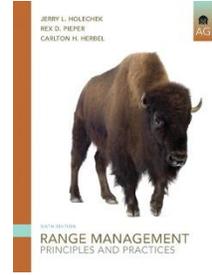


Introduction to Range Management RNG 236
Fall 2020 - 4 credits

Instructors: Dr. Doug W. King and Ms. Jen Obrigewitch MSc., Lab Instructor

Class Meeting Time / Location: 8:30 – 9:45 AM T/TR and 8:30 – 11:50 AM including **Lab** on T, Rooms 101 and 102 West River Campus, Ag Building. **Be prepared for walking outside on lab day.** There is **One all day lab trip** per semester that includes a field test.

Office Hours: Open Door Policy, although appointments recommended. Dr. King is typically in office M,T,TR afternoons. Wed. afternoon is a GIS lab and I am unavailable then.



I. Course Description:

Catalog:

RNG 236 – Introduction to Range Management.....236

Principles of range management includes: fundamentals of plant growth, and stimulation and range evaluation, improvement and planning.

Introduction to modern principles of rangeland management, including: application of ecological principles and social values to management of rangeland resources. Emphasizes: genesis, history, classification, and evaluation of rangelands; plant ecology/physiology; ecology; range animal nutrition; grazing management; indicators of rangeland health; multiple use of rangeland resources; conflict management; collaborative and adaptive management; and contemporary rangeland issues. Also introduces range plants and plant communities which will be emphasized in the Tuesday range lab which will include field work.

Pre-requisites: None. <https://dickinsonstate.smartcatalogiq.com/2020-2021/Catalog/Courses/RNG-Range-Science/200/RNG-236>

Expanded Version:

Arid and semi-arid ecosystems we refer to as rangeland occupy roughly **47%** of the global land mass. Proper management of such a large portion of the earth is critical for its sustainability. **Rangeland is land supporting mainly native vegetation** that is **too arid, rocky, cold, steep, erosion prone etc. for agronomic uses.** **Rangeland must be managed carefully** as a **natural ecosystem** for reasons that are **economic, practical, social,** and of **course due to highly erodible potential** of the **soil by using ecological principles** or tools (such as setting the correct stocking rate, grazing the right species or class of animal, proper grazing distribution and season of use and fire). Rangeland can either be thought of as the scraps of land leftover after farming claimed the best portions or, as an ecological treasure. I prefer the later. Because of the limitations imposed by climates, soils, and topography of many rangelands, the limited amount of management tools and the fragile nature of native rangeland the management of this ecological treasure is neither simple nor straight forward. For every management practice we implement on rangeland, for even the best practices, there is collateral damage, often to animal or plant species we least expected to be impacted. A **sound and ecologically grounded knowledge base is essential to manage rangeland resources.**

This is an introductory but “**keystone**” class for both range management and range plants and plant communities and is intended to prepare you for further range science classes in range plants, grazing management and range planning with the use of GIS software (new class), range vegetation quantification and monitoring, reclamation (also a new class), and rangeland ecology.

II. Recommended Text: Holechek Jerry L., R.D. Pieper, and C. H. Herbel, “**Range Management Principles and Practices**, 6th Ed., 2011, Pearson-Prentice Hall, NJ, ISBN10: **0135014166** . Available in Kindle edition from Amazon.com . We will do problems for class from this book.

Required Reading: Reference Text: **Rangeland Systems**, Processes, Management and Challenges, **Briske David D.** (Editor), 2017, Springer Series on Environmental Management. Open Access, download (currently **free**) at <https://link.springer.com/book/10.1007/978-3-319-46709-2> ; ISBN 978-3319-46707 (print), 978-3-319-46709-2 (online). Ch. 1, Rangeland Systems: Foundation for a Conceptual Framework, by Briske is required reading when this class gets to the Ecology section.



Reference Text: Wild Rangelands: Conserving Wildlife While Maintaining Livestock in Semi-Arid Ecosystems [Johan du Toit](#) (Editor), [Richard Kock](#) (Editor), [James Deutsch](#) (Editor), February 2010, Wiley-Blackwell ISBN: 978-1-4051-7785-6

Supplemental Material: Journal of Range Management, Rangelands, Society of Range Management periodical publications. <http://www.rangelands.org/> , and other sources.

