



**Animal and Poultry Production**  
**Course Specifications 2014/2015**

**1-Basic information**

<b>Course Code:</b>	216 & 226
<b>Course title :</b>	Animal and Poultry Production
<b>Academic year:</b>	2 <sup>nd</sup> year (1 <sup>st</sup> & 2 <sup>nd</sup> semesters)
<b>Program title:</b>	Bachelor of Veterinary Medical Sciences
<b>Contact hours/week/semester:</b>	<b>Lecture:</b> 2 hours /week/semester
	<b>Practical:</b> 2 hours /week/semester

**2-Professional information**

**1- Overall aims of course**

At the end of this course, students should gain the basic concepts, principles and the essential practical skills in the field of poultry, cattle, buffalo, sheep and goat production and genetic improvement.

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

**a-Knowledge and understanding**

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

- a.1. Outline the Poultry Houses types, Designs and Environments.
- a.2. Explain the requirements for brooding principles and management of chicks.
- a.3. Discuss the basic principles of management of growing pullets, broilers and layers and lighting systems.
- a.4. Review factors affecting efficiency of beef cattle and systems of beef cattle production.
- a.5. Describe the requirements, breeding and production characteristics of an efficient sheep and goat flocks.
- a.6. Outline the principles of animal breeding and genetics and how to apply them to increase the efficiency of farm animal production
- a.7. Explain the measures of reproductive efficiency and management of heat detection in dairy cattle
- a.8. Define lactation curve and review factors affecting milk yield
- a.9. Summarize herd health program and management of dry cow
- a.10. Study the principles of judging dairy cattle

**b-Intellectual skills**

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

- b.1. Choose the proper approach for genetic improvement relative to economic priority in different species,
- b.2. Discriminate reasons and sources of production inefficiency in poultry, cattle, sheep and goat production
- b.3. Interpret farm summaries and efficiency indices for herd/flock evaluation and enhancement,
- b.4. Manipulate the development in animal breeding and production into practical needs,
- b.5. Distinguish management and breeding schedules in response to emerging and unexpected problems,
- b.6. Propose production and breeding systems to animal owners relevant to the socio-economics and resource availability.

**c-Professional and practical skills**

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

- c.1. Determine farm data for production/reproduction efficiency assessment.
- c.2. Calculate efficiency indices from current and retrospective performance data.
- c.3. Apply sound management practices to newborn, growing and mature animals.
- c.4. Design system of mating appropriate for different production systems.
- c.5. Select breeds and parents for genetic improvement according to the pre-set breeding goals.
- c.6. Design individual and herd/flock production, reproduction, and health records.
- c.7. Select animals based on production efficiency and physical type.
- c.8. Determine herd/flock housing, space, and equipment requirements in relation to a specified production system.

**d-General and transferable skill**

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

- d.1. Develop the motivation to work independently and in team work.
- d.2. Respect the ethics and ethical standards related to veterinary medicine.
- d.3. Improve thinking skills through analyzing of problems.

<b>3-Topics and contents</b>			
<b>First semester</b>			
<b>Topic</b>	<b>No. of Hours</b>		
	<b>Lecture</b>	<b>Practical</b>	<b>Total</b>
<b>Introduction:</b> Introduction to farm animals livestock sector in Egypt, breeds of cattle, sheep, goats and poultry, products of farm animals (meat, milk , eggs, wool), basic concepts in genetic improvement,	2	--	2
<b>Poultry production</b> 1. Poultry Houses types, Designs and Environments.	16	--	16

