

Course Syllabus

1	Course title	Animal Feeds and Feeding
2	Course number	0602382
3	Credit hours	3
	Contact hours (theory, practical)	(3,0)
4	Prerequisites/corequisites	Principles of Animal productions (602101)
5	Program title	B.Sc. Animal Production
6	Program code	602
7	Awarding institution	The University of Jordan
8	School	Agriculture
9	Department	Animal Production
10	Course level	3 rd year
11	Year of study and semester (s)	1 st semester 2021/2022
12	Other department (s) involved in teaching the course	None
13	Main teaching language	English
14	Delivery method	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
15	Online platforms(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
16	Issuing/Revision Date	13/10/2021

17. Course Coordinator:

Name: Dr. Rabie Irshaid	Contact hours: 10.30 – 14.30 (Sun., Tue., Thu.) , Students are also welcomed at any time but they are encouraged to schedule meetings with me a few hours or 1-2 days in advance.
Office number: 2 - Green house	
Email: r.irshaid@ju.edu.jo	
Phone number: 22418	

18. Other instructors:

Name:
Office number:
Phone number:
Email:
Contact hours:

19. Course Description:

This course introduces the fundamental principles of animal nutrition and gives the students the most needed information concerning the composition of feedstuffs. Main nutrients, feed components, and naming vocabulary will be discussed throughout the semester. This includes water, carbohydrates, proteins, lipids, vitamins, and minerals. In addition, the basics of feed additives and control of feed intake will be covered. The course will also include the basics of digestion and metabolism in farm animals and all in-between differences present.

20. Course aims and outcomes:

A- Aims:

The purpose of this course is to establish an understanding of feed composition, major nutrients digestion and metabolism, and to distinguish clearly between ruminant and non-ruminant animals regarding feeds and feeding.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

Program ILOs*	ILO (1)	ILO (2)	ILO (3)	ILO (4)	ILO (5)	ILO (6)	ILO (7)	ILO (8)
Course SLOs								
(1) know the basic standers of farm animal feeding and the concept of animal nutritive requirements	X							
(2) distinguish the nutritional groups of feed, their chemical structure, and characteristics.	X							
(3) understand the principle of enzymes' work mechanism, activity, and factors that affect their role.	X							
(4) demonstrate basic knowledge of digestion and absorption of nutritional groups for different animal species.	X							
(5) demonstrate basic knowledge of the metabolism of nutritional groups for different animal species.	X							
(6) know how to differentiate between essential and non-essential nutrients.	X							

*** Program ILOs:**

ILO (1): Demonstrate a deep understanding of the basic principles in the various areas of livestock production; including nutrition, physiology, genetics, health and management.

ILO (2): Apply the acquired knowledge in various areas of livestock production.

ILO (3): Utilize critical thinking and logical reasoning in addressing issues related to livestock production.

ILO (4): Communicate effectively with a wide range of related stakeholders and provide appropriate extension services.

ILO (5): Apply the principles of public safety and environmental protection.

ILO (6): Acquire and apply practical skills along with keeping up with recent advances in livestock production.

ILO (7): Identify basic principles of research methodology and evidence-based decision making.

ILO (8): Abide by the professional, ethical and legal considerations relevant to the livestock production.

21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	The animal and its feed. Some feed vocabulary	1	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 1 in McDonald et al. 2011.
	1.2							
	1.3							
2	2.1	Carbohydrates - Classification of carbohydrates. - Monosaccharide and its derivatives.	2	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 2 in McDonald et al. 2011. - Section 1, no.11 in Perry et al. 2004
	2.2							
	2.3							
3	3.1	Carbohydrates - Oligosaccharide. - Polysaccharide and lignin.	2	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 2 in McDonald et al. 2011. - Section 1, no.11 in Perry et al. 2004
	3.2							
	3.3							