It is highly recommended that students in this class consider attending the **Annual Meeting** of the **Society of Range Management** (usually in February), if there is one in 2021. Typically, one to three DSU, Department of Agriculture faculty attend this meeting, and would all be willing to help students with the logistics of attending. The **DSU Range Club** has in the past conducted a fund raising activity to help with travel costs of **members**.

III. Student Learning Outcomes:

A. University Student Learning Outcomes:

Graduates of Dickinson State University will:

1. Demonstrate knowledge of human cultures, the humanities, the social sciences, the fine and performing arts, and the physical and natural worlds. Rangelands impact not only the large proportion of the global population that resides on them but the entire global population through the goods (food, lumber, minerals) and services (clean air, water, and recreation) provided by rangelands. Students will be presented with, present topics themselves, and discuss important social and ecological impacts of poor range management and conversely the importance of proper management based on ecological principles will be emphasized. Range management is a deceptively complicated mixture of science and art.

2. Demonstrate the intellectual skills of inquiry, mathematical reasoning, quantitative and qualitative analysis,

critical and creative thinking, and problem solving. Students may engage in debates, discussions and town hall style meeting interspersed with the normal lectures and labs to further engage students in critical thinking of rangeland issues on topics as diverse as oil extraction, grazing, wolf reintroduction and topics gleaned from current news sources regarding rangeland issues.

3. Demonstrate written, oral, and visual communication skills, information literacy, and technological skills. Students will demonstrate communication skills via class discussions, presentations etc. such as student presentations of range types of world early in the semester. Technical skills will be accessed on lab and field ID quiz's where students will examine and try to id both live plants and/or plant mounts as to genus, species and common name and late in the semester when students must correctly identify ecological sites and plant communities in the landscape.

4. Demonstrate knowledge of personal and community health and wellness. Since clean water, clean air etc. are vital services of rangeland, along with personal space for recreation, health and wellness will be addressed.

5. Demonstrate responsible ethical reasoning and social and intercultural engagement. Students will engage in ethical reasons as this relates to the goods and services provided by rangelands to immediate users of the rangelands such as grazers and timber harvest and to society as a whole that rangelands are vital for their service role in clean water, clean air and recreation. Since every management practice, even best management practices have collateral consequences and since both public and private lands compose rangelands, ethical questions are part of every basic range management decision and often the greater good for society must be weighed against personal property rights. Students will start out covering development of rangelands and the history of range management especially focusing on resource overuse that lead to modern practices and laws governing rangelands at present. Students will be expected to be more than passive sponges of information but will be asked and expected to provide feedback and their analysis of past and present range practices through conversation in classes and labs.

6. Demonstrate advanced accomplishment in discipline-specific performance. This class is a cornerstone for the advanced rangeland management classes that follow and is intended as a preparation class for students taking the upper level classes.

7. Demonstrate integrative learning across the curriculum.

B. Agriculture Studies Program - Student Learning Objectives:

Agricultural Studies graduates will be able to demonstrate a/an:

1. *The application of basic scientific and economic principles to agricultural production, business, and resource management. (Relates to Institutional Learning Outcome: II)*

The principles behind successful range management are ecologically based and a strong ecological foundation must be developed and evaluated through assignments, exams, discussions and presentations.

2. *The application of production concepts appropriate to the Northern Great Plains region. (II, and VI)*

Students will develop and demonstrate skills in range science/management, range plant identification, plant physiology, and plant growth in the Northern Great Plains accessed through in lab and in field plant identification tasks. Students will also consider beef cattle nutrient needs as influenced by animal age and/or stage of production,

nutrient levels of range plants as affected by growth stage and abiotic factors and management practices to best match the two in mainly the Northern Great Plains.

3. *Oral, written, and graphical communication skills. (Institutional Learning Outcome: III)*

Students will participate in discussions on local, regional, and global range issues which may include debates, oral presentations or written papers.

