COURSE SYLLABUS

Rangeland Ecosystem Assessment and Monitoring (REWM 4330)

Fall Semester 2011

- M 11:00–11:50 AM – Health Science 463 – Sections 1 and 2
- M (field lab) – 1:10–5:00 PM – AG 1032 [or field] – Sections 1 and 2
- W (computer lab) – 11:00–11:50 AM – Classroom Building 225 – Section 1
- W (computer lab) – 12:00–12:50 PM – AG 328 – Section 2

Instructor Information:
  Instructor: Jeffrey L. Beck
  Phone: (307)-766-6683
  Office: AG 2005
  E-mail: jlbeck@uwyo.edu
  Office Hours:  Wednesday 1:00–2:00 PM
  Tuesday 10:00 AM –12:00 PM

Teaching Assistant Information:
  Graduate teaching assistant: Kurt Smith
  Office: AG 1012
  E-mail: ksmith94@uwyo.edu
  Office Hours: TBA

Prerequisites:

Quantitative courses such as MATH 1000 and STAT 2050; REWM 2000

Course Description:

*Rangeland Ecosystem Assessment and Monitoring* is a required course for undergraduate students majoring in Rangeland Ecology and Watershed Management and is very applicable for students majoring in Agroecology, Animal and Veterinary Sciences, Wildlife and Fisheries Biology and Management, and other ecological disciplines. The official course description is “Inventory and analysis of rangeland resources' vegetation; as well as concepts and techniques for utilization, condition, trend and suitability determination.” Consequently, there will be an emphasis on quantitative and theoretical concepts forming the basis of rangeland monitoring and assessment including appropriate measurements, analyses, applications, and reporting results. The course is fundamentally designed as a field course where we will collect vegetation and other samples from the field and then summarize, analyze, and report our findings. We will have indoor labs as the semester progresses and/or weather become unsuitable for field sampling.
Disability Statement:

If you have a physical, learning, or psychological disability and require accommodations, please let me know as soon as possible. You must register with, and provide documentation of your disability to University Disability Support Services (UDSS) in SEO, room 330 Knight Hall.

Objectives/Outcomes/Standards:

Course Objectives

1. To gain an understanding of the central concepts and theory used in rangeland ecosystem assessment and monitoring
2. To become competent in statistical and graphical approaches to describing and summarizing rangeland vegetation measurements
3. To encourage further learning about rangeland ecosystem assessment and monitoring

Student Responsibilities

1. Participate fully in all class discussions, field labs, and in-class labs
2. Read assigned material before class
3. Turn in assignments on the respective due dates

Classroom Policies

1. Students are expected to: be on time, participate in field and in-class labs, read literature before class, and participate in discussions
2. Academic honesty and integrity are University Policies. Failure to maintain these standards may result in a failing grade and/or referral to the Dean of students
3. Derogatory language or behavior based on race, gender, religion, political affiliation, sexual orientation, or physical or mental abilities is not appropriate for class

Text(s) and Readings:

Required Textbooks (Note: I have provided the required sections from both interagency manuals [see below] in the course packet). You will be responsible to read this material and be tested accordingly.


Copies available from:
Bureau of Land Management
National Business Center
BC-650B
P.O. Box 25047
Denver, Colorado 80225-0047

**Additional Readings**

To enhance your educational experience, I have provided relevant, copyrighted readings in REWM 4330 course packet. You will be responsible to read these articles and will be tested accordingly.

**Course Requirements/Assignments:**

**Grading Standards**

Grades will be assigned on the basis of percentage of total points earned.

- A = >90%
- B = 80–89%
- C = 70–79%
- D = 60–69%
- F = <59%

**Assignments (Note: I may provide extra points via in-class assignments)**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Number</th>
<th>Point Value</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data provided by groups*</td>
<td>8</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>Hand calculations/short write-ups</td>
<td>5</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>Excel lab reports</td>
<td>4</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>Group presentations and abstract</td>
<td>1</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>First exam</td>
<td>1</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Second exam</td>
<td>1</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Third (final) exam</td>
<td>1</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
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<td><strong>1,000</strong></td>
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**Late Assignments**

Reports and assignments are due at the beginning of class on assigned due dates. Reports and assignments will lose a half letter grade if submitted later that day, and will not be accepted more than 1 day past the due date. However, I will make accommodations for valid emergencies.

