some drugs	36	3	1,2	2	1,5



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1-Basic information

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

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 & trichomanids (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	Dipetra (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, Websitesetc

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, Schistosoma, Heterophyes</i>) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	1-3	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	D1, d2, d3, d4
2	Zoonotic cestodes (<i>Moniezia, Taenia, Echinococcus</i>) (morphology, life cycle, zoonotic importance, pathogenesis, diagnosis and control).	4-6	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	D1, d2, d3, d4
3	Zoonotic nematodes (<i>Parascaris, Toxocara, Toxascaris, Trichostrongylids, Ancylostoma, Spirocerca, Filaria</i>)(morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	7-11	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3	D1, d2, d3, d4
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	D1, d2, d3, d4
5	<i>Eimeria, Toxoplasma, Sarcocystis</i> (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).	17-20	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	D1, d2, d3, d4
6	Piroplasms (<i>Babesia, 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,	D1, d2, d3, d4
7	Dipetra (mosquitoes,	25-27	A1,a2, a3, a4,	B1, b2,	C1,c2,c3,	D1, d2,



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	sand flies and flies, flies producing myiasis) (morphology, life cycle, pathogenesis, zoonotic importance, diagnosis and control).			b3, b4		d3, d4
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,	D1, d2, d3, d4
9	Ticks and mites (morphology, life cycle, pathogenesis, diagnosis and control).	31-33	A1,a2, a3, a4,	B1, b2, b3, b4	C1,c2,c3,	D1, d2, d3, d4
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,	D1, d2, d3, d4



Course specification of postgraduate

1-Basic information

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

2-Professional information

Overall aims of course:

This course aims to:

- a- ensure that students reserve a comprehensive theoretical base on radioactive isotopes and their biological uses.
- b- Provide students with knowledge, skills and confidence to deal with radioactive isotopes in medical laboratories.

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

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

- a.1- understand the basic concepts and terminology of radiation.
- a.2- clarify the biological hazards of radiation on animal tissues.
- a.3- explain the mode of action of radiation on animal tissues.
- a.4- outline the medical uses of radiation.
- a.5- recognize the regulations for the use of radiation.

b-Intellectual skills

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

- b.1- compare between types of radiation and their effects.
- b.2- explore the factors affecting deleterious effects of radiation on the tissues.
- b.3- rank cells according to its sensitivity to radiation.

C- Professional and practical skills

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

- c.1- analyze samples by RIA.
- c.2- calculate the half life and effective half life of a radionuclide.
- c.3- judge a sample for radio contamination.

d- General and transferable skills

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

- d.1- summarize research findings in oral form in seminars and workshops.
- d.2- communicate effectively with supervisors.
- d.3- demonstrate information retrieval and library skills.



Course specification of postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Lec,2hrs/wk,prac2hrs/wk	Basic concepts and terminology of radiation	12hrs	6hrs	1hrs
	Biological hazards of radiation on animal tissues	12hrs	6hrs	1hrs
	Mode of action of radiation on animal tissues	12hrs	6hrs	1hrs
	Medical uses of radiation	12hrs	6hrs	1hrs
	Regulations for the use of radiation	12hrs	6hrs	1hrs
	Characteristics of antigen-antibody reactions	12hrs	6hrs	1hrs
	Measurements of precipitations	12hrs	6hrs	1hrs
	Principles of Agglutination & Agglut. inhibition	12hrs	6hrs	1hrs
	Principles of radioimmunoassay (RIA)	12hrs	6hrs	1hrs
	Principles of enzyme immunoassay (ELISA)	12hrs	6hrs	1hrs
	Principles of fluorescent immunoassay	12hrs	6hrs	1hrs
	Adaptations in different environments	12hrs	6hrs	6hrs
	Total		144hrs	72hrs

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, samples of stained tissues and data show).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Final Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Practical Exam	a1- a2- a3-a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3
Oral Exam	a1- a2- a3- a4-a5	b1- b2- b3	c1- c2- c3	d1-d2-d3



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Course specification of postgraduate

7.2. Assessment schedules

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

7.3. Weight of assessments

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

8- List of references

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

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

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

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

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

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

* Textbook of Medical Physiology. Guyton & Hall 9th Edition. 1996. W.B. Saunders Co. (Harcourt Brace I.E.) Philadelphia, USA.

