



دمنهور  
كلية الطب البيطري  
قسم صحة الحيوان والأمراض المشتركة

توصيف مقرر صحة البيئة

بيانات المقرر

	<b>B EHG</b>	:	
	Environmental Hygiene – صحة البيئة	:	
		:	/
	بكالوريوس العلوم الطبية البيطرية	:	
2 : (ساعات أسبوعياً)	3 : (ساعات أسبوعياً)	:	لدراسية

### - Aims of the Course:

**By the end of this course, the students have the principles and practical skills concerning**  
(1) Corroboration of animal health, welfare and production. (2) Description of environmental conditions under which livestock can achieve maximum productive and reproductive performance.

### - Intended Learning Outcomes :

#### / Knowledge and Understanding :

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

- 2/1/1 Outline hygienic significance of normal constituents air on animal health.
- 2/1/ Classify the sources of air pollutants inside animal houses and their effects on its performance.
- 2/1/ Explain methods applied to control air pollution inside animal houses.
- 2/1/4 Discuss the impact of stress on productive and reproductive performance of animals.
- 2/1/5 Summarize the effects of environmental elements e.g. temperature, light, humidity, altitude, air movement on animal health and their role in causation of animal diseases.
- 2/1/6 Explain the hygienic requirements of water for different animals.
- 2/1/7 Describe how water sources get contaminated by different pollutants and their preventive measures.
- 2/1/8 Outline the methods required for improvement of water quality for animal wellbeing.

#### / Intellectual Skills:

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

- 2/2/ Differentiate the effect of normal and abnormal constituents of air on animal health.
- 2/2/2 Rank different air pollutants according to their harmful effect on animal health.
- 2/2/ Select the most suitable method required to control air pollution inside animal houses under field condition.
- 2/2/4 Conclude the impact of two or more combined environmental elements on animal performance.
- 2/2/5 Grade various sources of water according to their hygienic fitness to animals.
- 2/2/ Interpret results obtained from air and water examination for their hygienic fitness to



animals.

### / Professional and Practical Skills :

**By the end of this course, the student should attain the capacity to:**

- 2/3/ Collect suitable air samples required for chemical and microbiological examinations.
- 2/3/ Estimate gaseous impurities in air samples chemically.
- 2/3/ Collect suitable water samples required for physical, chemical, microscopical and microbiological examinations
- 2/3/ Examine water samples for presence of chemical pollutants concerning animal health.
- 2/3/5 Determine physical characters of water as well as microscopical findings affecting its hygienic fitness to animals.
- 2/3/ Isolate different microorganisms from samples collected from animal environment
- 2/3/7 Use instruments for determination of temperature, relative humidity and air movement inside animal houses efficiently.

### / General and Transferable Skills:

**By the end of this course, the student should have the capacity to:**

- // Communicate effectively with others.
- // Use computer programs to prepare presentations
- // Browse the internet skillfully to update knowledge.
- // Work in multidisciplinary team.

### -Course Content:

The first Semester				
Topic	Hours	Lectures	Practical	ILOs
- Constituents of air.	2	2	-	2/1/1, 2/2/1
- Sources of air pollution impurities of air.	2	2	-	2/1/2, 2/2/1
- Effects of polluted air on animal health.	2	2	-	2/1/2, 2/2/2
- Air pollution control.	2	2	-	2/1/3, 2/2/3
- Stress	2	2	-	2/1/4, 2/2/4
- Effects of temperature on animals.	2	2	-	2/1/5, 2/2/4
- Effects of humidity, Air movement	2	2	-	2/1/5, 2/2/4
- Effects of high altitudes, Light	2	2	-	2/1/5, 2/2/4
- Environment and diseases	4	4	-	2/1/5
- Sources of water.	2	2	-	2/1/6, 2/2/5
- Hygienic requirements of water	2	2	-	2/1/6
- Prevention of water pollution	2	2	-	2/1/7
- The improvement of water	4	4	-	2/1/8
- Chemical examination of air	4	-	4	2/2/6, 2/3/1, 2/3/2
- Microbiological examination of air	2	-	2	2/2/6, 2/3/6
- Water sampling.	2	-	2	2/3/3
- Physical examination of water.	2	-	2	2/2/6, 2/3/5
- Chemical examination of water.	10	-	10	2/2/6, 2/3/4
- Microscopical examination of water.	2	-	2	2/2/6, 2/3/5
- Microbiological examination of water.	2	-	2	2/2/6, 2/3/6



