



## Plant Biology 006 (SU), The Green World Fall 2021

### PBIO 006 Instructors

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### Course Overview

Welcome to Plant Biology 006, *The Green World!* This fully online three-credit course is designed for students whose main interests are outside of the life sciences. Our goal in PBIO 006 is to introduce to you the fascinating world of plants, which are, as you know, the basis of our planet's life support system. Understanding their use is fundamental to understanding human civilization. This course is taught by two instructors, Dr. Cathy Paris and Dr. Michael Sundue, both of whom have expertise in plant diversity and evolution. The course begins with Dr. Paris and the principles of basic plant biology, including how plants grow, reproduce, and respond to their environment. On October 4, Dr. Sundue will transition to a discussion of how plants interface with human civilization. Dr. Paris will return on November 17 to address questions of plant ecology, the role of plants in terrestrial ecosystems, and how plants contribute to the sustainability of life on Earth. The course is delivered in three modules: *Basic Plant Biology*, *Plants and Human Affairs*, and *Plants and the Environment*.

**Class meeting times:** PBIO 006 is a fully online course and will be offered asynchronously. Though asynchronous, it follows a weekly rhythm: every Monday and Wednesday a new lecture video(s) will be posted on Blackboard. After you have reviewed the lecture carefully, you will complete a quiz on the material, again, via Blackboard. We plan to schedule several synchronous class meetings via Teams over the course of the semester: these will be announced well in advance of the meeting.

### Course Objectives

Students who successfully complete PBIO 006, *The Green World*, will be able to:

- Explain to a peer audience how plants live, grow, and reproduce
- Describe how plants are used for food, clothing, medicine, and shelter in an array of human cultures
- Articulate how plants contribute to the sustainability of life on earth

PBIO 006 has been approved as a course that will fulfill the General Education **sustainability requirement**. Students completing the course will be able to:

- Take part in an informed conversation about the multiple dimensions of sustainability (i.e., economic, ecological, and social)
- Evaluate sustainability using an evidence-based disciplinary approach, integrating economic, ecological, and social perspectives
- Think critically about sustainability across a diversity of cultural values and across multiple scales of relevance from local to global
- Recognize and assess how sustainability impacts their lives and how their actions impact sustainability

### **Textbook and Other Readings**

The lecture sequence in this course generally follows that of Levetin and McMahon's *Plants and Society*, ed. 7 or 8. A reading assignment is given for each lecture on the lecture schedule: please prepare for class by reading the assigned material ahead of time.

The required textbook *Plants and Society* (the 7<sup>th</sup> and 8<sup>th</sup> editions are both fine); you may acquire a copy by:

1. Purchasing a hardcopy in the University Bookstore or on-line
2. Purchasing an e-book through [VitalSource](#) (enter *Plants and Society* in the search bar)
3. [Renting the book](#) from Amazon or another supplier

Note that some assigned readings will be posted electronically through our course Blackboard site.

### **Blackboard**

Most of the course content for PBIO 006 will be delivered through Blackboard: this is where you can find all of the course content, from lecture videos, to slide sets, quizzes, supplemental readings, class announcements, and so forth. Before the semester begins, you will receive a system-generated email letting you know that the Blackboard course site has been opened to you.

### **Grading**

Your final grade will be calculated as follows. Please read on for more specifics about each category:

Hourly exams (20% each) -----	40%
Cumulative final exam -----	30%
Biweekly quizzes -----	20%
"Plants in the News" blog posts -----	5%
YellowDig Discussion Board -----	5%

### **Exams**

You will take three exams in PBIO 006 over the course of the semester, two hourlies (20% each) and a cumulative final (35%). Exams will be completed on Blackboard.

- Exam 1: September 29
- Exam 2: November 1
- Final Exam: (date TBD)

**Note:** These dates are subject to change. Changes will be announced at least a week before the scheduled exam. Make-up exams will **not** be given in P BIO 006. *Exams will not be rescheduled to accommodate travel plans; an exam may only be rescheduled if you have three exams scheduled on one day or if you are required to be off-campus for a university-sponsored event or religious holiday.* Please discuss such exam conflicts with your instructors as soon as possible!

### **Biweekly Quizzes**

A quiz will be given following each lecture in P BIO 006 covering the material discussed in that lecture. Quizzes will be posted on Blackboard after the close of each class meeting and will remain open until an hour before the next class meeting. Question formats will include multiple choice, matching, fill in the blank, and short answer.

### **YellowDig Discussion Board**

We will use YellowDig as our community discussion platform. You can access our YellowDig community through Blackboard. Do not try to access it from a separate account. We will periodically prompt participation via text or video posts. Each prompt will explain the requirements to achieve full credit. Your first post should be a short video introducing yourself to your fellow classmates.

### **"Plants in the News" Blog Posts**

One of the goals of P BIO 006, the Green World, is to explore the connection between plants, human culture, and the environment. These connections, upon which our lives depend, are in the news every day. In order to focus your attention on the diverse ways in which plants impact our lives, we ask you to find two articles from the popular or the scientific press on a topic related to the subject matter of this course. Your mission will be to summarize and post your summary to the course blog site on Blackboard. Article sources include science magazines such as *Scientific American*, newspapers like the *New York Times*, and online news services, e.g., CNN. Article format can be print or digital, but it must be published after August 2018. For three different examples of appropriate articles, see: 1) A *Science Daily* [story](#) on extinction rates and plant biodiversity in California; 2) an [article](#) in *Nature* presenting evidence that agriculture spread from the Near East to Scandinavia; 3) and this BBC [article](#) on tea culture around the world.