* Physiology 3rd edition. John Buuock, Joseph Boyle III and Michael B. Wang, 1995. National Medical Series for Independent Studies. Middle East Edition. Mass Publishing CO. 9Al Tahrir St., Dokki, Giza, Egypt.

8.4. Journals, Websitesetc

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

Websites:

WWW.Science direct

WWW. Pubmed.com

[WWW.Scholar](http://WWW.Scholar.google.com) google.com

[WWW.welly](http://WWW.wellyinterscience) interscience

Course Coordinators

Head of Department



Beni-Suef University
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Course specification of postgraduate



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Course specification

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



Beni Suef University
Faculty of Veterinary Medicine

TEMPLATES FOR PROGRAMME SPECIFICATIONS

Programme Specification

University: Beni-Suef University

Faculty: Veterinary Medicine

A- Administrative Information

1. Programme title: Diploma of Vet. Med. Sciences (**Diploma of Environmental Pollution**)
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. **Programme main goal:** The Diploma programme support the postgraduate student ability to: differentiate between different types of environmental pollution in addition to veterinary poison and study its impact on animal health and how to prevent and control. Apply different methods of hygienic disposal of animal wastes. Finding the relationship between climatic change and environmental pollution and diseases occurrence.

-Objectives:

- a) Understanding the importance of an animal's environment to its health and productivity, and to human health. The different methods of prevention and control environmental pollution.
- b) Identify causes and measurable effect of environmental pollution on animal health.
- c) Solving a problem related to poor hygiene, analyzing, interpreting environmental and ecological data and create a plan for control of external parasites in livestock farms.
- d) Communicate effectively and lead teamwork efficiently.
- e) Take decisions using the available information.
- f) Effectively use the available facilities and resources.
- g) Aware of his/her role in community development and environmental conservation in the area Environmental Hygiene.
- h) Commit the legal rules of Environmental Hygiene.

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. Outline livestock problems relating to the environment and animal wastes.
- a2. Describe the effect of climatic changes on emergency disease occurrence.

- a3. Recall the role of air, water, soil, vectors in disease spreading.
- a4. Understanding the importance of an animal's environment to its health and productivity.
- a5. Specify the different quality management systems in Environmental Hygiene practices.
- a6. Understanding the role of his/her professional practices in community development and environmental conservation.
- a7. Recognize the different types of veterinary poisons and its effect on animal and human health.

b- Intellectual skills

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

- b1. Differentiate between hygienic methods for disposal of Hazardous wastes
- b2. Collect and analyze different environmental samples from animals and poultry farms
- b3. Make scientific reading and analysis of research papers and topics related to Environmental Hygiene
- b4. Assess different risk factors for each practice related to Environmental Hygiene
- b5. Suggest the appropriate solutions for parasitic infestation problems related to Environmental Hygiene
- b6. Take decisions using the available information.

c- Professional and practical skills

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

- C1. Measure and monitor the environmental problems in poultry farms
- c2. Implement a new technology for hygienic disposal and treatment of animal wastes. Control of external parasite to mitigate its impact.
- c3. Apply different professional skills and techniques in the field of Environmental Hygiene
- C4. Write specialized reports related to air, water, and soil samples examination.

d- General and transferable skills

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

- d1. Demonstrate and solving environmental problem
- d2. Properly use the information technologies for development of his/her professional abilities
- d3. Use different facilities for gaining knowledge and information.
- d4. work effectively as part of a team properly manage the time.
- d5. Understand the significance and means of continuous self-learning.