4. *An understanding of agricultural resource management in a broader global, socioeconomic context. (I and V)*

The importance of rangeland to society in general, the goods and services that it provides regionally, nationally and globally is the main concept presented at the beginning of the class that students must demonstrate an appreciation for in written exams and quiz assignments. Students will demonstrate an understanding of Rangeland types of the USA and the world through oral presentations.

5. *The application of leadership skills necessary for successful advocacy at local, state, regional, and national levels. (IV).*

Students may through individual and group/team presentations communicate to the rest of the class will communicate their understanding, opinions and recommendations on a range management issue.

C. Course Student Learning Outcomes:

1. Upon completion of this course students are expected: to display a **basic understanding of the classification, evaluation, use, and conservation of rangeland resources, and how underlying principles are formed, challenged, and changed over time.** The principles behind successful range management are ecologically based and a strong ecological foundation must be developed and demonstrated through assignments, exams and presentations.

2. Students should be able to demonstrate how basic sciences and social values are applied (or not applied) in the management of rangeland resources. Rangeland issues, such as clean water impact society in general on a global basis.

3. Students are expected to connect new material presented in this course to existing knowledge, while recognizing contradictions, and identifying and challenging misconceptions which will be demonstrated through the comprehensive nature of the exams and the essay or oral portions of the exam and/or assignments.

4. Students may express their reading, communication, and thinking skills for making more informed judgments about rangeland resources issues and expressing oneself by participating in group discussions and in a presentation and Q/A period following a presentation(s).

5. Students should develop an ecology based management view of rangeland management and utilization and foster a conservation minded view of rangeland resources which will be displayed in exams and assignments, plant ID's in the lab and on field trips.

6. Students should develop an appreciation of the multiple uses and pressures on rangeland resources by considering, discussing and/or debating the ecological and management issues and implications behind current news headlines pertaining to rangeland resources from main stream news resources and the Rangeland News portion of Society For Range Management at http://www.rangelands.org/publications_brochures.shtml or other natural

resource news sources.

7. In order to successfully complete this class students will need to be able to **correctly identify 30 to 40 common range plants** and relate them to their prospective plant communities in the lab and/or in the field. Quizzes will occur both in the field and in the lab utilizing plant mounts.

IV. Course Content:

This class is **split between a lecture/discussion session and a lab (plant identification, ecological sites, and communities) or field time** for the **majority of the semester** with **Thursday typically** being the **class room time** and **Tuesday alternating between class and lab or field time**. That being said *there will be number of weeks that are only class room time and one week where it is one or two **daylong field trip** and **lecture times may swap with lab times if the weather dictates it***. And for those that have taken a class from Dr. King in the past may know that he does not always follow the text book. However, this is an introductory class and the **text book** utilized in this class is a well written and thought out work by three very knowledgeable men which includes an excellent set of **questions/definitions per chapter**. The text book will be followed for roughly **8 chapters** with supplemental outside material being provided or searched for as an assignment. Ms. Obrigewitch has built up an extensive plant mount collection in the lab that will be used in the class lab along with field trips.

- Initially the instructor(s) and each student will introduce themselves then review the syllabus, cover class rules and expectations. I will ask the students to participate in defining: rangeland, range management, range science, and ecology. **Rangeland and Man** (Ch. 1) focusing on **definitions of Rangeland, Ecology, Ecosystem, Range Management**, Range Science and Rangeland Genesis and Morphology will be covered the first two weeks with discussion, brief powerpoint display and study questions and definitions assigned.
- Initial **labs** will include field trips to local range sites and plant mount identification in the lab. A **day-long** field trip to a ND or MT ranch and/or USDA-ARS research station will occur in late Sept. or early Oct.
- **Identification** of common North Dakota range plants and communities is covered in the lab and field trip portions of this class. Students will be expected to be able to correctly identify 30 to 40 common ND range plants for successful completion of this class.
- **Rangeland History** (Ch. 2) from the text and other sources, and the Characteristics and Ecology based Management that range management is based on are covered. There is a longer Rangeland History powerpoint set for this portion than typically presented since a sequential timeline is followed. “**Tragedy of the Commons**” (as defined by Aristotle and much later applied to rangeland by Harding) and **Desertification** are important concepts emphasized. Study questions and assignments are part of this portion as well as a brief student generated report on the influence on American Rangelands of such things as westward expansion of the railroads, homestead acts, barbed wire (Devil’s Rope), JD plow, Sharps Buffalo rifles, Winchesters and Colts, disappearance of the buffalo, and open range.
- Ch.’s 3, **Rangeland Physical (Abiotic) Characteristics** and Ch. 4, **Description of Rangeland Types** are looked at together with **soils, climate and topography** influences emphasized. Selected study questions accompany this class portion. *Students may if time and Covid permit, choose a rangeland type and briefly*

