

Course Syllabus

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|----|---|--|--|
| 1 | Course title | Management of Natural Rangelands | |
| 2 | Course number | 602272 | |
| 3 | Credit hours | 3 | |
| | Contact hours (theory, practical) | (3, 0) | |
| 4 | Prerequisites/corequisites | | |
| 5 | Program title | B.Sc. in Animal Production | |
| 6 | Program code | 602 | |
| 7 | Awarding institution | The University of Jordan | |
| 8 | School | Agriculture | |
| 9 | Department | Animal Production | |
| 10 | Course level | Sophomore/Junior (2 nd /3 rd year) | |
| 11 | Year of study and semester (s) | 2021/2022, 2 nd Semester | |
| 12 | Other department (s) involved in teaching the course | none | |
| 13 | Main teaching language | English | |
| 14 | Delivery method | X Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online | |
| 15 | Online platforms(s) | <input type="checkbox"/> Moodle X Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others..... | |
| 16 | Issuing/Revision Date | February 2022 | |

17 Course Coordinator:

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**18 Other instructors:**

Name:

Office number:

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Email:

Contact hours:

Name:

Office number:

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Email:

Contact hours:

19 Course Description:

The course discusses the concept of rangelands as a type of land, description of rangeland types, main components of rangeland ecosystems, basics of rangeland plant physiology, theories of succession, monitoring of rangeland attributes, calculation of stocking rate, main grazing systems, and discussion of rangelands sector in Jordan.

20 Course aims and outcomes:

A- Aims:

To introduce students to the provisional role (goods and services) of rangelands and highlight the importance of the rational management to achieve the sustainability of rangeland resources and enhancement of pastoral livelihoods.

B- Students Learning Outcomes (SLOs):

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

| SLOs of the course | Program SLOs* | | | | | | | |
|--|---------------|---------|---------|---------|---------|---------|---------|---------|
| | SLO (1) | SLO (2) | SLO (3) | SLO (4) | SLO (5) | SLO (6) | SLO (7) | SLO (8) |
| 1. Gain a good background on the concept of rangelands as natural ecosystems and highlight the goods and services that could be derived from these ecosystems. | x | | | | | | | |
| 2. Explain the irrational practices (drought, uncontrolled grazing, cultivation, and cutting of woody plants) that impact the structure and function of rangelands especially in arid regions. | x | | | | | | | |
| 3. Highlight the importance of understanding the socioeconomic factors that affect the use of rangeland ecosystems. | x | | | | | | | |
| 4. Explain the principles applicable to the management of rangeland ecosystems to insure the sustainability and viability of these systems. | x | | | | | | | |

*Program SLOs:

* 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 | Grazing lands | Describe the different kinds of grazing lands | F-F | M-T | | Exams, quizzes and homeworks | Text Book* and internet scientific sites on animal production |
| | 1.2 | Importance of natural rangelands | Recognize the goods and services of rangelands production | F-F | M-T | | Exams, quizzes and homeworks | |
| | 1.3 | | | | | | | |
| 2 | 2.1 | Rangeland physical characteristics | List the topographic and climate features of rangelands | F-F | M-T | | Exams, quizzes and homeworks | |
| | 2.2 | Rangeland physical characteristics | List the topographic and climate features of rangelands | F-F | M-T | | Exams, quizzes and homeworks | |
| | 2.3 | | | | | | | |
| 3 | 3.1 | Rangeland biological characteristics | List the biotic (plants and animals) features of rangelands | F-F | M-T | | Exams, quizzes and homeworks | |
| | 3.2 | Rangeland types | Describe the different rangeland types | F-F | M-T | | Exams, quizzes and homeworks | |
| | 3.3 | | | | | | | |
| 4 | 4.1 | Rangeland types | Describe the different rangeland types | F-F | M-T | | Exams, quizzes and homeworks | |
| | 4.2 | Rangeland types | Describe the different rangeland types | F-F | M-T | | Exams, quizzes and homeworks | |
| | 4.3 | | | | | | | |
| 5 | 5.1 | Physiology of range plants | Growth stages of grasses and shrubs | F-F | M-T | | Exams, quizzes and homeworks | |
| | 5.2 | Physiology of range plants | Growth stages of grasses and shrubs | F-F | M-T | | Exams, quizzes and homeworks | |
| | 5.3 | | | | | | | |
| 6 | 6.1 | Physiology of range plants | Growth stages of grasses and shrubs | F-F | M-T | | Exams, quizzes and homeworks | |
| | 6.2 | Rangeland ecology | Describe the biotic and abiotic components of rangeland ecosystem | F-F | M-T | | Exams, quizzes and homeworks | |
| | 6.3 | | | | | | | |

