Welcome to Plant Physiological Ecology. In this course we consider the physiological mechanisms of plant responses to their environment. The focus is on understanding plant performance and their impacts on ecosystem processes. Ideas and findings from the field of plant physiological ecology will be applied to issues of ecosystem function, invasive species and global environmental change. Major topics include: plant carbon balance - photosynthetic and respiratory processes, water and nutrient relations, plant acclimation and adaptations to varied conditions, plant growth analysis, symbioses, and biosphere-atmosphere interactions.

**Lecture:** Tues. & Thurs. 12:00 - 12:50

**Location:** 207A Swenson Science Building

**How to reach me:**
Office: 317 Life Science    Phone: 218.726.7774    Email: talilee@d.umn.edu
Mail: My mailbox is located across from the departmental office (SSB 207). I also check my e-mail frequently
Office Hrs: M 1-2 and W 10-11, or by appointment.

**Goals and outcomes for the course:**
- To facilitate student learning of the physiological mechanisms that enable plants to acclimate and adapt to varied environments with a quantitative perspective.
- To facilitate student understanding of the physical aspects of the environment with which plants interact
- To develop an awareness of what constitutes the field of plant physiological ecology and the issues to which knowledge in this area can be applied such as land use and habitat modifications, bioremediation, invasive species and global environmental change
- To improve skills in critically evaluating primary literature
- To provide opportunities to discuss topics in plant physiological ecology based on the analysis of the literature, lecture information and other supplemental readings.
- To stimulate and advance your intellectual interest in the area of Plant Physiological Ecology and your appreciation for plants as fascinating and important components of our living world.

**Course Texts:**
- Journal articles or supplementary reading handouts - on the course website or provided by me.

**Grading and Assignments:**
Your course grade will be determined from the following components (actual point assignments may vary slightly):

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two midterm exams (50 points each)</td>
<td>100</td>
<td>33 %</td>
</tr>
<tr>
<td>Final exam (50 pts)</td>
<td>50</td>
<td>16 %</td>
</tr>
<tr>
<td>Primary article assignments/quizzes (10 pts each)</td>
<td>100</td>
<td>33 %</td>
</tr>
<tr>
<td>Student-lead presentations/discussion (30 pts)</td>
<td>30</td>
<td>10 %</td>
</tr>
<tr>
<td>Participation points (25 pts)</td>
<td>25</td>
<td>8 %</td>
</tr>
<tr>
<td></td>
<td>305</td>
<td>100 %</td>
</tr>
</tbody>
</table>

- **Exams** will be on the material covered in lectures, as well as readings and in-class discussions. They will focus primarily on the evaluation of experimental data and will provide opportunities to integrate ideas covered in class.
• **Student-led presentations/discussions.** A pair of students will have chosen a topic to cover and an appropriate primary journal article to present and about which to lead a class discussion. The students will give a brief presentation of the paper using some visual aids (PowerPoint, overheads, ~15-20 min). Then students will give the class a list of discussion questions (5-10) to discuss in smaller groups (~15 min). Finally we will regroup and the assigned students will facilitate discussion of any remaining points and summarize the major points. Students will be graded on the clarity of their presentation, the quality of their discussion questions and their ability to facilitate the group discussion and convey the major points.

• Grades will be assigned according to the scale: A (92.5-100); A- (89.5-92.4); B+ (86.5-89.4); B (82.5-86.4); B- (79.5-82.4); C+ (76.5-79.4); C (72.5-76.4); C- (69.5-72.4); D+ (66.5-69.4); D (60-66.4); F < 60.

**Expectations, Policies, Resources, etc.**

- Be sure to check your university assigned e-mail address regularly (or make sure your mail is forwarded to the address you do use). We may use email to communicate information such as a change in schedule, clarify details of an assignment or a common question before a test or …?

- In accordance with University policy, attendance at class sessions is expected and attendance records will be kept. Your attendance and involvement during class will count toward your participation points.

- **Make-up and incomplete policy.** All exams and assignments are due on the date requested unless you have my prior consent or you have an authorized absence from the Dean. If you are absent, you are responsible for getting the notes and/or assignments from your classmates. Late assignments will receive an automatic penalty of 5 % for each day following the due date. Please communicate with me concerning ANY absence even if you think it is clearly excused. Incompletes (a grade of I) will be given only under extreme circumstances and only when a student has made written and signed arrangements with the instructor prior to the final.

- **Academic Integrity:** Academic dishonesty tarnishes UMD's reputation and discredits the accomplishments of students. UMD is committed to providing students every possible opportunity to grow in mind and spirit. This pledge can only be redeemed in an environment of trust, honesty, and fairness. As a result, academic dishonesty is regarded as a serious offense by all members of the academic community. In keeping with this ideal, this course will adhere to UMD's Student Academic Integrity Policy, which can be found at [www.d.umn.edu/assl/conduct/integrity](http://www.d.umn.edu/assl/conduct/integrity). This policy sanctions students engaging in academic dishonesty with penalties up to and including expulsion from the university for repeat offenders.)

- **Access for Students with Disabilities:** The University of Minnesota is committed to the policy that all of its students shall have equal educational opportunities. Individuals who have any disability, either permanent or temporary that might affect their ability to perform in this class are encouraged to inform the instructor and the Disability Services in 258 Kirby Student Center at the start of the semester. Adaptation of methods, materials or testing may be made as required to provide for equitable participation.

- **Promotion of Bias-Free Instruction:** The University of Minnesota Duluth is committed to the policy that all of its students shall have equal educational opportunities. The University expressly forbids discrimination on the basis of race, color, gender, sexual orientation, disability, veteran’s status, ethnicity, religion, creed, national origin or marital status. If you believe that your instructor has not followed this policy, you are invited to bring this to the attention of the Biology Department Head (207 Swenson Science Building, 726-7263) or the Associate Dean of the College of Science and Engineering (140 Engineering, 726-7585). Your conference would be kept confidential.

- **Student Conduct Code:** The instructor will enforce and students are expected to follow the University's Student Conduct Code ([http://www.d.umn.edu/assl/conduct/code](http://www.d.umn.edu/assl/conduct/code)). Appropriate classroom conduct promotes an environment of academic achievement and integrity. Disruptive classroom behavior that substantially or repeatedly interrupts either the instructor's ability to teach, or student learning, is prohibited. Disruptive behavior includes inappropriate use of technology in the classroom. Examples include ringing cell phones, text-messaging, watching videos, playing computer games, email, or surfing the Internet on your computer instead of note-taking or other instructor-sanctioned activities.

- I expect you to come to class prepared, to participate in activities, to take responsibility for your learning and to act in a respectful, professional and responsible manner. In turn, you can expect the same from me. If you feel uncomfortable in class for any reason, please talk to me. It is extremely important to me to create a comfortable, interesting learning environment for everyone, and I welcome feedback at anytime. I will provide an opportunity for formal feedback with an end-of-the-course evaluation.