



**Jordan University of Science and Technology**  
**Faculty of Agriculture**  
**Range Management & Forestry Department**

NR471 Range Development And Protection

First Semester 2018-2019

**Course Catalog**

3 Credit Hours. The course is designed to introduce students to the tools of developing and improving range forage resources such as range seeding, control of undesirable range plants, pitting, furrowing, water spreading and fences. The student should know the ecological principles of range improvements, particularly competition, succession and steps in improving range forage resources to prove the desirable forage species with a competitive advantage for resources. In addition, the student should know the economic basis of range development and improvement

**Text Book**

|                          |  |
|--------------------------|--|
| <b>Title</b>             | II. Range Management Principles and Practices      |
| <b>Author(s)</b>         | 1. Holechek, J. L., R. D. Pieper, and C. H. Herbel |
| <b>Edition</b>           | 3rd Edition  |
| <b>Short Name</b>        | II   |
| <b>Other Information</b> |  |

**Course References**

| Short name | Book name                          | Author(s)         | Edition     | Other Information |
|------------|------------------------------------|-------------------|-------------|-------------------|
| III        | Handout                            | Instructure       | 4th Edition |                   |
| I          | Range Development and Improvements | Vallentine, J. F. | 3rd Edition |                   |

**Instructor**

|                 |  |
|-----------------|--|
| Name            | <b>Prof. Moh"d Khair El-Shatnawi</b>   |
| Office Location | CEL2 17  |
| Office Hours    | Sun : 08:30 - 10:30<br>Mon : 11:45 - 13:45<br>Tue : 09:15 - 10:45<br>Wed : 11:30 - 12:45 |
| Email           | mkhair@just.edu.jo   |

| <b>Class Schedule &amp; Room</b>                                    |
|---|
| Section 1:<br>Lecture Time: Mon, Wed : 10:00 - 11:30<br>Room: C5025 |

| <b>Tentative List of Topics Covered</b> |   |                                 |
|---|---|---------------------------------|
| <b>Weeks</b>                            | <b>Topic</b>  | <b>References</b>               |
| Weeks 1, 2                              | I- Introduction to Rangeland Improvements 1- Role of range improvements 2- Potential of range improvements 3-Selection and Restriction of range improvement 4- Succession type, driven forces and application | From II,<br>From III,<br>From I |
| Weeks 3, 4, 5                           | Planning Rangeland Seeding 1- Deciding to reseed 2- Selecting sites for seeding 3- Species adaptation and selection 4- Single species versus mixture 5- Competition   | From III,<br>From I             |
| Weeks 6, 7, 8                           | Rangeland Seeding-Establishment and Management 1. Why range seeding fail. 2. The Ideal seedbed and seedbed preparation 3. Management after seeding 4. Drought management 5. Dry season management             | From III,<br>From I             |
| Weeks 9, 10                             | Rangeland Improvement by Burning 1. Purposes of range burning 2. Terms 3. Burning effects in soil 4. Burning effects on vegetation  | From III,<br>From I             |
| Weeks 12, 13                            | Rangeland Improvement by Burning 1. Purposes of range burning 2. Terms 3. Burning effects in soil 4. Burning effects on vegetation  | From III,<br>From I             |
| Week 14                                 | Rodent and Insect control 1- Rodent problems 2- Rodent damage and food habits 3- Rodent control 4- Insect problems and their control  | From III,<br>From I             |
| Week 15                                 | Rangeland Fertilization 1- Determining soil deficiencies 2- Fertilizer types and needs 3- Fertilizer application 4- Plant responses to fertilizers 5- Fertilizer and plant nutritive content                  | From III,<br>From I             |

| <b>Mapping of Course Outcomes to Program Student Outcomes</b>  | <b>Course Outcome Weight (Out of 100%)</b> | <b>Assessment method</b> |
|--|--|--------------------------|
| To introduce the basis and principles of rangeland improvement and restoration planning, and to develop an understanding and appreciation for the various rangeland restoration techniques available to managers | 25%  |                          |
| To understand the ecology and practices of rangelands reseeding and or revegetation  | 40%  |                          |
| To allow student to know how to control weed and insect in rangelands  | 15%  |                          |
| To provide understanding rangelands burning and fertilization  | 20%  |                          |

| <b>Policy</b> |
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|---|--|
| Exams,<br>Cheating,<br>Attendance<br>and<br>Participation | <p>The exams will include a variety of questions, true-false, multiple choices, and write short essay questions. Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.</p> <p>Consistent with Jordan University of Science and Technology guidelines, students absent from regularly scheduled examinations because of authorized University activities will have the opportunity to take them at an alternate time. No make-up exams will be given for unexcused absences.</p> <p>Is necessary for the extra grades (bonus)</p> <p>Consistent with Jordan University of Science and Technology guidelines</p> |
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