

Plant Biology 006 (SU), The Green World
Fall 2020

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 5, Dr. Sundue will transition to a discussion of how plants interface with human civilization. Dr. Paris will return on November 16 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*.

PBIO 006 Instructors

Dr. Catherine Paris
308 Jeffords Hall
(802) 338-0312; cparis@uvm.edu
Office Hours: TBA (to be held remotely, via Teams)

Dr. Michael Sundue
353 Jeffords Hall
646-247-8992: Michael.Sundue@uvm.edu
Office Hours: TBA (to be held remotely, via Teams)

Class meeting times: PBIO 006 is a fully online course and will be offered asynchronously. We plan to schedule several synchronous class meetings via Teams over the course of the semester.

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)

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- 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. 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 6th, 7th, or 8th editions are all fine); you may acquire a copy by:

1. Purchasing a hardcopy in the University Bookstore or on-line
2. Purchasing an e-book (go to www.coursesmart.com and enter ISBN 9780077654726)
3. [Renting the book](#) from Amazon or another supplier

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

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. You will soon 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 -----	35%
Biweekly quizzes -----	20%
"Plants in the News" blog posts -----	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%).

- Exam 1: Wednesday, September 30
- Exam 2: Monday, November 2
- **Final Exam: December 10, 2020**

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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 PBIO 006. *Neither the hourlies nor the final exam will 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 PBIO 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. Quizzes will generally be short-answer or multiple-choice questions. In some cases, instead of a quiz, we will ask you to provide your opinion on a subject using FlipGrid.

"Plants in the News" Blog Posts

One of the goals of PBIO 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 2017. 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 14** (first post) and **November 30** (second post). *Note adjusted due dates.*

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

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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.

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

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

<i>PBIO 006 Module 1: Basic Plant Biology</i> with Cathy Paris				
Date	PBIO 006 Lecture Topic	Reading	Quizzes*	Additional resources on Blackboard
Aug 31	Course Introduction, Plants in Our Lives	Chapter 1	FlipGrid Assignment	
Sept. 2	The Plant Body, Part I	Chapter 3	Quiz 1	
Sept 7	No class, Labor Day			
Sept 9	The Plant Body, Part II	Chapter 3	Quiz 2	
Sept 14	The Plant Cell	Chapter 2	Quiz 3	
Sept 16	Plant Transport: Xylem and Phloem	Chapter 4	Quiz 4	Water Transport in Plants Movie
Sept 21	The Plant Life Cycle: Flowers	Chapter 5	Quiz 5	Video: The Secret Life of Flowers
Sept 23	The Plant Life Cycle: Fruits and Seeds	Chapter 6	Quiz 6	Video: Meiosis
Sept 28	DNA and the Molecular Basis of Inheritance	Chapter 7	Quiz 7	
Sept 30	Exam 1			
<i>PBIO 006 Module 2: Plants and Human Culture</i> with Michael Sundue				
Oct 5	Plant Systematics and Evolution	Chapter 8	Quiz 8	Video: Tree of Life
Oct 7	Diversity of Plant Life	Chapter 9	Quiz 9	
Oct 12	Origins of Agriculture	Chapter 11	Quiz 10	
Oct 14	Grasses that Feed the World: Wheat, Rice, and Corn	Chapter 12	Quiz 11	First Blog Post Due**
Oct 19	Important Fruit and Vegetable Crops: Nightshades, Apples, Legumes	Chapter 13 & 14	Quiz 12	Video and Writing Assignment, <i>Botany of Desire</i>
Oct 21	Genetic Engineering and Crop Plants	Chapter 15 pp. 248–261	Quiz 13	
Oct 26	Plant Secondary Compounds & Stimulating Beverages	Chapter 16	Quiz 14	
Oct 28	Spices, Herbs, and Perfumes	Chapter 17	Quiz 15	
Nov 2	Exam 2			
Nov 4	Medicinal Plants	Chapter 19	Quiz 16	
Nov 9	Psychoactive Plants	Chapter 20	Quiz 17	

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Nov 11	Poisonous Plants	Chapter 21	Quiz 18	
<i>PBIO 006 Module 3: Plants and the Environment with Cathy Paris</i>				
Nov 16	Introduction to Ecology	Chapter 26	Quiz 19	
Nov 18	Photosynthesis, Respiration, and the Carbon Cycle	Chapter 4; Chapter 26	Quiz 20	
Nov 23	Plants and Climate Change	Chapter 26	Quiz 21	
Nov 30	Plant Conservation & the Biodiversity Crisis	Chapter 26	Quiz 22	Second Blog Post Due**
Dec 2	TBA		Quiz 23	
Dec 10	Final Exam (opens 9 a.m. on 12/10 and closes 9 p.m. on 12/11; 75 minutes)			

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

****Please note adjusted assignment due dates.**

- Syllabus revised November 22, 2020