*I will deduct 10 points per lab assignment for those groups that do not turn in their summarized data on time.
Attendance/Participation Policy:

1. Absences result in poor performance on assignments and exams, so please attend each class.
2. University sponsored absences are cleared through the Office of Student Life.
3. Other absences must be cleared through me.

Academic Honesty:

The University of Wyoming is built upon a strong foundation of integrity, respect and trust. All members of the university community have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated [from the UW General Bulletin]. Teachers and students should report suspected violations of standards of academic honesty to the instructor, department head, or dean. Other University regulations can be found at: http://uwadmnweb.uwyo.edu/legal/universityregulations.htm

Course Outline:

<table>
<thead>
<tr>
<th>Week*</th>
<th>General Topic</th>
<th>Specific Topic</th>
<th>Assignment**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–Aug 22, 24</td>
<td>Basic sampling</td>
<td>Basics of sampling, statistics, graphics, reporting</td>
<td>Sampling</td>
</tr>
<tr>
<td>2–Aug 29, 30</td>
<td>ESDs</td>
<td>Ecological site descriptions, writing assignments</td>
<td>ESDs (30)</td>
</tr>
<tr>
<td>3–Sep 7</td>
<td></td>
<td>Labor Day (Sep 5); catch up or get ahead (Sep 7)</td>
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<tr>
<td>4–Sep 12, 14</td>
<td>Herb cover</td>
<td>Herbaceous cover and biodiversity (grass samples)</td>
<td>Cvr (30); Cvr (100)</td>
</tr>
<tr>
<td>5–Sep 19, 21</td>
<td>Riparian assessment</td>
<td>Riparian assessment and SamplePoint</td>
<td>Riparian (30)</td>
</tr>
<tr>
<td>6–Sep 26, 28</td>
<td>Phytomass</td>
<td>Above-ground herbage productivity</td>
<td>Herb production (100)</td>
</tr>
<tr>
<td>7–Oct 3</td>
<td>Shrub cover</td>
<td>Exam 1 – Oct 3 (mid-term grades loaded by Oct 26)</td>
<td>Exam 1</td>
</tr>
<tr>
<td>8–Oct 10, 12</td>
<td>Utilization</td>
<td>Shrub cover and density</td>
<td>Shrb cvr &amp; dens (100)</td>
</tr>
<tr>
<td>9–Oct 17, 19</td>
<td>Wildlife habitat</td>
<td>Livestock utilization</td>
<td>Utilization (30)</td>
</tr>
<tr>
<td>10–Oct 24, 26</td>
<td>Frequency</td>
<td>Big game winter range carrying capacity</td>
<td>Wildlife habitat (100)</td>
</tr>
<tr>
<td>11–Oct 31, Nov 2</td>
<td>More stats</td>
<td>Frequency and ground cover</td>
<td>Freq (30)</td>
</tr>
<tr>
<td>12–Nov 7, 9</td>
<td>Selection</td>
<td>Exam 2; more on stats, quadrat shape/size</td>
<td>Exam 2</td>
</tr>
<tr>
<td>13–Nov 14</td>
<td></td>
<td>Resource selection and preference</td>
<td>Selection</td>
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<tr>
<td>14–Nov 21</td>
<td></td>
<td>Thanksgiving Break – 11:00–11:50 AM on Monday only</td>
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<tr>
<td>15–Nov 28, 30</td>
<td>Condition//trend</td>
<td>Rangeland health, condition, and trend</td>
<td>Group present (60)</td>
</tr>
<tr>
<td>16–Dec 7</td>
<td></td>
<td>Final Exam – Wed, Dec 7 (10:15 AM –12:15 PM)</td>
<td>Final Exam</td>
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</tbody>
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Underlined Mondays = UW Fleet Services 9-passenger SUVs to access field sites.

Bolded Mondays = UW TransPark 50-passenger bus to access field sites.

*Labs held on the USDA Medicine Bow-Routt National Forest.

**Assignment distributed this week; due dates will be assigned at this time.