<p>2. Maintaining hatching egg quality</p> <p>3. Operating the Hatcheries &amp; Environments of Artificial Incubation.</p> <p>4. Brooding principles and Management of layer and breeder chicks.</p> <p>5. Management of growing pullets</p> <p>6. Broiler management to produce high quality broilers at marketing.</p> <p>7. Layers Management &amp; Judging and preservation of Table Eggs.</p> <p>8. Lighting management for open and closed poultry house systems.</p>			
<p><b>Beef cattle production:</b></p> <p>1. Factors affecting the economics and efficiency of beef cattle production</p> <p>2. Beef production systems</p> <p>3. Marketing Beef cattle</p>	6	--	6
<p><b>Sheep and Goat production:</b></p> <p>1. Establishing the flock in sheep and goat &amp; Reproductive performance in sheep and goat.</p> <p>2. Wool and Mohair production &amp; Milk production in sheep and goat.</p> <p>3. System of sheep and goat production.</p>	6	--	6
<p><b>Poultry classifications:</b> Biological classification, Standard classification, Economic classification, Egyptian breeds of chickens</p>	--	2	2
<p><b>Biology of domestic fowl:</b> integumentary system, skeletal system, circulatory system, digestive system, immune system, reproductive system and egg formation, egg structure and chemical composition.</p>	--	6	6
<p><b>The Timing of Major Embryonic Developments:</b> Egg candling and determination of fertility and abnormal eggs, analysis of poor hatchability</p>	--	4	4
<p><b>Principles of Japanese quail:</b> History of Japanese quail, sexing, nutrition requirements, incubation, brooding, housing, lighting management.</p>	--	2	2
<p><b>Ostrich production:</b> Products, starting a business, biology, reproduction, incubation and hatching, nutrition, facilities and management, identification, health.</p>	--	2	2
<p><b>Turkey production:</b> sexing, nutrition requirements, incubation, brooding, housing, lighting management.</p>	--	2	2
<p><b>Duck and geese production:</b> breeds, sexing, nutrition requirements, incubation, brooding, housing, lighting management</p>	--	2	2
<p><b>Rabbit production and management:</b> importance, breeds, housing, reproduction, nutrition, health.</p>	--	4	4

<b>Major breeds of beef cattle</b>	--	4	4
<b>Types and breeds of sheep &amp; goats.</b>	--	2	2
<b>Total</b>	30	30	60

**Second semester**

Topic	No. of Hours		
	Lecture	Practical	Total
<b>Dairy cattle production:</b> 1. Dairy industry and essentials of establishing a profitable dairy farm 2. Selecting and judging dairy cattle 3. Reproduction and reproductive efficiency in dairy cattle 4. Lactation & Factors affecting milk yield and composition 5. Managing the dry dairy cow 6. Herd health program	14	--	14
<b>Animal breeding:</b> 1. Inheritance of qualitative and quantitative traits 2. Phenotypic variations of economic traits in farm animals and poultry 3. Relationship, Inbreeding and Outbreeding 4. Genetic parameters of the population; heritability, repeatability and correlation 5. Selection principles and Breeding value 6. Genetic improvement in farm animals 7. Breeding for immune responsiveness and disease resistance	16	--	16
<b>Dairy cattle production:</b> 1. Zoological classification of cattle 2. Major breeds of dairy cattle & Egyptian cattle and buffaloes 3. Mammary gland structure and milk secretion 4. Milking and milking machines 5. Raising dairy calves and heifers 6. Herd records	--	14	14
<b>Animal breeding</b> Population genetics Factors altering gene and genotypic frequencies (solved problems) Relationship and Inbreeding coefficients (solved problems) Hybrid vigor (solved problems) Genetic parameters (solved problems) Response and Correlated Response to selection (solved problems)	--	16	16
<b>Total</b>	30	30	60

#### 4-Teaching and learning methods

- 4.1 Lectures.
- 4.2 Practical sessions.
- 4.3 Self-learning activities.

#### 5-Student assessment

##### 5.1. Assessments methods

1- Written exam	For assessment of knowledge, back calling and Intellectual skills
2- Practical exam	For assessment of practical and professional skills.
3- Oral exam	For assessment of knowledge and Intellectual skills
4- Student activities	For assessment of knowledge and general and transferable skills

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U (a)	IS (b)	P&P.S (c)	G.S (d)
Periodical exams and activities	a1, a2,	b1- b6	--	d1, d2,d3
	a7, a8			
Practical exam	--	--	c1 – c8	
Oral exam	a1- a10	b1-b6	--	
Written exam	a1- a10	b1-b6	--	

