SYLLABUS
Plant Diversity & Ecology (BIO 407)

Instructor: Dr. Ryan McEwan  
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229-2558

Meeting time & Location: M/W/F 10:00-10:50; SC-150

Textbook: The Ecology of Plants (2nd Edition)  

An opening note: Given that this is an upper division class I expect:

(1) Students to come through the classroom door properly prepared and ready to participate in the classroom.

(2) Students to take responsibility in the accumulation and delivery of content to the group through reading and presenting peer-reviewed literature and the final project.

(3) That classroom activities, and particularly the final project, will move distinctly beyond the boundaries of the classroom into real scientific engagement.

Evaluation of Students:

<table>
<thead>
<tr>
<th>Item</th>
<th>Point Value</th>
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<tbody>
<tr>
<td>Mid-term Exam I</td>
<td>15</td>
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<tr>
<td>Mid-term Exam II</td>
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<td>In-Class Activity</td>
<td>20</td>
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<tr>
<td><strong>Final Project</strong></td>
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<tr>
<td>Project Sketch</td>
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<td>Project Draft</td>
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<td>Final Draft</td>
<td>20</td>
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<tr>
<td>Oral Presentation</td>
<td>20</td>
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<tr>
<td><strong>SUM</strong></td>
<td><strong>100</strong></td>
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</tbody>
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Grading follows standard University of Dayton Policy:

<table>
<thead>
<tr>
<th>%</th>
<th>Grade</th>
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<th>Grade</th>
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<tbody>
<tr>
<td>≥ 93</td>
<td>A</td>
<td>79-77</td>
<td>C+</td>
</tr>
<tr>
<td>92-90</td>
<td>A-</td>
<td>76-73</td>
<td>C</td>
</tr>
<tr>
<td>89-87</td>
<td>B+</td>
<td>72-70</td>
<td>C-</td>
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<tr>
<td>86-83</td>
<td>B</td>
<td>69-60</td>
<td>D</td>
</tr>
<tr>
<td>82-80</td>
<td>B-</td>
<td>≤ 59</td>
<td>F</td>
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Mechanism(s) of Evaluation

Mid-term Exams:

My exams for this course generally include terms/concepts, and essay questions. Essay questions on my exams require students to creatively apply complex ideas. They require fluent recitation of material from class or from readings. The best essays are clear, compelling and concise, and deliver a complete answer unencumbered by extraneous information. My grading of each essay generally falls into these categories:

General Rubric For Essay Questions:

Excellent. Answer covered every part of the question and was clear, compelling and fluent. A perfect response. [100%]

Great. A nearly perfect answer. Every part of the answer was covered, some minor things missing or slight issues in fluency. [95-90%]

Good. The answer covers most, or all, of the major points. May incorrectly use some terminology or miscommunicate important concepts. [89-80%]

Solid This answer is generally on topic, and communicates some of the important issues, but has some important errors or omissions. There may be a major failure to communicate an explanation of important terms or significant problems with the coherency of the text. [79-70%]

Incomplete This answer does not answer the question. Often this is because it misses the point, but there may significant errors in the terminology, miscommunication about important ideas or major omissions, among other problems. [≤69%]

In-Class activity:

I will be grading a variety of things we do in class. This may include group work, or other spontaneous in-class things. It also included Engaging the Literature exercises which will take place in class. These will take a variety of forms, but will generally involve the student generating text via an in class essay or homework assignment, followed by in class peer consultation, and class discussion.
Final Project:

Instead of a final exam, students are going to work in groups of 3, 4 or 5 for the whole semester and write a grant on one of the topics given to you by the instructor. As part of this grant, you need to propose scientific methods, a plan for the development of new technologies, or an actionable deployment of technologies or resources. You need to take a hard look at the intersection of science and practice. This plan must be founded on current scientific understanding, executable, and presented in a polished presentation AND final document that is extremely high quality. I expect the document and presentation to be infused with creativity and verve. The final document needs to be attractive and compelling.