present about it in class for a portion of their grade, the instructor will add comments about each range type.

Why are **soils** so important in Range Management?

The **First Major Exam** should appear somewhere at this time. **Mid-terms** are **scheduled** for **October 12-16** but this exam should occur a week earlier or so than that.

- Plant **Physiology** and **Morphology** as Related to Plant Growth and response to grazing are covered by Dr. Pieper in Ch. 5 of the text book and we will concentrate of the text for this portion of the class.
- **Managing Grazing** to Manipulate Grass Growth and grazing Optimization theories are also covered in Ch. 5 but will be expanded upon from there in class.
- Ch. 6 on **Range Ecology** will have been covered some in the first couple of weeks of class but the remaining portion of that chapter will be the focus of one week of class and is the main focus of RNG 458 Rangeland Ecology taught in spring semesters. It is during this section that Briske, David D., **Rangeland Systems** Ch. 1 is required reading. It is available free online at: <https://link.springer.com/book/10.1007/978-3-319-46709-2> .
- **Range Condition & Health** including State and Transition Model (**ST**) and Ecological Site Descriptions (**ESD**), **Indicators of Range Health** will be presented (powerpoint) and discussed from material compiled by Dr. King and class will also utilize online resources of the NRCS and or input from range professionals.

Expect a **second major exam** around this time and/or a student **group presentation** or other major class assignment.

- **Stocking Rate** Determination and Utilization will include a stocking rate problem. This is often presented by **Mr. Toby Stroh** as a guest in this class.
- Ch. 7 **Range Inventory** and **Monitoring** is partially covered in field trips and in the ST/ESD portion of class and is the main focus of another RNG class taught by Mr. Stroh.

Depending on time the following topics will be briefly covered

- **Plant** and **Animal Inter/Intra Relationships**, **Range Animal Nutrition**.
- **Grazing Systems** and Management (now a complete class on its own).
- **Indicators of Range Health** (if not already covered along with ST/ESD). Often covered by a guest from NDSU, Dr. Kevin Sedivick

Final exam will be comprehensive and include material from both the lecture and labs.

Final Exam; is likely Wed. 12/16/2020 at 8:00 AM if the exam schedule follows what was done in previous years.

V. Teaching Strategies:

A. The **co-instructor's** of this class plan to utilize an eclectic mixture of teaching methods for this class including: traditional lectures with supporting power points, Q/A sessions utilizing the text book, whole class and small group discussions, possible town hall type consensus building on a current range topic (such as the value of prairie dogs), quizzes both to test what has been covered but also pre-quizzes to introduce important concepts and principles. Plant ID and morphology labs and field trips will be a large component of this class as are review questions presented in a "Jeopardy" game format. Individual student chapter questions, reading assignments, a pre-graded prior to hand-in technical paper(s) and hopefully student presentations will also contribute to this class, time

permitting.

B. Research and data utilized in this course comes mainly from the Society of Range Management and its two publications: “The Journal of Range Management”, and “Rangelands” and the textbooks by Holechek and the recent one by Briske et al. 2017 available free online at: <https://link.springer.com/book/10.1007/978-3-319-46709-2> .

