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**Nutrition and Clinical Nutrition (A)**

**Benha University**

**Faculty of Veterinary Medicine**

Program on which the course is given: **Bachelor of Veterinary Medical Science.**

Department offering the course: **Department of Nutrition and Clinical Nutrition.**

Academic year/level : **2<sup>nd</sup> year**

Date of specification approval: Ministerial Decree No 921, on 15/9/1987.

( Then approved in this recent template by department council on 9/1/2010)

**A-Basic Information:**

**Title : Animal, Poultry and Fish Feeding & Malnutrition Diseases**

**Code: Vet 00621 a**

**Lecture : 3 h/W**

**Practical: 2 h/W**

**Total : 5 h/W**

**B- Professional Information:**

**1- Overall Aims:**

The aim of the course is to provide the students with a basic educational knowledge in the field of Animal, Poultry and Fish Nutrition and to enable them to gain the skills and attitudes required for the practice of ration formulation for farm animals and being experienced in animal feed preparation.

**2- Intended Learning Outcomes (ILOs):**

**a- Knowledge and understanding:**

After successful completion of this course the students should have the ability to:-

- a.1. Define basics of animal nutrition.
- a.2. Record the basic knowledge about function, sources and deficiency diseases of nutrients.
- a.3. Describe the basic knowledge about the nutrient requirements of different animal species and its relation with the suitable feedstuffs.
- a.4. Understand the proper use of different feedstuffs in the local environment to achieve maximum animal production.

**b- Intellectual skills:**

After successful completion of this course the students should have the ability to:-



- b.1. Interpret the fitness of feedstuffs for animal feeding.
- b.2. Apply the best method of animal feeding to achieve maximum production and least cost of ration.
- b.3. Plan to solve problems associated with animal feeding.

**c- Professional and practical skills:**

After successful completion of the course the students should be able to:

- c.1. Solve nutritional problems and suggestions to improve the production ability of an animal enterprise.
- c.2. Evaluate the problems of feed preparation and explain the methods of solving in quick and reliable manner.
- c.3. Perform and practices the best and reliable method of ration formulation

**d- General and Transferable Skills**

After successful completion of the course the students should be able to:

- d.1. Solve problems associated with animal nutritional diseases.
- d.2. Be a successful member in a nutritional team for determination of the nutritional status of farm animals
- d.3. Use computers, software and CDs for educational purposes
- d.4. Work in a team during group assignments
- d.5. Communicate with other professional persons in the nutritional field.
- d.6. Conduct a search in digital library
- d.7. Presentation skills: capacity to make oral presentations

**3- Contents :**

Topic	No. of hours	Lecture	Practical
Plant composition	2	2	-
Water	3	3	
The carbohydrates and its metabolism	4	4	-
The proteins and its metabolism	6	6	-
The lipids and its metabolism	6	6	-
Nutritional microbiology	5	5	
Vitamins	10	10	-
Minerals	9	9	
Technical terms	2		2
Evaluation of feedstuffs	8	-	8
Feedstuffs	20	-	20
<b>Total</b>	<b>75</b>	<b>45</b>	<b>30</b>

4- content-ILOs matrix

	Content	ILOs			
		Knowledge and understanding	Intellectual	Professional and practical	General and transferable
1.	Plant composition	a1, a3, a4,	b1, b2,	c1,	d1, d6, d7
2.	Water	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
3.	The carbohydrates and its metabolism	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
4.	The proteins and its metabolism	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
5.	The lipids and its metabolism	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7,
6.	Nutritional microbiology	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
7.	Vitamins	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
8.	Minerals	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
9.	Technical terms	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
10.	Evaluation of feedstuffs	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
11.	Feedstuffs	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7

5- Assessment-ILOS matrix

Assessment	ILOs			
	Knowledge and understanding	Intellectual	Professional and practical	General and transferable
Mid – Term exam	a1, a2,	b1,	c1,	d1, d2, d3,d4, d5, d6, d7
Practical exam	a1, a2,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
Oral exam	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
Final term exam	a1, a2, a3, a4,	b1, b2,b3,	c1, c2 , c3,	d1, d2, d3,d4, d5, d6, d7
Assignments and research	a4,	b3,	c2 , c3,	d1, d2, d3,d4, d5, d6, d7



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## **6– Teaching and Learning Methods**

- 6.1- Lecture and practical notes as well as textbooks
- 6.2- Lectures prepared on PowerPoint presentations and multimedia programs.
- 6.3- Practical lessons prepared on PowerPoint presentations and multimedia programs.
- 6.4. Demonstration of different feedstuffs.
- 6.5. Demonstration of feed analytical methods.
- 6.6. Demonstration of nutritional deficiency diseases of different animal species using slide projector.

## **7- Student Assessment Methods:**

- 7.1. Mid term exam to assess knowledge and intellectual skills.
- 7.2. Practical exam to assess professional and practical skills.
- 7.3. Written paper exam to assess knowledge and understanding.
- 7.4. Oral exam to assess understanding skills, intellectual and transferable skills.

## **Assessment Schedule:**

Assessment 1 : Mid term examination	week 7
Assessment 2 : Practical examination	week 13
Assessment 3 : Written examination	week 15
Assessment 3 : Oral examination	week 15

## **Weighting of Assessments:**

Mid-term examination	5 %
Written examination	50 %
Oral examination	15 %
Practical examination	25 %
Semester work	5 %

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Total	100 %
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## **8- List of References :**

### **8.1.Lectures notes**

### **8.2.Practical notes**

### **8.3.Essential Books (Text books)**

- Basic Animal Nutrition and Feeding (*W.G. Pond; D.C. Church; K.R. Pond*).



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- Animal Nutrition (*P. McDonald*).
  - Nutrient Requirements of Domestic Animals published by *National Research Council (NRC)*.
  - Vitamins in Animal Nutrition (*Lee Russell McDowell*).
  - Laboratory Manual for Nutrition Research (*Gopal Krishna and S.K.han*).

#### **8.4.Recommended books**

- Animal Nutrition.
- Basic Animal Nutrition and Feeding.

#### **8.5.Periodicals, Web sites,..... etc**

- Journal of American Veterinary Medical Association.
- Nutritional Abstract and Review
- Veterinary Bulletin.
- Archives of Animal Nutrition.

#### **9- Facilities Required for Teaching and Learning:**

- Facilities of Student Nutritional Laboratory
- Small Unit of Feed Preparation
- Computer lab and internet connection.
- Unit for experimental and lab animals.

**Course coordinator :**

**Prof. Dr. Nasser Elsayed Abdel-Motaleb Kheddr**

**Head of Department:**

**Prof. Dr. Nasser Elsayed Abdel-Motaleb Kheddr**

**Date:** 9/1/2010