

## Rangeland Resources and Management (PSSC 330)

Instructor: Dr. Melvin George

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Office Hours: 1 – 2 pm - Monday

Class Schedule: Lecture Monday 2-5 pm Plumas 303

Course Text: Holechek, Jerry, Rex D. Pieper and Carlton H. Herbel. 2004. Range Management, Principles and Practices. 5th Ed. Prentice Hall. 607 pp.

### Course Description:

PSSC 330 - Rangeland Resources and Management is a course that provides a broad overview of rangelands, grazing and rangeland management. The course will cover the history, characteristics and locations of rangelands, range plant physiology, range ecology, rangeland inventory and assessment, stocking rate and carrying capacity, grazing management, range animal production and multiple uses. The course will cover the positive and negative effects of grazing and practices that help insure the sustainability of rangeland ecosystem goods and services.

### Schedule

8/25: Introduction

- Student Knowledge Survey
- Student Experience Survey
- Testing Online Course

### Lectures:

- Rangeland Characteristics (Resources: RngDefChar.ppt)
- Rangeland History (Resources: RngHist.ppt)

### Assignments:

- Complete Experience Survey
- Complete Knowledge Survey
- Video – A World of Grazing
- Read Chapters 1-4 (August 25 lectures)
- Read Chapter 5 (September 8 lecture)

- ❑ Online Lecture - Presentation 1 - Characteristics of Grazed Ecosystems (21 min)
- ❑ Online Lecture - Presentation 2 - Importance of Grazed Ecosystems (7 min)
- ❑ Study Questions – Characteristics, History
- ❑ Study Questions – Range Plant Physiology

**9/1: Labor Day Holiday (class does not meet)**

9/8: Discussion/Questions:

- ❑ August 25 Lectures
- ❑ Online Lecture Presentations 1 & 2.

Lecture:

- ❑ UC Davis SmartSite Use
- ❑ Range Plant Physiology (Resources: RngPlantPhys.ppt)
- ❑ Demonstrate Grass Growth

Assignment:

- ❑ Grass Growth PowerPoint
- ❑ Online Lecture - Presentation 4 - Effects of Grazing on Plants (24 min)
- ❑ Study Questions – Range Plant Physiology
- ❑ Chapter 7: Range Inventory and Monitoring
- ❑ Study Questions – Range Inventory and Monitoring

9/15: Discussion/Questions:

- ❑ September 8 Lectures
- ❑ Online Lecture Presentation 4

Lecture:

- ❑ Rangeland Inventory, Assessment and Monitoring (Resources: RngInv.ppt)
- ❑ Rangeland Mapping and Information Exercise

Assignment:

- ❑ Rangeland Mapping and Information Exercise
- ❑ Study Questions – Range Inventory and Monitoring

9/22: Field Lab: Rangeland Inventory, Assessment and Monitoring

9/29: **Online Lectures (Class will not meet this week)**

Lecture

- ❑ One video
- ❑ Three online lectures (approx 70 min total) – see assignment below

Assignment:

- ❑ Video: The Effects of Grazing
- ❑ Online Lecture: Presentation 3 – Rangeland Ecosystems (36 min)
- ❑ Online Lecture: Presentation 5 – Effects of Grazing on Communities (18 min)
- ❑ Online Lecture: Presentation 6 – Effects of Grazing on Ecosystems (14 min)
- ❑ Chapter 6: Range Ecology
- ❑ Study Questions – Range Ecology
- ❑ Chapter 8: Considerations Concerning Stocking Rate
- ❑ Study questions – Stocking Rate

10/6: Discussion/Questions

- ❑ Online Lectures (Presentations 3,5,6)
- ❑ Rangeland Inventory and Monitoring
- ❑ Mapping and Information Exercise
- ❑ Field Lab (September 22)

Lecture:

- ❑ Stocking Rate and Carrying Capacity
- ❑ Carrying Capacity Calculation Exercise

Assignment:

- ❑ Chapter 10: Methods of Improving Livestock Distribution
- ❑ Carrying Capacity Calculation Exercise
- ❑ Study Questions – Stocking Rate
- ❑ Study Questions – Livestock Distribution

10/13: Lecture (to be arranged)

10/20: Discussion/Questions

- ❑ Stocking Rate and Carrying Capacity
- ❑ Carrying Capacity Calculation Exercise

Lecture:

- Grazing Distribution

Assignment:

- Chapter 9: Selection of Grazing Methods
- Carrying Capacity Calculation Exercise
- Study Questions – Livestock Distribution
- Study Questions – Grazing Management

10/27: Discussion:

- Grazing Distribution

Lecture:

- Grazing Management

Assignment:

- Chapter 11: Range Animal Nutrition
- Chapter 13: Range Livestock Production
- Study Questions – Grazing Management
- Study Questions – Range Animal Nutrition
- Study Questions – Range Livestock Production

11/3: Discussion:

- Grazing Management

Lecture:

- Range Animal Nutrition
- Livestock Production

Assignment:

- Chapter 15: Manipulating Range Vegetation
- Study Questions – Manipulating Range Vegetation

11/10: Discussion:

- Range Animal Nutrition
- Range Livestock Production

Lecture:

- ❑ Manipulating Range Vegetation

Assignment:

- ❑ Chapter 12: Range Management for Multiple Uses
- ❑ Study Questions – Manipulating Range Vegetation
- ❑ Study Questions – Range for Multiple Use

11/17: Discussion/Questions:

- ❑ Manipulating Range Vegetation

Lecture:

- ❑ Rangeland Multiple Uses
- ❑ Rangeland Watersheds and Water Quality

Assignment:

- ❑ Review Study Questions

**11/24: Thanksgiving Week**

12/1: To be arranged

12/8: Discussion/Questions

- ❑ Final Exam Preparation

**12/15: Final Exam Week**

Course Grade

- ❑ Quizzes, Homework, Field Trip – 500 points
- ❑ Final Exam - 500 points
- ❑ A = 900 to 1000 pts
- ❑ B = 800 to 899 pts
- ❑ C = 700 to 799 pts
- ❑ D = 600 to 699 pts
- ❑ F = less than 600 points