VI. Assessment of Students:

Student Responsibilities:

1. Participate in class and keep current with lecture notes.
2. Attend all labs or field trips unless health problems or previously excused and assigned makeup material.
3. Successfully complete exams, presentations, labs & assignments.
4. Read assigned text and handouts, complete assignments on time.

Evaluation:

Approximate Points

Midterm and final exams	1000
Range Plant and Other Labs	400
Range field trip(s)	400
Chapter questions / definitions 5 to 8	160
Abstracts 2 at 25 (1 from Journal of Range Management)	25 to 50
Technical/Scientific Paper / Presentations	100
Consensus-building town hall meeting Facilitators, or debates.	50
Misc. Assignments -Problems (Stocking Rate,)	50
Attendance/Participation	<u>50</u>
Approximately Total	2000 to 2200

Exams/Major Assignments = approximately 50% of grade, Lab = 30% to 40%, other roughly = 10 to 20 %

Letter grade A is typically assigned to excellent work which equates to 90 %+ grade level.

Letter grade B is above average work generally equated to achieving a grade of approximately 80%+.

Letter grade C will be given to a student submitting average work.

Letter grade D usually is marginal performance.

Letter grade F is a grade level below 50% where the student missed handing in work and/or exhibited a lack of comprehension of the material on exams and/or failed to correctly identify the majority of the 40 plants in the lab portion of the class and the student will not pass this course.

EXAMS: The **midterm exam(s)** and **final** exam will cover material presented in **lecture** and **discussion** periods, **lab/field trips** (yes **lab questions are on the exams**), required **readings**, and **guest** presentations, it is all fair game for an exam. You may even get “what-ifs” questions on the exam on issues that were not discussed in class but that you should be able to reason through based on theories and material presented in class or assigned as reading assignments.

Exams will be **comprehensive** and comprised of multiple choice, true-false, short answer, essay, and/or problem solving questions. Some exam answers will require more than simple regurgitation of facts, ideas, and principles; i.e., they will **require you to apply concepts to a new situation**, to interpret and evaluate data, assumptions and evidence, to draw inferences, and to make decisions and judgments. There is generally an instructor lead review for each exam before the scheduled exam, although due to time restraints it may not be during the scheduled class time.

HOMEWORK ASSIGNMENTS: There are class **homework** and **lab** assignments required for this class. Four or five may require you to do research on a subject of your choice (within broad categories). For instance, the first assignment is to write a report on a rangeland region or type (i.e. Shortgrass prairie). Students may choose a region/type of most interest to them to present, if Covid and time permits. Another assignment may be a stocking rate calculation problem. Most assignments will be due about a week after they are assigned. The assignments and due dates are indicated on each assignment. Typically on Thursday, after mid-terms we rotate through the students who will be responsible for a current discussion topic and to lead the discussion to take up part of the Thursday class. Any range topic from cattle grazing to wolf reintroduction to the great value of prairie dogs is fair game.

Writing Assignments and/or Presentation: Depending on time, I would like to try a non-traditional approach to scientific and technical writing in this course. This class is still under development but the general idea is to write shorter paper(s) and that a well-developed draft of the paper be handed in for constructive critique and then be handed back to the student who will then make corrections they deem worthy and then hand in the final paper for a grade. The goal is to provide some rapid feed-back to improve the writing and not just to put a grade on a paper. The feedback on the draft may be written and/or verbal. Plans are for at least one and maybe three writing assignments including some papers and/or homework assignments. One writing assignment may be longer than the others and there likely will be professional memo/email writing exercises in some labs. There will be at least one team/group presentation towards the end of the semester. There may be student presentations on the Range Types chapter.

Lab: Lab grade will amount to roughly **30% to 40%** of the class grade and will include field trips, in lab room plant ID (40), writing assignments and during the last ¼ of the semester and possibly one town-hall consensus meeting will be conducted with students as facilitators.