4	4.1	Fats - Classification of lipids. - Fats and Glycolipids. - Phospholipids and waxes. - Steroids and terpenes.	2, 6	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 3 in McDonald et al. 2011. - Section 1, no.11 in Perry et al. 2004
	4.2							
	4.3							
5	5.1	Proteins - Amino acids. - Peptides. - Structure of proteins. - Properties of protein. - Classification of proteins. - Nucleic acids and other nitrogenous compounds.	2, 6	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 4 in McDonald et al. 2011. - Section 1, no.12 in Perry et al. 2004
	5.2							
	5.3							
6	6.1	Vitamins - Fat-soluble vitamins. - Water-soluble vitamins.	2, 6	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 5 in McDonald et al. 2011. - Section 1, no.17 in Perry et al. 2004
	6.2							
	6.3							
7	7.1	Minerals - Function of minerals. - Natural and supplementary source of minerals. - Major elements. Trace elements.	2	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 5 in McDonald et al. 2011. Section 1, no.13-16 in Perry
	7.2							
	7.3							
8	8.1	Enzymes - Classification of enzymes. - Nature of enzyme. - Mechanism of enzyme action. - Specific nature of enzymes. Factors affecting enzyme activity.	3	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	Chapter 5 in McDonald et al. 2011.
	8.2							
	8.3							
9	9.1	Digestion - Digestion in monogastric mammals. - Microbial digestion in ruminants and other herbivores.	4	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 8 in McDonald et al. 2011. Section 1, no.5-6 in Perry et al. 2004
	9.2							
	9.3							
10	10.1	Nutrient digestion and the environment.						
	10.2							
	10.3							

11	11.1	Metabolism - Energy metabolism - Protein synthesis Fat synthesis	5	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 8 in McDonald et al. 2011. Section 1, no.6 in Perry et al. 2004
	11.2							
	11.3							
12	12.1	Metabolism - Carbohydrate synthesis Control of metabolism	5	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 8 in McDonald et al. 2011. Section 1, no.6 in Perry et al. 2004
	12.2							
	12.3							
13	13.1	Metabolism - Carbohydrate synthesis Control of metabolism	5	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 8 in McDonald et al. 2011. Section 1, no.6 in Perry et al. 2004
	13.2							
	13.3							
14	14.1	Metabolism - Carbohydrate synthesis Control of metabolism	5	Face to Face	MS Teams + Moodle	Synchronous	Assignments & quizzes	- Chapter 8 in McDonald et al. 2011. Section 1, no.6 in Perry et al. 2004
	14.2							
	14.3							

22. Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Quizzes	20%	Different topics of the course	See the students learning outcomes (SLOs) table	Throughout the semester	Face to Face
Midterm Exam	30%	Topics covered until the end of week 8		9	Face to Face
Final Exam	50%	All covered topics		16 (According to admission and registration unit)	Face to Face

23. Course Requirements

Students should have a computer, webcam, internet connection, account on a specific software/platform...etc.):

24. Course Policies:

A- Attendance policies:

Each student is expected to take their own notes (part from the exam) and to attend class. Absence from lectures shall not exceed **15%**. Students are expected to attend all lectures but if a student is absent from class, it is his responsibility to get the material that was missed. You must get any handouts or notes from your classmates.

B- Absences from exams and submitting assignments on time:

Exams will consist of **multiple choice and some Essay questions**. Exams will cover all material presented for each section. Make-up exams will only be provided for students with an excused absence and supporting documentation. The questions and/or format of any make-up exam may differ from that of the original exam. Scheduling of a make-up exam will vary depending upon available dates/times but **MUST** occur before the next-scheduled exam date.

C- Health and safety procedures:

Students should follow the Jordanian government guide

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Academic dishonesty will **NOT** be tolerated. This includes cheating, fabrication or falsification, plagiarism, abuse of academic materials, complicity in academic dishonesty, falsifying grade reports, and misrepresentation to avoid academic work. For this course, evidence of any form of academic dishonesty will result in all involved students receiving zero points for any associated exam, or assignment

E- Grading policy:

Quizzes and assignments	20%
Mid-exam	30%
Final Exam	50%
Total Points	100%

F- Available university services that support achievement in the course:

Students account on E-learning, and Microsoft teams

25. References:

A- Required book(s), assigned reading and audio-visuals:

1. Perry, T.W., A.E. Cullison, R.S. Lowrey. 2004. Feeds and Feeding. 6th ed., Prentice Hall, Upper Saddle River, New Jersey.
2. McDonald, P., R.A. Edwards, J.F.D. Greenhalgh, C.A. Morgan, L.A. Sinclair and R.G. Wilkinson. 2011. Animal Nutrition. 7th ed., Pearson, London.

B- Recommended books, materials and media:

١. محمد حرب، 2001. مبادئ التغذية. الطبعة الأولى. جامعة القدس المفتوحة، عمان، الأردن.

26. Additional information:

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Name of Course Coordinator: Dr. Rabie Irshaid	Signature: -----	Date: 13/10/2021
Head of Curriculum Committee/Department: -----	Signature: -----	
Head of Department: -----	Signature: -----	
Head of Curriculum Committee/Faculty: -----	Signature: -----	