

**The University of Jordan**

**Faculty of Agriculture**  
**Department of Animal Production**  
**Bachelor Program: Animal Production**  
**Course Title: Grazing Management (602373)**

Credit hours	Level	Prerequisite
3	Third Year	Management of Natural Rangelands (602272)

**Course Description:**

This course focuses on kinds of grazing lands, objectives of grazing, effects of grazing animals on rangeland ecosystems, defoliation components, factors governing selective grazing, principles of grazing management, stocking rate and grazing capacity, traditional, and commercial grazing systems.

**Learning Objectives:**

1. Provide students with a background on the relationship between the grazing practices and the integrity of rangeland ecosystems.
2. Cover all aspects pertaining to the principles of grazing management.
3. Learn students about methodologies for determination of grazing capacity.
4. Discuss the constraints and opportunities of the traditional grazing practices and their impact on the livelihoods of pastoralists.
5. Emphasize the importance of community-based grazing management for sustainable pastoral animal production in arid regions.

**Intended Learning Outcomes (ILOs)**

**A. Knowledge and Understanding:**

- A1-** Student learns about the different kinds of grazing lands (grazing resources) worldwide.
- A2-** Student learns about the impact of irrational grazing on the components of the grazing ecosystem.
- A3-** Student learns how grazing animals select their food from plant communities.
- A4-** Student understands the cardinal principles of grazing management.
- A5-** Student knows how local communities manage grazing on the communal grazing resources (community-based grazing management or Hima system).
- A6-** Student learns about the main grazing systems that suit arid regions.
- A7-** Student knows about the challenges of grazing management in Jordan.

**B. Intellectual Analytical and Cognitive Skills:**

- B1-** Student is able to connect between the grazing practices and the integrity of a certain grazing ecosystem.
- B2-** Student comprehends all the principles of grazing management aiming for a sustainable and viable pastoral animal production.

**C. Subject-Specific Skills:**

- C1-** Student fully understands the principles of grazing management.
- C2-** Student knows the methodologies for determination of grazing capacity for a certain grazing land.
- C3-** Student knows the bases for selection of a sound grazing scheme.

**D. Transferable Key Skills:**

- D1 -** Student can design a grazing scheme for a certain grazing resource.
- D2-** Student can help in the development of community-based grazing management for communal lands.

**ILOs: Learning and Evaluation Methods**

ILOs	Learning Methods	Evaluation Methods
<b>A. Knowledge and Understanding (A1-A7)</b>	Lectures and Discussions	Exam, Homework, Discussion and Participation
<b>B. Intellectual Analytical and Cognitive Skills (B1-B2)</b>	Lectures and Discussions	Exam, Homework, Discussion and Participation
<b>C. Subject Specific Skills (C1-C3)</b>	Lectures and Discussions	Exam, Homework, Discussion and Participation
<b>D. Transferable Key Skills (D1-D2)</b>	Lectures, Discussions, and Homework	Exam, Homework, Discussion and Participation.

### Course Contents

No. of Lectures	Week	Topic	Reading Assignment	ILOs
2	1	<b>Introduction to Grazing:</b> -Definitions: grazing, grazing management, ranch management. -Objectives of grazing. -Kinds of grazing lands. -Grazing resources	Ch 1, P 1-19	A1
2	2	<b>Grazing effects on plants and soil</b> -Redistribution of soil nutrients -Diversity and productivity of rangeland forage species.	Ch 2, P 20-45	A2
2	3	<b>Plant Selection in Grazing</b> - Palatability factors - Preference factors - Selectivity	Ch 7, P 178-216	A3
4	4 & 5	<b>Basic Principles of Grazing Management:</b> - Proper degree of grazing - Defoliation (intensity, seasonality, frequency and duration)	Ch 11, P 321-35	A4, B1, B2, C1, C2, C3
4	6 & 7	<b>Basic Principles of Grazing Management:</b> - Proper season of grazing - Plant growth curve	Ch 12, P 352-372	A4, B1, B2, C1, C2, C3
4	8 & 9	<b>Basic Principles of Grazing Management:</b> - Proper kind of livestock - Common or mixed grazing	Ch 8, P 217-258	A4, B1, B2, C1, C2, C3
4	10 & 11	<b>Basic Principles of Grazing Management:</b> - Proper distribution of grazing - Spatial patterns in grazing - Manipulating grazing distribution	Ch 4, P 76-101	A4, B1, B2, C1, C2, C3
2	13	<b>Community-based Grazing Management (<i>Hima system</i>):</b> - Concept - Mechanism	ICARDA, IUCN articles	A5, B2, C1, C2, C3, D1, D2
4	13 & 14	<b>Grazing Systems</b> - Basis of classification - Grazing systems for arid and semi-arid land - Grazing systems for humid and semi-humid lands	Ch 13, P 381-418 Ch 14, P 419-453	A6, C1, C2, C3, D1, D2
4	15 & 16	<b>Grazing Management in Jordan</b> - Challenges and opportunities	Local Reports	A7

#### Evaluation Methods:

The course will be structured in lectures, discussions, in-class exercises and home works. Students will be evaluated through three one-hour exams, home works plus a final exam.

Evaluation	Points
1 <sup>st</sup> Exam	15
2 <sup>nd</sup> Exam	15
3 <sup>rd</sup> Exam	15
Home works	5
Final Exam	50
<b>Total</b>	<b>100</b>

## **References**

### ***Textbook:***

"Grazing Management, 1990" by Vallentine, F.J.

"Grazing Management: An Ecological Perspective 1991 by Heitschmidt & Stuth.

### ***Additional References:***

"Rangeland Ecology and Management, 1994" by H.F. Heady and R.D. Child, Westview Press, Boulder, Colorado State, USA.

"Journal of Range Management", Society for Range Management.

"Veld and Pasture Management in South Africa, 1985", by N.M. Tainton, Shuter and Shooter, South Africa.