Optional depending on time: Town-Hall and/or Group Presentation: Range management is no longer just about cows, mines and timber. Many complex and emotional issues are connected with range management. The goods and services provided by rangelands impact the lives of all people and fauna inhabiting the earth. Food, fiber, minerals of course are still major goods but; clean air, clean water, outdoor recreation, wildlife habitat and more are critical issues in range management. Issues such as the reintroduction of wolves, prairie dogs (keystone species), oil well drilling fracking, open pit mines, and diversion of water to urban areas at the expense of fish and associated aquatic inhabitants are all current and very contentious issues in range management. Starting mainly with the “Spotted Owl”/Stop Logging Old Growth Forest dispute the USFS turned to “town-hall” consensus building meetings which continues to be the management model adopted by all US gov’t land management agencies at present.

A team of 2 (maybe 3) students during class/lab time will research a current hot topic of interest to them, briefly present it to the class and then act as facilitators trying to build a consensus on the issue with Pros/Cons, Goals/Objectives, and Action Statements or Plan written on large flip paper boards or on power-point. This grade will be equivalent to a mid-term exam grade and will not be a present but a earned grade.

Current Topics: each student will be responsible for a topic of discussion in at least one class. Students will be responsible for casually introducing the topic (it may be from a newspaper or online or journal article) and initiating the 20 minute discussion. Graded for suitability of topic. This is a discussion not a presentation.

Missed Handouts, Notes, Assignments

When you miss class please check with a classmate for notes, handouts, etc. Copies of handouts will posted on the **J** drive or **Blackboard** but missed quizzes, labs, etc. may not always be online unless **Covid** changes everything.

Please check these sources prior to contacting the instructor.

DSU Attendance Policy (these rule are for normal circumstances, Covid-19 is Not Normal Circumstance)

Attending class and obtaining handouts and assignments is your responsibility. *Students are expected to attend all scheduled classes and labs.* Any regular deviation from the general policy must be approved by the instructor and the Vice President for Academic Affairs. Excused absences fall in the following categories:

Academically related and institutionally sponsored activities will be excused. The **student** must notify each instructor **prior** to the activity.

OK, it is noted that this will likely not be a typical semester and the above rules do not apply, however, **communication** via email (preferred) or text is expected if a student will not be able to attend a F2F class or lab.

All other absences must be cleared with the individual instructor. It is the instructor's decision to determine if the absence is excused or unexcused. The student assumes the responsibility of personally contacting his or her instructor and for completing any assignments missed due to an absence from class. Attendance will be taken.

Instructor Expectations

Class participation and discussion provides learning, a significant amount of which cannot be evaluated on exams. Thus, approximately 10% of the total points will come from classroom participation. **Attendance will be taken by means of a sign-in each day. Random verifications will be made - a person signed in when absent will result in a deduction of ten days attendance points.** Excused absences will be marked with an "E" and not deducted from the percentage. **Field Labs Can Not be Made Up Online.**

Missed tests, quizzes, or other assignments are normally not allowed to make up or turned in late. The exception to this would be for an **excused** or **health related** absence as defined in the student handbook and above.

Without a valid reason; any assignments handed in one week late will have 25% of the total potential points taken off prior to grading, two weeks late, 50%, over two weeks late, forget about it.

MISSED EXAMS, ASSIGNMENTS, PRESENTATIONS, SCHEDULED QUIZZES:

Again, Covid-19 Over-rides the following rules.

Unexcused: no makeup.

In the case of an **excused** absence arrangements for a scheduled exam or assignments are expected in advance for a planned absence. **Hand assignments in beforehand.** Unplanned absences such as illness may require arrangements prior to returning to class. Please note that make-up exams will **not** be identical to the exams taken by your class-mates. If you've had longer to study, the exam should be correspondingly longer, right?

MISSED POP QUIZZES

Unexcused: no makeup

Excused: Either these may be made up (student must contact instructor within working day of return) or recorded as an 'excused' in which case the student has one less quiz than everyone else and that many fewer possible points.

This will be decided between the instructor and student, depending on the nature of the quiz.

VII. Accommodation for Disability

Of course all effort will be made by the instructors to provide a comfortable and effective learning environment for all students. Students with disabilities who believe they may need special accommodation in this course are strongly encouraged to contact the Instructor and the **Disability Services Specialist**. Truly, I want you to be successful in this course so please do not hesitate to discuss any matter with my-self.

