Format:

This course is comprised of a 1 hr lecture twice a week, and a 2 hr discussion section once per week. Lectures are given by the instructor, following the Course Outline in large part, but also swerving into other lanes to meet the needs and interests of the students. I would encourage all of you to provide me with topics of particular interest to you and hopefully we can weave them into both lecture and discussion.

The discussion section will focus on weekly readings - again assigned by the instructor. Papers for the week's discussion section will be available the Thursday prior to discussion, and can be found in the box outside the Biology Department office. Everyone will be responsible for reading the papers. Each week, a different student will be assigned to lead the discussion. In this discussion, the student will present a brief overview of paper, hopefully relating the content to lecture material. This is followed by a discussion of the methods, results and discussion - pointing out various pros/cons of the methods, and emphasizing what he/she feels are the most significant results.

You will be "graded" on how prepared they are for discussion, and, if they are leading the discussion, how well they review the paper and generate discussion among the group.

Grading Policy:

While grading in graduate courses is often viewed as an annoyance, it nevertheless is a fact of life. This notwithstanding, there is nothing like the threat of an impending evaluation to keep one on his/her toes. This being said, the grading policy of this course will be as follows:

50% of the course grade will be determined from participation/directing discussion sections.

The remainder of your grade will be derived from a "class project" that you will present to the group as a lecture of approximately 30-45 minutes. This can focus on ANY aspect of ecosystem ecology, but it must by presented as a synthetic summary of a particular field of study. Stipulations: (1) you must OK the talk with me no later than 1 November, (2) you must provide me with a brief outline by 17 November. I would like to have these talks begin at the end of November. We likely will have to schedule additional time slots for these given the number of students and the competition with lecture and discussion times.
**Ecosystem Processes, Biology 672**

Lecture: 11:45-12:45 MW; Discussion: 2-4 M or W; Instructor: Roger W. Ruess 414 Irving, 474-7153

(ffrwr@alaska.edu)


<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 September</td>
<td>The Ecosystem Concept</td>
</tr>
<tr>
<td>13 September</td>
<td>Energy Flow in Ecosystems; Transfer Efficiencies</td>
</tr>
<tr>
<td>15 September</td>
<td>&quot;</td>
</tr>
<tr>
<td>20 September</td>
<td>Food Chains</td>
</tr>
<tr>
<td>22 September</td>
<td>&quot;</td>
</tr>
<tr>
<td>27 September</td>
<td>Food Webs; Linking Process and Structure</td>
</tr>
<tr>
<td>29 September</td>
<td>Guest Lecture</td>
</tr>
<tr>
<td>4 October</td>
<td>Trophic Cascades</td>
</tr>
<tr>
<td>6 October</td>
<td>Stability, Connectance, and Resiliency; Relations to Biodiversity</td>
</tr>
<tr>
<td>11 October</td>
<td>&quot;</td>
</tr>
<tr>
<td>13 October</td>
<td>Biogeochemistry: Processes, Reactions, and Global Cycles</td>
</tr>
<tr>
<td>20 October</td>
<td>Carbon Cycling: Dynamics and Evidence for Global Change</td>
</tr>
<tr>
<td>25 October</td>
<td>Guest Lecture</td>
</tr>
<tr>
<td>27 October</td>
<td>Guest Lecture</td>
</tr>
<tr>
<td>6 October</td>
<td>Comparative Patterns of Global Production and Terrestrial C Stores</td>
</tr>
<tr>
<td>1 November</td>
<td>&quot;</td>
</tr>
<tr>
<td>3 November</td>
<td>Soil Organic Matter Decompositions</td>
</tr>
<tr>
<td>8 November</td>
<td>Nitrogen Cycling</td>
</tr>
<tr>
<td>10 November</td>
<td>&quot;</td>
</tr>
<tr>
<td>15 November</td>
<td>&quot;</td>
</tr>
<tr>
<td>17 November</td>
<td>Phosphorus Cycling</td>
</tr>
<tr>
<td>22 November</td>
<td>Stable Isotopes in Ecosystem Research</td>
</tr>
<tr>
<td>24 November</td>
<td>Guest Lecture</td>
</tr>
<tr>
<td>29 November</td>
<td>Comparative Ecosystem Studies / Class Presentations</td>
</tr>
</tbody>
</table>


Engelmann, M.D. 1961. The role of soil arthropods in the energetics of an old field community. Ecological Monographs 31: 221-238.


analysis of structure and function in grasslands. Range Science Department Science Series No 10, Colorado State University, Ft Collins, pp 56-124.