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| 7 | 7.1 | Rangeland ecology | List types of succession | F-F | M-T | | Exams, quizzes and homeworks | |
| | 7.2 | Rangeland ecology | Recognize the relationship between succession and management | F-F | M-T | | Exams, quizzes and homeworks | |
| | 7.3 | | | | | | | |
| 8 | 8.1 | Monitoring and evaluation of rangeland resources | List the important attributes and indicators of rangeland resources for monitoring purposes | F-F | M-T | | Exams, quizzes and homeworks | |
| | 8.2 | Monitoring and evaluation of rangeland resources | Plan the monitoring process | F-F | M-T | | Exams, quizzes and homeworks | |
| | 8.3 | | | | | | | |
| 9 | 9.1 | Monitoring and evaluation of rangeland resources | Process the collected data and evaluate the results | F-F | M-T | | Exams, quizzes and homeworks | |
| | 9.2 | Stocking rate theory | List strategies of stocking rates and their effect on sustainability of rangelands | F-F | M-T | | Exams, quizzes and homeworks | |
| | 9.3 | | | | | | | |
| 10 | 10.1 | Stocking rate theory | List strategies of stocking rates and their effect on economics of animal production | F-F | M-T | | Exams, quizzes and homeworks | |
| | 10.2 | Stocking rate theory | Calculate stocking density, stocking rate and grazing capacity | F-F | M-T | | Exams, quizzes and homeworks | |
| | 10.3 | | | | | | | |
| 11 | 11.1 | Stocking rate theory | Calculate stocking density, stocking rate and grazing capacity | F-F | M-T | | Exams, quizzes and homeworks | |
| | 11.2 | Stocking rate theory | Calculate stocking density, stocking rate and grazing capacity | F-F | M-T | | Exams, quizzes and homeworks | |
| | 11.3 | | | | | | | |
| 12 | 12.1 | Grazing systems | Identify the different components of a grazing system | F-F | M-T | | Exams, quizzes and homeworks | |
| | 12.2 | Grazing systems | Recognize the basic criteria for selection of a grazing system | F-F | M-T | | Exams, quizzes and homeworks | |
| | 12.3 | | | | | | | |

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|----|------|----------------------------|--|-----|-----|--|------------------------------|--|
| 13 | 13.1 | Grazing systems | Describe traditional grazing practices in arid regions | F-F | M-T | | Exams, quizzes and homeworks | |
| | 13.2 | Grazing systems | Identify modern grazing systems in arid regions | F-F | M-T | | Exams, quizzes and homeworks | |
| | 13.3 | | | | | | | |
| 14 | 14.1 | Rangeland sector in Jordan | Know the definition, location and area of rangelands | F-F | M-T | | Exams, quizzes and homeworks | |
| | 14.2 | Rangeland sector in Jordan | Identify problems of range management | F-F | M-T | | Exams, quizzes and homeworks | |
| | 14.3 | | | | | | | |
| 15 | 15.1 | Rangeland sector in Jordan | The future of rangelands in the country | F-F | M-T | | Exams, quizzes and homeworks | |
| | 15.2 | Rangeland sector in Jordan | Invited speaker (Head of Directorate of Rangeland and Badia Development) | F-F | M-T | | Exams, quizzes and homeworks | |
| | 15.3 | | | | | | | |

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 |
|--------------------------------------|------|--|---|---|----------|
| Mid-term exam | 30 | Biophysics, ecology and M&E of rangelands | See the students learning outcomes (SLOs) above | Wednesday, 24 November 2021 | F-F |
| Quizzes, homeworks and participation | 20 | Issues related to rangeland sector in Jordan | | To be determined | F-F |
| Final Exam | 50 | All the course material | | According to Administration and Registration Unit | F-F |
| Total | 100 | | | | |
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23 Course Requirements

Students should have a computer and internet connection with an account on Microsoft Teams.

24 Course Policies:

A- Attendance policies: Students are expected to attend all lectures on time. Presence/absence will be recorded during the first 5 minutes of lecture's time.

B- Absences from exams and submitting assignments on time: Makeup exams for absent students will be decided according to the regulation of The University of Jordan. Assignments submitted after due dates will not be accepted.

C- Health and safety procedures: All students must abide by the regulations related to COVID-19 during presence in classrooms.

D- Honesty policy regarding cheating, plagiarism, misbehavior: The UJ regulations will be applied.

E- Grading policy: The articulated grading guidelines above will be the basis for assigning the grades of students' performance in the course. Grades will be awarded in a consistent, equitable, and transparent fashion.

F- Available university services that support achievement in the course: internet and an audiovisual setup.

25 References:

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

Text Book: Range Management: Principles and Practices 6th Edition.

Authors: [Jerry Holechek](#), [Rex Pieper](#), and [Carlton Herbel \(Deceased\)](#)

Publisher: Englewood Cliffs, N.J. : Prentice Hall, ©1989.

Internet: Scientific sites on rangeland management

B- Recommended books, materials, and media:

Local reports on rangeland management in Jordan



26 Additional information:

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| Name of Course Coordinator: Mahfouz Abu-Zanat | Signature: ----- |
| Date: 10/10/2021 | |
| Head of Curriculum Committee/Department: ----- | Signature: ----- |
| --- | |
| Head of Department: ----- | Signature: ----- |
| - | |
| Head of Curriculum Committee/Faculty: ----- | Signature: ----- |
| - | |
| Dean: ----- | Signature: ----- |
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