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, BeniSuef University, BeniSuef, Egypt are selected to confirm the appropriateness of the academic standards .

4 – Curriculum structure and content.

5.1) Programme duration: 1years

5.2) Programme structure:

Title	Lecture	Practical	Total
1. Environmental hygiene and epidemiology	3	2	5
2. General parasitology	1	2	3
3. Veterinary poisons	1	2	3
4. النظائر المشعة	2	1	3
5. Animal wastes	1	1	2
Total	8	8	16

5- Programme – course ILOS Matrix

ILOS Courses	Knowledge and understanding							Intellectual skills						Professional and practical skills				General and transferable skills			
	a1	a2	a3	a4	a5	a6	A7	b1	b2	b3	b4	b5	b6	c1	c2	C3	C4	d1	d2	d3	d4
1. Environmental hygiene and epidemiology	x	x	x	x	x	x			x	x	x			x		x	x	x	x	x	x
2. General parasitology			x							x		x			x				x	x	x
3. Veterinary poisons			x				x		x					x				x	x		x
4. النظائر المشعة	x							x						x				x			
5. Animal wastes	x				x	x		x		x					x	x		x			x

6- Programme admission requirement:

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

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

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

4- Registration will be during September of each year.

7 - Regulations for progression and programme completion.

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

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

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

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

8-System of examination for postgraduate studies as follow:

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

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

9-Grades of graduation are as follow:

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

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

Programme coordinator:

Name: AsmaaNady Mohammed

Signature..... Date

Head of the Department of Hygiene, zoonosesand Epidemiology

Name: Mohamed Ali

Signature..... Date,



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Course specification of postgraduate

1-Basic information

Course Code:	
Course title:	animal by products
Program title:	Postgraduate Diploma of Animal byproducts
Contact hours/ week	Lecture:2 practical:2 total:4
Approval Date	12-9-2017

2-Professional information

Overall aims of course:

This course aims to:

By the end of this course, the graduate should be able to:

- 1- understand the academic and practical knowledge related to types of animal byproducts, and byproduct treatment
- 2- outline how to treat edible meat and offal
- 3- differentiate between the methods of utilization of edible and inedible animal byproducts.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

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

- a1- Enumerate the types of animal byproducts.
- a2- list benefits of byproducts treatment .
- a3- recognize byproducts unit premises.
- a4- Recognize the hygienic requirements for animal waste plant.
- a5- Summarize the methods used in byproducts treatment.
- a6- Recognize the inedible rendering process.

b- Intellectual skills

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

- b1- Assess the activated sludge process.
- b2- Explain different methods of byproducts treatment.
- b3- Distinguish edible and inedible animal byproducts.
- b4- Take decisions to prevent nuisance.

C- Professional and practical skills

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

- c1- Differentiate between edible and inedible byproducts.
- c2- Hygienically treat the condemned meat and offal.
- c3- Utilize the animal byproducts.
- c4- Apply the hygiene standards inside an animal waste processing plants.
- c5- Get experience in activated sludge process.

d- General and transferable skills

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



Course specification of postgraduate

- d1- Properly use computer and internet skills.
- d2- Appreciate the importance of group working and cooperation.
- d3- Properly communicate with others.
- d4- Enhance his/her effective presentation skills.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. 2h./week, Pract2h./week)	Introduction	4	2	2
	Edible byproducts	8	4	4
	Benefits from the byproducts utilization	10	5	5
	Byproducts unit premises	10	5	5
	Byproducts treatment	20	10	10
	Treatment of condemned meat and offal	18	9	9
	Hygiene requirements for animal waste processing plants	20	10	10
	Inedible rendering processes	10	5	5
	Treatment of effluent	24	12	12
	Activated sludge process	10	5	5
	Prevention of nuisance	10	5	5
	Student activities: - Abattoir and food plants visits. - Dairy farms and plants visits - Writing essays - Internet search			
Total		144	72	72

5-Teaching and learning methods

- 5.1- Lectures (brain storm, discussion) using board, data shows
- 5.2- Self learning by preparing essays and presentations (computer researches and library)
- 5.3- Practical (models, and data show).
 - **Lectures:** depending on the sharing efforts of the students and supported with macromedia and multimedia aids.
 - **Training visits:** to abattoirs of animals and poultry.
 - **Practical sections:**
 - **Self-learning:** Electronic learning, Seminars, scientific search on related websites,



Course specification of postgraduate

international, national and local journals, related books in faculty library.