Students with disabilities who believe they may need an accommodation in this course are encouraged to contact the Disability Services Specialist at 483-2686 in the Student Opportunity and Resource (SOAR) Center to ensure that accommodations are implemented in a timely fashion.

VIII. Covid-19:

Covid is the wild card this fall:

1. DSU policy is that students are expected to wear a **mask** in class whether social distancing is possible or not.
2. Students are to stay home if they display any symptoms of Covid-19, are tested positive for Covid, or believe they have been exposed to the virus. Students should notify their faculty as soon as possible if they are needing accommodations.
3. This course may be subject to change in modality (delivery method) due to Covid.
4. There will be no penalty for the lecture portion of the class for students who attend remotely and fulfill course requirement on time. However, the lab and field trips can not be duplicated online.
5. If the lab portion cannot be completed by the student this semester and incomplete "I" may have to be awarded and the lab portion to be completed at a later date. This is still under consideration.

VIII. Course Communication

Course communication is important in this class as due to the sometimes uncooperative ND weather, field trips may have to be occasionally changed. University policy requires students to **use the DSU email accounts for correspondence in a face to face course**. On a practical note, in "peoplesoft" your DSU email account is linked into each class roster making it faster and easier to contact students and also ensure that no one is missed on a class notice. You may be able to set the DSU account to auto forward to your other email accounts, check with computer services if you are interested in doing that.

IX Student Conduct

ACADEMIC INTEGRITY: Each student has the right and duty to pursue his/her academic experience free of dishonesty. Honor means a higher level of conduct is expected and required from University students and the professionals that you soon will become. **Cheating and/or plagiarism¹ will not be tolerated in this class.** Be young men and women of Honor. Honor and Respect are hard earned but easily lost. **Respect and Character are worth so much more than a couple extra points on an exam.** The instructors have the right to assign an "F" for cheating.

¹“What is plagiarism?”

“Plagiarism, believe it or not, comes from a Latin verb that means, “to kidnap.” If you plagiarize you’re kidnapping and stealing others’ hard work and intellectual property.” DSU does have software to check for plagiarism.

from: http://www.wadsworth.com/english_d/special_features/plagiarism/definition.html

RESPECT

- a. Turn assignments in on time
- b. Make up work as expected when expected.
- c. Come to class on time. Arrange for **someone** to pick up handouts if you are gone.
- d. **Treat others with respect including:** Guest Lecturers, Resource Management or Ranch Managers during field trips, Instructor/Student, Student/Instructor, Student/Student. **Respect = Professional Demeanor**, develop it now.

Respect should flow both ways so, if you ever feel that either instructor is not addressing you with respect please do not feel intimidated to discuss that with us, the professors.

X. Campus Violence/Sexual Harassment

Dickinson State University is committed to providing a positive respectful and productive work/learning environment. The DSU Campus Violence / Sexual Harassment Policy and reporting guidelines are found in the DSU Student Handbook. **Campus policy and dissemination follows federal law and is guided by the U.S. Dept. of Education, Office of Civil Rights.**

Tentative Class Schedule Fall 2020: Note Classroom time is typically Tues and Thur at 8:30, with the lab being on Tues. following class time. However, due to weather and/or scheduling of field trips the lab is sometimes in the Thurs class period and classroom time is doubled up on Tues. Early in the semester both class and lab time on Tuesday will often be used for lab time. Meaning, we will try to double up on in the field lab time early in the semester when the weather is generally nicer. **Wear proper clothing and footwear for walking in rangeland on both days starting at 8:30.**

At least *one lab trip (September/October) is an all-day lab trip from 7 am until 5 pm.*

Wed Aug. is typically an – Ag Department Family Welcome Picnic depending on Covid-19.

Lab schedule handed out during the first lab.

Lecture Schedule:

Ch. 1 Rangeland and Man

- Rangeland Genesis and Morphology. **SRM.** Definitions of Rangeland, Range Management, Ecology etc.