Steps in the process:

1) Your group must turn in a <1 page Grant Sketch by **Wednesday, October 2nd**. This project sketch must outline the group members tasks associated with project and list 5 peer-reviewed publications on the topic. I will assess this item and it is possible that I will reject the project altogether as insufficient at this stage and give you no credit for this portion of the assignment. Thus, it is in your best interest to be proactive in project development.

2) Your group must turn in a detailed **Grant Draft** by **Friday, November 1st**. This draft should have all the elements of the main proposal (see below) in draft form. It should (in written form) demonstrate that the project has heavy momentum, that all of the pertinent contacts have been made, materials are being consider, a design is taking form, and stumbling blocks are being recognized and navigated around. It must also contain a list of 10 peer-reviewed papers on the topic that the group has found that are relevant to the project. I will assess this draft and it is possible that I will reject the project altogether as insufficient at this stage and give you no credit for this portion of the assignment. Thus, it is in your best interest to be proactive in project development. You must have an actionable plan and a budget at this phase.

3) The **Final Grant Plan** will be handed in on **Monday November 26th** no later than 5:00 pm. Reports turned in after 5:00 pm will receive a zero.

4)  
5) The group will present their project to the rest of the class.

The final project will contain:

a) **Conceptual Background**: This section will outline the body of knowledge surrounding the topic. The proposal must cite at least 10 peer-reviewed papers. In this section, describe the problem/question the grant will attempt to address in specific detail.
b) **Hypotheses**: A critical aspect of writing a successful grant is identifying an important question and stating it clearly. Then around the question, build a set of hypotheses— which are predictions about what you will find— that are falsifiable and interesting.

c) **Methodology**: What are the proposed methods? How will this work be accomplished? This grant should address a good scientific question and have specific and tangible ecological outcomes. How are you going to do what you are proposing, and what variables will you measure to test your success? If there is a permitting process, describe it.

d) **Equipment**: What materials and gear will you need to run your experiments?

e) **Budget**: Draw up a basic budget for your work. What resources do you need to accomplish this work? Make this reasonable!

Aesthetics Count! Make the document attractive, easy to read, and something that is understandable

*Conditions of final draft:*

1. Has to contain at least 10 citations from the **primary, peer-reviewed literature**.

2. Has to be ≤ 30 pages in length, 12 point font, 1.5 spacing, 1 inch margins (including maps, methods, figures, literature cited, etc).

3. Papers should be both feasible and provide conceptual “pop!” You need to make the reviewer (me) understand how this work will advance understanding of a particular topic. You also need to make me see how this will be actually executed.
Final project presentation oral evaluation criteria:

The task of the final group presentation is to relay to the audience the most important features of your company plan. The presentation should deliver all of the elements in the final project which includes:

1. Conceptual Background
2. Hypotheses
3. Methodology
4. Equipment
5. Budget

-Your group has 25 minutes total! Do not go over this length of time, and you should leave a minute or two for questions. The perfect presentation length will be 23 minutes (presentations will be timed).

-The presentation itself will be evaluated using the attached rubric.

-I expect a professional and outstanding presentation from each group and will grade accordingly. You have been building toward this the whole semester and this presentation should reflect your dedication and efforts.

-Each person in the group must present

-Some presentation tips follow
I will give each presentation a score in each category, and then create a mean, and the grading scale will be a linear interpolation: (1= 60; 2 = 70; 3= 80; 4= 90; 5 = 100). The grade will also be strongly influenced by whether the group meets the overall objective of communicating the main points of the proposal to the audience.
Ten tips for science (or any other kind of) presentations

**Presentation Style**

1) Introduce the topic and yourself before you begin.

2) Make eye contact with the audience, early, often and consistently.

3) Avoid reading notes, and certainly do not read off your own slides. You need to practice the talk until you can speak fluently about the topic without the need for detailed notes. Glancing at the slide as a prompt or quickly checking a sheet of notes is fine, but reading is bad.