Your blog post should be an 8–12 sentence paragraph that:

1. gives the author, title, and publication date of the article
2. provides a brief summary of the content and an explanation of how it relates to Green World course content
3. describes what you found interesting about the article
4. provides a link to the article, if you found it online

Blog Posts are due on **October 13** (first post) and **December 6** (second post).

### **Your responsibilities as a P BIO 006 student: awareness, communication, timeliness**

Our principal means of communication with you will be by email, to your UVM email address. Please check it regularly, at least once per day. It is our responsibility as course instructors to communicate clearly and promptly test and assignment due dates and other course expectations. It is your

responsibility to be aware of these dates and to submit work on time. Ten percent of possible credit will be subtracted for each day that the work is late.

### **Religious holidays**

Students have the right to practice the religion of their choice. Each semester students should submit in writing to their instructors by the end of the second full week of classes their documented religious holiday schedule for the semester. Faculty must permit students who miss work for the purpose of religious observance to make up this work.

### **Academic honesty**

Academic integrity is expected of all UVM students. The University of Vermont has a strict [policy concerning academic integrity](#); violations of this policy will not be tolerated. Consequences for violation range from a zero on the test or assignment to expulsion from the University.

### **Students with disabilities**

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact the [Student Accessibility Services](#) office (SAS). SAS works with students and faculty in to find reasonable and appropriate accommodations, which are communicated to faculty in an accommodation letter. Please meet with us during office hours to discuss the accommodations. Accommodation letters will be implemented after the student meets with the course instructor to create a plan; we are happy to help, but do need to know how to assist you, well in advance. Contact SAS: Room A170 Living/ Learning Center; 802-656-7753; [access@uvm.edu](mailto:access@uvm.edu).

*Thanks for your participation! We look forward to a fun and informative semester together!* Cathy Paris and Michael Sundue

**Note:** Course topics are subject to change, and any changes will be announced in class and on Blackboard.

***PBIO 006 Module 1: Basic Plant Biology***  
with Cathy Paris

<b>Date</b>	<b>PBIO 006 Lecture Topic</b>	<b>Reading</b>	<b>Quizzes*</b>	<b>Additional resources on Blackboard</b>
Aug 30	Course Introduction, Plants in Our Lives	Chapter 1		
Sept 1	The Plant Body, Part I	Chapter 3	Quiz 1	
Sept 6	<b>No class, Labor Day</b>			
Sept 8	The Plant Body, Part II	Chapter 3	Quiz 2	
Sept 13	The Plant Cell	Chapter 2	Quiz 3	
Sept 15	Plant Transport: Xylem and Phloem	Chapter 4	Quiz 4	Video: Water Transport in Plants
Sept 20	The Plant Life Cycle: Flowers	Chapter 5	Quiz 5	Video: The Secret Life of Flowers
Sept 22	The Plant Life Cycle: Fruits and Seeds	Chapter 6	Quiz 6	Video: Meiosis
Sept 27	DNA and the Molecular Basis of Inheritance	Chapter 7	Quiz 7	
Sept 29	<b>Exam 1</b>			

***PBIO 006 Module 2: Plants and Human Culture***  
with Michael Sundue

Oct 4	Plant Systematics and Evolution	Chapter 8	Quiz 8	Video: <a href="#">Tree of Life</a>
Oct 6	Diversity of Plant Life	Chapter 9	Quiz 9	
Oct 11	Origins of Agriculture	Chapter 11	Quiz 10	
Oct 13	Grasses that Feed the World: Wheat, Rice, and Corn	Chapter 12	Quiz 11	<b>First Blog Post Due</b>
Oct 18	Important Fruit and Vegetable Crops: Nightshades	Chapters 13 & 14	Quiz 12	
Oct 20	Important Fruit and Vegetable Crops: Apples & Legumes	Chapters 13 & 14	Quiz 13	
Oct 25	Genetic Engineering and Crop Plants	Chapter 15 pp. 248–261	Quiz 14	
Oct 27	Plant Secondary Compounds & Stimulating Beverages	Chapter 16	Quiz 15	
<b>Nov 1</b>	<b>Exam 2</b>			
Nov 3	Spices, Herbs, and Perfumes	Chapter 17	Quiz 16	
Nov 8	Medicinal Plants	Chapter 19	Quiz 17	
Nov 10	Psychoactive Plants	Chapter 20	Quiz 18	
Nov 15	Poisonous Plants	Chapter 21	Quiz 19	

<i>PBIO 006 Module 3: Plants and the Environment</i> with Cathy Paris				
Nov 17	Introduction to Ecology	Chapter 26	Quiz 20	
Nov 22 - 26	<b>No class, Thanksgiving Break</b>			
Nov 29	Photosynthesis, Respiration, and the Carbon Cycle	Chapter 4; Chapter 26	Quiz 21	
Dec 1	Plants and Climate Change	Chapter 26	Quiz 22	
Dec 6	Plant Conservation & the Biodiversity Crisis	Chapter 26; <a href="#">NYT Feature, Plant Extinctions</a> ; Dr. Peter Raven editorial, <a href="#">Here Today, Gone Tomorrow</a>	Quiz 23	<b>Second Blog Post Due</b>
Dec 8	Vermont Natural Communities		Quiz 24	
<b>TBA</b>	<b>Final Exam</b>			

\*From time to time, alternative assignments will be posted in lieu of a quiz. Please standby for more information from your instructors.