

Welcome to Biology 207 Plants and Human Affairs

A GER and a LAC Tier 2 course in
Laboratory Science

Bio 207 Plants and Human Affairs with Laboratory

Meets the GER Requirement for Science or Science with Lab
Meets the LAC Tier 2 Requirement for Science with Lab

Objectives:

Basic principles of life using two examples: Plants & Humans

- Cellular Structure
- Metabolism
- Movement
- Growth
- Reproduction
- Adaptation
- Evolution

Will stress plants: form and function optimizing growth factors

Learn and use the scientific method for experimental science

Apply simple math and statistical analysis to hypothesis testing

Gain basic skills in the discipline of science

Biology 207 Spring 2011
Lecture TR 12:30-1:45 PM Science 116
Laboratory T 8-10:45 AM Science 116
Hotlines: 465-4444 or 800-578-1449
<http://plantphys.info/>

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860-465-5327
Science 356
MWF 9-10 and T 2-3:30
860-933-2712 cell

Plant Physiology
Leaf and Flower Development
PhD Botany 1981
University of Michigan



Resources Needed

No Textbook (website provides what you need?)

No Laboratory Manual (handouts will be provided)

- Mechanical Pencil with Eraser (10% ink penalty)
- 3-Ring Binder (1-inch or so)
- Simple Calculator (+ - x ÷ =)
- Finger Nail Cleaner (a pocket knife?)
- Zipper Pouch for Binder to hold it all together!

Wear clothes that can get dirty on lab days!

Grading How Bad Can It Be?

Quizzes = 50% of Course Grade

At least one quiz per week - No makeup quizzes!

Expect a variety of question types: esp. short answer

Grading is on a straight scale: 90%=A, 80%=B, etc.

Lab Worksheets = 50% of Course Grade

At least one project per week - No makeup laboratories!

10% per day late penalty! 10% ink penalty!

Plagiarism: OK to share data, but not written answers nor calculated answers!

Participation: Bonus or Barrier to Grade Borders

Attendance: ON TIME, WITH MATERIALS

Attention: Answering and Asking Questions

Attitude: Showing Interest in Learning More

Cooperation: Effective Laboratory Partner

No Plagiarism: Strict Adherence to Guidelines!

Penalty for using data you did not help collect!

No Extra Credit for Anyone for Any Reason!

Accommodations:

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact the Office of AccessAbility Services at (860) 465-5573.

To avoid any delay in the receipt of accommodations, you should contact the Office of AccessAbility Services as soon as possible.

Please understand that I cannot provide accommodations based upon disability until I have received an accommodation letter from the Office of AccessAbility Services.

Your cooperation is appreciated.

Why Study Plants? VIP Handout

Ancient Earth with Continents

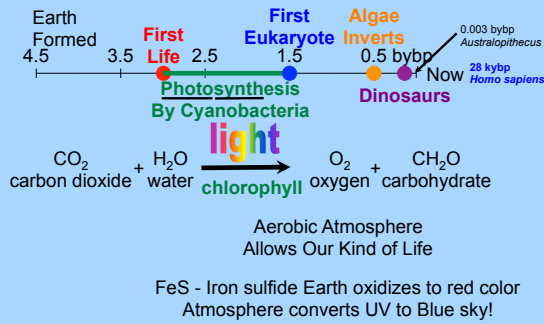
Ancient Oceans with Dissolved Molecules

Ancient Atmosphere with Weather

- N₂ - Nitrogen
- H₂O - Water Vapor
- CO₂ - Carbon Dioxide
- CO - Carbon Monoxide
- CH₄ - Methane Gas
- NH₃ - Ammonia Gas
- H₂ - Hydrogen Gas
- H₂S - Hydrogen Sulfide Gas

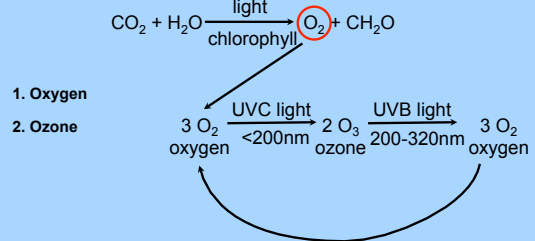
Notice one gas is missing... **O₂ - Oxygen Gas**
Anaerobic!

A Timeline for Planet Earth



Why Study Plants?

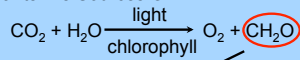
Because Plants Are Sources Of...



- The ozone from oxygen absorbs the most-damaging UV light.
- The oxygen-ozone cycle serves as Earth's sunscreen!
- UVA (320-400nm) does reach Earth's surface and causes sunburn and aging.
- You still need to use your sunscreen and sunglasses!

Why Study Plants?

Because Plants Are Sources Of...



- | | |
|---|--------------------------------------|
| 1. Oxygen | 8. Latex - Tires, Gloves, Condoms |
| 2. Ozone | 9. Resins - Varnish, Paint, Plastics |
| 3. Food - Veggies, Fruits, Meat! | 10. Flavors, Fragrances |
| 4. Wood - Paper - Rayon | 11. Decoration - Landscaping |
| 5. Fibers - Cotton, Flax, Hemp | 12. Occupations - Advancement |
| 6. Fossil Fuel - Oil, Coal, CH ₄ | |
| → Plastics, Drugs, Electricity | |
| 7. Medicines - Natural, Synthetic | |

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| 4. Wood - Paper - Rayon | 11. Decoration - Landscaping |
| 5. Fibers - Cotton, Flax, Hemp | 12. Occupations - Advancement |
| 6. Fossil Fuel - Oil, Coal, CH ₄ | 13. Decrease Greenhouse Gas |
| → Plastics, Drugs, Electricity | 14. Drain Wet Soils |
| 7. Medicines - Natural, Synthetic | 15. Provide Shade |