- Environmental examination.	6	-	6	2/3/7
- Student activities:				
- Writing short essays on impact of environment on animal health and performance.				
- Prepare pp presentations				
- Seminars on presentations.				
	<b>60</b>	<b>30</b>	<b>30</b>	

**- Methods of Teaching and Learning**

- 1- Lectures Using Data Show and Video Films.
- 2- Practical lesson: laboratory chemical analysis of water and air samples.
- 3- Seminars: on the topics of the course
- 4- Essay prepared from Library and Internet. Student assignment and discussion in presence of other students in the same specialty.
- 5- Presentation prepared and presented by the student in presence of other students in the same specialty.

**- Methods of Teaching and Learning for Students With limited capabilities:**

1. Organize limited number students' class for these students.
2. Activate the role played by the scientific guide to discover the problems of these students then try to solve them.
3. Using various modes of learning strategies.
4. Students should participate in collecting the course material.

**- Student Assessment**

/ . Methods	Measured ILO's			
	Knowledge & Understanding	Intellectual Skills	Professional and Practical Skills	General and Transferable Skills
<b>Students activities</b>				2/4/1, 2/4/2, 2/4/3, 2/4/4
<b>Written Exams</b>	2/1/1, 2/1/2, 2/1/3, 2/1/4, 2/1/5, 2/1/6, 2/1/7, 2/1/8			
<b>Practical Exams</b>			2/3/1, 2/3/2, 2/3/3, 2/3/4, 2/3/5, 2/3/6, 2/3/7	
<b>Oral Exams</b>	2/1/8	2/2/1, 2/2/2, 2/2/3, 2/2/4, 2/2/5, 2/2/6		2/4/1
<p><b>Written Exams:</b> Short Essay – MCQ- case study – compare  <b>Practical Exams:</b> Chemical analysis of water and air samples.  <b>Oral Exams:</b> According to the Basics of Oral Exams (Faculty Council April, )  <b>Periodical Written Exams:</b> MCQ, complete, Give reasons  <b>Students activities:</b></p>				
/ . Timing	1- Student activities (through out the semester).			



	2- Periodical Written Exams ( 1 <sup>st</sup> , 9 <sup>th</sup> and 16 <sup>th</sup> weeks). 3- Final Practical Exam (16 <sup>th</sup> week). 4- Final Written Exam ( 16 <sup>th</sup> week). 5- Final Oral Exam ( 16 <sup>th</sup> week).		
<b>/ . Grade Distribution</b>		Methods	Grade
	1	Periodical Written Exams	12 %
	2	Student activities	8 %
	3	Final Practical Exam	20 %
	4	Final Written Exam	50 %
	5	Final Oral Exam	10 %
	Total	100 %	

### - List of Text Books and References:

#### -Notes:

#### - Animal and Poultry Hygiene Department notes by:

- Prof. Dr. Hamed Abdel Tawab Samaha
- Prof. Dr. Abd El Maged Draz.

#### -Essential text Books :

- Grandin, T. ( 2005 ): Improving Animal Welfare: A practical approach. CABI publishing USA.
- Thursfield, M. ( 2004 ): Veterinary Epidemiology 1<sup>st</sup> ed. Pharmaceutical press London.

#### - Suggested Text Books:

- Appleby, C.M., Mench, J.A. and Hughes, B.O., ( 2002 ). Poultry behavior and welfare. CABI publishing USA.
- Jackson, N. S., Baker, J. K. and Greer, W. J. ( 2002 ): Animal Health Vero Media Inc. ISBN
- Mette, V., Roderick, S., Lund, V. and Lockeretz, W. ( 2002 ): Animal health and welfare in organic agriculture. CABI Publishing UK Cromwell Press, Trowbridge

#### -Periodical and Web Sites:

- International Journal of Poultry Science
- Applied and Environmental Microbiology Journal
- Online Journal of Health and Applied Science
- Dairy Science Journal

**Course coordinator:**

**Dr. Mousa .A. Mohammed**

**Signature**

**Date**

**Head of Department:**

**Dr.Usama El sayed Mahrous**