- **Summer training course**
- **Assays and reviews**

Discussion groups

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 to a6	b1 to b4		
Practical Exam			c1 to c5	
Oral Exam	a1 to a6	b1 to b4	c1 to c5	d1 to d4

7.2. Assessment schedules

Method	Week(s)
Writing exam	53,54,55
Practical exam	52
Oral exam	53,54,55

7.3. Weight of assessments

Assessment	Weight of assessment	
Writing exam	25	50%
Practical exam	15	25%
Oral exam	10	25%
total	100%	

8- List of references

8.1. Notes and books

- Text book of Meat Hygiene, Professor/FathyAhmedKhalafalla, 2004.
- Practical Meat Hygiene, professor/ Fathy Ahmed Khalafalla and ass. Professor/FatmaHassanMohammed, 2004.

8.2. Essential books:

- Meat Hygiene (J.F. Gracey and D.S. Collins) , ninth edition, 1992

8.3. Recommended texts

-

Journals:



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Course specification of postgraduate

- FSIS (Food science and inspection surface)
- FDA
- FAO
- International journal of food science and technology

Websites:

- cms.nelc.edu.eg
- www.meatscience.org
- www.inspection.gc.ca
- www.directscience.com

Course Coordinators

Head of Department

Dr. Abdel-Rahim H.A. Hassan

Prof. Fathy A. Khalafalla



Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1	-	-	-
2	Meat grading and cuts	2-3	a4	-	c5	-
3	Anatomical and morphological structures of carcasses of meat animals	4-5	-	b5	-	-
4	Chemical and biochemical constitution of muscle and fat	6-7	a3	b1, b3	-	-
5	Examination for additives	8	a1	-	c2	-
6	Detection of residues	9	a5	-	-	-
7	Detection of adulteration and falsification of meat and fat	10	a1	b1	c2	-
8	Identification of animal species	11-12	a6	b4	c3	-
9	Assessment of meat spoilage	13	-	b2	c4	-
10	Sensory evaluation of meat	14-15	a1	b1	c1	-
11	Determination of: 1. Moisture content 2. Fat 3. Protein 4. Ash 5. Salt	13-16	a1, a3	B1	c2	-
12	Assessment of fat spoilage	16-17	-	-	c4	-
13	legalizations and limits	18	a2	b3	c2	-
14	Physical properties of milk	19-20	a7	b6,b7	C7,c10	-
15	Chemical examination of milk	21-22	a8	b6,b8	C6	-



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Course specification

1	Detection of preservatives in milk	23	a10	b6,b9	C8	-
1	Detection of milk adulteration	24	a10	b6,b7	C9	-
1	Detection of milk acidity	25	a10	b7,b8,b9	C6,c10	-
1	Detection of heat treatment of milk	26	a13	b6,b7,b9	C8	-
2	Detection of inhibitory substances	27	a12	b6,b7	C6,c8	-
2	Chemical examination of dairy products	28-29	a10	b6,b7	C6,c9	-
2	Sanitary tests of dairy products	30-31	a10	b8	C7	-
2	Fat and oils	32-33	a11	b8	C7	-
2	Detection of egg freshness	34	a9,a11	b8	C7	-
2	Detection of butter adulteration with margarine	35-36	a11		C7,c9	-
2	Student activities: - Abattoir and food plants visits - Dairy farms and plants visits - Writing assays - Internet search		-		-	d1-d4



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