<b>5.2-Assessment schedules/semester</b>	
<b>Assessments methods</b>	<b>Time of Assessments</b>
Student activities	Along the semester
Midterm exam	8 <sup>th</sup> Week
Practical exam	16 <sup>th</sup> Week
Written exam	16 <sup>th</sup> Week
Oral exam	16 <sup>th</sup> Week

### **5.3-Weight of assessments**

<b>Assessment</b>	<b>Allocated Mark</b>		
	<b>1<sup>st</sup> semester</b>	<b>2<sup>nd</sup> semester</b>	<b>Total</b>
Periodical exams and activities	5	5	10
Practical exam	10	10	20
Oral term exam	10	10	20
Written exam	25	25	50
<b>Total</b>	<b>50</b>	<b>50</b>	<b>100</b>

## **6- List of references**

### **6.1. Departmental Notes**

Notes on Animal and Poultry Production by Dr. Mohamed Atef Helal

### **6.2.Essential books**

Phillips, C.J.C., 2001. Principle of Cattle Production. CAB International Wallingford, Oxon Ox10 8De, UK.

Bourdon, A. (1999): Understanding Animal Breeding. 1<sup>st</sup> Ed. Printce Hall, New Jersey.

Simm, G., 1998. Genetic Improvement of cattle and sheep. Farming Press, Miller Freeman, UK, Ltd.

Animal Breeding. Use of New Technologies.; B. Kinghorn, J. van der Werf, and M. Ryan. 2001. Twynam Press.

### **6.3. Journals , Websites .....etc**

#### **Journals:**

- Journal of Animal Science
- Poultry Science Journal
- Livestock Production Science
- Animal Science

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- British Poultry Science

### **Scientific websites**

- ❖ Organizations Associated with Dairy Production:  
<http://www.ansi.okstate.edu/library/dairy/organiz.htm#organ>
  - ❖ The International Dairy Federation (IDF): <http://www.fil-idf.org/>
  - ❖ Dairy Biz: <http://www.dairybiz.com/>
  - ❖ Feeding the Newborn Dairy Calf On–line Slide Show:  
<http://www3.das.psu.edu/dcn/calfmgt/index.html>
  - ❖ Managing of dairy heifers :  
<http://www3.das.psu.edu/dcn/calfmgt/385/index.html>
  - ❖ Management Practices Associated with High–Producing U.S. Dairy Herds (USDA):  
[http://www.aphis.usda.gov/vs/ceah/cahm/Dairy\\_Cattle/drymgmt.htm](http://www.aphis.usda.gov/vs/ceah/cahm/Dairy_Cattle/drymgmt.htm)
- Recommended Milking Procedures (US National Mastitis Council):  
<http://www.nmconline.org/milkprd.htm>
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**Course Coordinator:** Dr. Mohamed Atef Youssef Helal

**Head of Department:** Dr. Mohamed Atef Youssef Helal

## Matrix alignment of the course topics and ILOs

### FIRST SEMESTER

Topic	No. of hours /week		Total hours /semester	Hours for lect.	Hours for pract.	ILOs				T&L.methods				
	Lect.	Pract.				K&U (a)	IS (b)	P.P.S (c)	G.T.S (d)	Lect.	Pract.	Self& active leaning	Audiovisual	Case study
Poultry production	2	2	40	18	22	1,2,3	1-6	1-8	1-3	√	√	√	√	√
Beef cattle production			10	6	4	4	1-6	1-8	1-3	√	√	√	√	
Sheep and Goat production			10	6	4	5	1-6	1-8	1-3	√	√	√	√	

### SECOND SEMESTER

Topic	No. of hours /week		Total hours /semester	Hours for lect.	Hours for Pract.	ILOs				T&L. methods				
	Lect.	Pract.				K&U (a)	IS (b)	P.P.S (c)	G.T.S (d)	Lect.	Pract.	Self& active leaning	Audiovisual	Case study
Dairy cattle production:	2	2	28	14	14	7,8,9,10	1-6	1-8	1-3	√	√	√	√	√
Animal breeding			32	16	16	6	1-6	1-8	1-3	√	√	√	√	√