



**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Animal Production Department**

AP714 Advanced Ruminant Nutrition
Second Semester 2021-2022

Course Catalog
3 Credit Hours. Recent advances in ruminant nutrition, nutrient content of feed ingredients, formulating diet for optimum biological performance (milk and meat), nutritional management of ruminant animals.
<b>Teaching Method:</b> On Campus

Text Book	
<b>Title</b>	The Ruminant Animal-Digestive Physiology and Nutrition
<b>Author(s)</b>	D. C. Church
<b>Edition</b>	1st Edition
<b>Short Name</b>	Ref. 1
<b>Other Information</b>	Prentice Hall, 1988

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref 2	Nutritional Ecology of the Ruminant	P.J. Van Soest,	2nd Edition	Cornell University Press, Ithaca, NY. 1994
Ref 3	Nutrient Requirements of Dairy Cattle	National Research Council	7th Edition	National Academy Press. Washington, DC. 2001

Instructor	
Name	Prof. Belal Obeidat
Office Location	M1L3
Office Hours	
Email	bobeidat@just.edu.jo

<b>Class Schedule &amp; Room</b>
Section 1: Lecture Time: Sun, Tue : 13:00 - 14:30 Room: A3132

<b>Tentative List of Topics Covered</b>		
<b>Weeks</b>	<b>Topic</b>	<b>References</b>
Week 1	Importance of the Ruminant Animal The classifications of Ruminant Animals	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 2	Anatomy and Development of GIT in ruminant Motility of the gastrointestinal tract, rumination, salivation	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 3	Digestion and Rumen Fermentation Process, VFA absorption, and control of rumen fluid pH	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 4	Apparent Digestibility Internal and external markers	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 5	Carbohydrate's fermentation, digestion, absorption, and metabolism Energy metabolism	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 6	Protein fermentation, digestion, absorption, and metabolism	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 7	Fat fermentation, digestion, absorption, and metabolism	From <b>Ref. 1</b> , From <b>Ref 2</b>
Week 8	Intake, and intake regulation in ruminants	
Week 9	Metabolic disorders	From <b>Ref. 1</b> , From <b>Ref 2</b>
Weeks 10, 11, 12, 13	Ration Formulation	From <b>Ref. 1</b> , From <b>Ref 2</b> , From <b>Ref 3</b>
Weeks 14, 15, 16	To understand the use of current National Research Council (NRC) publications in calculating nutrient requirements.	From <b>Ref 3</b>

<b>Relationship to Program Student Outcomes (Out of 100%)</b>			
SLO 1	SLO 2	SLO 3	SLO 4

<b>Policy</b>	
Exams	All exams are closed book and notes. The final exam is comprehensive (covers all the material). Incomplete exams need approval from the department chair
Cheating	Prohibited; and in case of cheating the student will be subject to punishment according to the university regulations

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