4) Engage the audience. Face the audience, don’t fiddle with stuff, move smoothly if you need to move to the screen. Project your voice to fill the room.

5) Most importantly, scale the subject matter in the talk to match the capacity of the audience for understanding that material. Know your audience, and speak to them. If you fail at this your talk will stink, no matter how well you do everything else.

**Visual aids (Powerpoint)**

6) Minimize text on slides. Only use phrases, never sentences. Make fonts large, and simple.

7) Avoid tables if possible.

8) Pictures are an engaging way to express ideas/concepts. If you can use an image/picture to display an idea, instead of words, do it.

9) Use figures when possible. And take plenty of time to explain the figure. Describe the axes, the data, etc.

10) If the talk is complex, a bullet-point summary slide at the end is often a good way to hammer home your main points. An effective additional idea is to have the same summary slide at the beginning and end of the talk. Go through the points you plan to cover, then cover them, then at the end of the talk, go back through the points.

Final point: Real enthusiasm for a topic makes all the difference. Chose a topic you care about, create a presentation that you personally think is neat or interesting, and practice until you are comfortable expressing yourself. If the audience picks up your enthusiasm for a topic you will have gone a long way toward giving a great presentation.

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Disability Statement:

University of Dayton students wishing to request a disability related accommodation must submit the request in writing to the University’s Learning Enhancement and Academic Development (LEAD) Office, Attention: Disability Services (937) 229-2066 located in the Ryan C. Harris Learning Teaching Center, LTC 023. If you have secured a current Self-Identification Form indicating you have a disability which requires academic accommodations, please present the Self-Identification Form to me so I will be able to provide the appropriate accommodation needed in this class.

*Throughout the course, if any situation should arise that could influence your ability to meet the requirements of the course- please- make an appointment to see me

The University of Dayton, Student Honor Pledge:

I understand that as a student of the University of Dayton, I am a member of our academic and social community. I recognize the importance of my education and the value of experiencing life in such an integrated community. I believe that the value of my education and degree is critically dependent upon the academic integrity of the university community, and so in order to maintain our academic integrity, I pledge to:

Complete all assignments and examinations by the guidelines given to me by my instructors;

Avoid plagiarism and any other form of misrepresenting someone else’s work as my own;
Adhere to the Standards of Conduct as outlined in the Academic Honor Code.

In doing this, I hold myself and my community to a higher standard of excellence and set an example for my peers to follow.

Note on Late Work:

I WILL NOT ACCEPT LATE WORK! In the professional world, you cannot turn in assignments late. For instance, professional granting organizations set deadlines and will not even consider grants submitted even 1 minute late. This is the policy for my classes. If I have a deadline set for you, and you turn in your work late, it will receive no credit.
Note on Plagiarism:

I expect all students in this class to know what plagiarism is, and how to avoid it. If you have any confusion, I suggest you visit the University of Dayton Library page:

[http://libguides.udayton.edu/content.php?pid=146548&sid=1245446](http://libguides.udayton.edu/content.php?pid=146548&sid=1245446)

Three important points on plagiarism:

(1) “Ignorance” of plagiarism is not an excuse. I am, hereby, requiring you to know what it is and avoid it in your work. If you do not understand what plagiarism is, then you should utilize the University of Dayton Library’s resources to shore up your understanding.

(2) When you do group work, which you will for this class, you are responsible for the work of the group. If your group turns in a document containing plagiarized material, YOU are responsible, whether or not you wrote that section!

(3) If you plagiarize work I will give you no credit for that assignment. If the group project is plagiarized, and you are a member of the group, then you will get no credit for the assignment.

(4) If you are guilty of plagiarism, I reserve the right to give the student a failing grade, or “I” for incomplete for the semester, and forward the student and evidence to the Dean and Provost for disciplinary actions.