Ch. 2 Range Management History

- Rangeland History, Characteristics and Ecology based Management, Important Laws impacting range management like the game changers: Homestead Acts, Taylor Grazing Act, Multiple Use, Endangered Species.

Ch. 3 Rangeland Physical Characteristics

- Abiotic factors: climate (precipitation, temperature), topography and soil factors and their impacts on land type,

use and production capability, and influence on management.

The **First Major Exam** should appear somewhere at this time. **Mid-terms are scheduled for 3rd week of October** but this exam should occur a week earlier or so than that.

Ch. 4 Description of **Rangeland Types**

- Major rangeland types globally, but mainly focused on N. America.

Heads up, this Ch. may include a short technical paper on a specific Rangeland Type and brief presentation from students versus an instructor presentation. Again, time and Covid-19 may throw a wrench in to these plans.

Ch. 5 Range **Plant Physiology** and Ch. 6 **Range Ecology** and Material from other sources including **Briske et al.**

- Plant **Physiology** and **Morphology** as Related to Plant Growth and response to grazing, some which will be covered in labs.

Other sources than the text will be used for much of the following:

- Managing Grazing to **Manipulate Growth and/or Quality of Vegetation.**
- **Ecology**, Clements Paradigm based on succession and Range Condition/Range Trend (Dyksterhuis, 1949) versus Ecology based **State and Transition Model** and **Ecological Site Descriptions (ST/ESD's)**.
- **Range Sites and Ecological Sites.** Reading Discussion of Ch. From the 2017 Briske text.
- **Range Health**

Expect a **second major exam** around this time and/or a student group presentation or other major class assignment.

- **Stocking Rate** Determination and Utilization, both lecture and a stocking rate problem with a guest.
- **Plant and Animal** Inter/Intra Relationships
- **Grazing Systems** and Management
- **Indicators of Range Health.**
- **Identification** of common North Dakota range plants and communities.
- Dependent on *Time* and *Student Interest*: Inventory, Stocking Rates (lab), Grazing Systems, Range Animal Nutrition, Wildlife Management, Range Ecology in Developing Countries, and the future of range management. Some of this last list will may be covered by technical writing and/or Town-Hall meetings. Wildlife issues such as wolves, prairie dogs, sage grouse and environmental issues of energy extraction typically are topics chosen by students for the Town-Hall meeting and/or class discussion they lead. Thursdays will include open time for students if they take the initiative.

Final Exam; typically on Wed. at 8:00 AM



Tentative Lab Schedule: Handed out during initial lab. Note; **all day Ranch Trip in September/October, 2020.**

Dickinson State University
Academic Calendar
2020
Fall Semester

- August 24 Monday Residual registration/Classes begin – 3:00 p.m. (m.t.)
27 Thursday Last day to add a first eight-week course/Last day to drop a first eight-week course w/o academic penalty (“W”) course w/o academic penalty (“W”)
- September 1 Tuesday Last day to apply for fall 2020 graduation
2 Wednesday Last day to add a 16-week course/Last day to drop a 16-week course w/o academic penalty (“W”)
7 Monday Labor Day Holiday
21 Monday Enrollment census date
30 Wednesday Last day to drop a first eight-week course
- October 12-16 Monday-Friday Mid-term examinations
19 Monday First day of second eight-week courses
23 Friday Last day to add second eight-week course/Last day to drop second eight-week course w/o academic penalty (“W”)
- November 11 Wednesday Veterans Day holiday
9-13 Monday -Friday Pre-registration for online and TRIO students
13 Friday Last day to drop a 16-week course/withdraw for semester
16-19 Monday-Thursday Pre-registration for returning students
24 Tuesday Thanksgiving recess begins after evening classes
25-27 Wednesday-Friday Thanksgiving holiday
30 Monday Last day to drop a second eight-week course
- December 11 Friday Last day of regular classes
14-18 Monday-Friday Final examinations
18 Friday Semester ends/Commencement
23 Wednesday Final grades due – 8:00 a.m. (m.t.)

<https://dickinsonstate.smartcatalogiq.com/2020-2021/Catalog/Courses/RNG-Range-Science/200/RNG-236>