PELLISSIPPISTATETECHNICALCOMMUNITY COLLEGE  
MASTER SYLLABUS  

GENERAL BIOLOGY II  
BIOL 1120

Class Hours: 3.0  
Laboratory Hours: 2.0  
Credit Hours: 4.0  
Revised: Spring 05

Catalog Course Description:

Plant and animal anatomy (tissues, organs, and organ systems), physiology, reproduction, and growth; microorganisms; fungi; ecology.

Entry Level Standards:

Eligible for enrollment in English 1010 and DSPM 0850 or higher.

Prerequisites:

None

Corequisites:

Students enrolled in lecture must be registered for the corequisite laboratory during the same semester.

Textbook(s) and Other Course Materials:

Required Materials:


I. Week/Unit/Topic Basis:

<table>
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<tr>
<th>Week</th>
<th>Topic</th>
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</table>
| 1    | Lecture: Prokaryotes and Viruses 21; Protists 22  
      | Lab: Bacteria and Protists 14 |
| 2    | Lecture: Fungi 24; Animals: The Invertebrates 25  
      | Lab: Fungi 15 |
| 3    | Lecture: Animals: The Vertebrates 26; Nervous System 34  
      | Lab: Intro to Invertebrates 22 |
| 4    | Lecture: Nervous System 34; Endocrine System 36  
      | Lab: Protostomes and Deuterostomes 23, 24  
      | Unit 1 assessment - 100 pts. Chapters 21, 22, 24-26 |
| 5    | Lecture: Support and Movement 37; Circulation 38 |
Lab: Mammalian Anatomy I and II 26, 27

6 Lecture: Immunity 39; Respiration 40

Lab: Lab Practical I (first 5 labs)
Unit 2 assessment – 100 pts Chapters 34, 36-39

7 Lecture: Respiration 40; Digestion and Nutrition 41

Lab: No Lab

8 Lecture: The Internal Environmental 42; Human Reproduction 44

Lab: Nervous System and Senses 30; Heart Structure 27
Unit 3 assessment – 100 pts Chapters 40-42, 44

9 Lecture: Plants 23; Plant Tissues 29

Lab: Homeostasis 29; Blood Typing and Lung Volumes (supplemental handout)

10 Lecture: Plant Nutrition and Transport 30; Plant Reproduction 31

Lab: Nonvascular Plants and Seedless Vascular Plants 16; Seed Plants 17

11 Lecture: Plant Growth and Development 31; Population Ecology 45

Lab: Organization of Flowering Plants 18; Seeds 21.4
Unit 4 assessment – 100 pts Chapters 23, 29-31

12 Lecture: Population Ecology 45; Community Interactions 47

Lab: Symbiotic Relationships 33; Food Webs (supplemental handout)

13 Lecture: Ecosystems 48; Temperate Deciduous Forests 49.7

Lab: Lab Practical II

14 Lecture: Perspective on Humans and the Biosphere 50
Lab: No Labs
Unit 5 assessment – 100 pts Chapters 45, 47-50

15 FINAL EXAM PERIOD - MANDATORY COMPREHENSIVE FINAL; worth approximately 12% of the final grade.

II. Course Objectives*:

A. Understand the diversity and complexity of life, and become better stewards of our biosphere. III.6, V.3-5

B. Understand the relationship between the structure of something (a tissue, organ, or organism) and its function. V.1, V.3, V.4

C. Better understand personal health related problems and demonstrate an ability to communicate more effectively with students health care providers. I.1, I.6, I.7, V.1, V.3-
D. Understand and appreciate the issues associated with environmental concerns such as recycling and waste disposal, acid rain, population growth, the introduction of non-native species, the greenhouse effect and global warming. III.6, V.1, V.3-5

E. Demonstrate the ability to interpret related biological information and determine its validity. I.1, I.6, I.7, V.1-3, VI.2, VI.6 VII

F. Demonstrate the ability to reason and think more critically. V, VI.6

* Roman numerals after course objectives reference TBR's general education goals.

III. Instructional Processes*:

Students will:

1. Locate and evaluate related scientific information in the library and on the Internet. *Communication Outcome, Natural Science Outcome, Technological Literacy Outcome*

2. Use related equipment and tools for making biological measurements and observations. *Natural Science Outcome, Technological Literacy Outcome*

3. Collect data, generate graphs and tables of the collected data, summarize the data and draw conclusions from the data. *Natural Sciences Outcome, Mathematics Outcome*

4. Read and evaluate scientific writings. *Communication Outcome, Natural Science Outcome, Technological Literacy Outcome*

5. Develop a vocabulary that allows students to communicate more effectively with health care providers. *Communication Outcome, Natural Science Outcome*

6. Participate in laboratory exercises and lecture activities that develop teamwork, problem solving, and data analysis. *Natural Science Outcome, Mathematics Outcome*

7. Select a learning experience that promotes independent thinking and required sustained effort and time such as a research project, job shadowing, community service project, interviews or field trip. *Natural Science Outcome, Technological Literacy Outcome*

8. Examine ethical issues related to biology, such as the use of reproductive technology, and environmental issues such as global warming, the greenhouse effect and human population growth. *Communication Outcome, Social/Behavioral Sciences Outcome, Natural Sciences Outcome, Technological Literacy Outcome*

* Strategies and outcomes listed after instructional processes reference TBR’s goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Describe basic anatomy (tissues, organs, and organ systems), physiology, reproduction, and development of plants and animals. A, B, C, F

2. Identify causes and treatments of various basic medical concerns such as ulcers, diabetes, depression, osteoporosis and infertility. A, B, D, F
3. Compare and contrast organisms representing the five kingdoms of living things. A, B, D, F
4. Identify the importance of organism from the five kingdoms of living things to the health of the biosphere. A, D, F
5. Explain basic concepts of population growth and community interactions. D, E, F
6. Describe the major concepts of ecology and environmental concerns. A, D, F
7. Use dichotomous keys to identify unknown organisms and report data using graphs. E, F
8. Locate biologically related material in the library and on the Internet. Evaluate biological information they read about or see on TV. E, F
9. Interpret and draw conclusions from data presented in graphic form. E, F

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

A. Testing Procedures:

Each lecture unit will be evaluated using one or more tests totaling 100 points. Exams will be a mix of discussion questions and objective questions. There are no makeup lecture tests. There will be a comprehensive final for the course worth 100 points. The comprehensive final may be used to take the place of one missed exam if there is evidence of a valid and reasonable excuse. The comprehensive final exam score may also be used to replace the lowest unit exam score if all exams were attempted.

The additional 50 points associated with lecture will be earned by doing a variety of activities to be determined by your instructor. The activities may include reading and summarizing articles, writing a position paper, attending a seminar, and summarizing a videotape that was viewed.

B. Laboratory Expectations:

Students are expected to go to the appropriate laboratory for which they are enrolled and complete the assignments in a timely manner. Laboratory work will not be accepted late.

Makeup laboratory sessions and practicals may be possible within the same laboratory session week when approvals have been given and space is available. Students should notify their lab instructor of their need to miss lab and should attempt to contact the instructor of the lab they wish to attend.

Students are required to read the scheduled lab exercise before coming to class. To encourage preparation, four pre-lab quizzes will be given on randomly selected dates at the start of the lab meeting. Students must be present to take the pre-lab quiz. There are NO make-ups. After each exercise, students are required to complete the assigned post-lab questions. Students are encouraged to work cooperatively together to complete the questions, but not to plagiarize notebook work. These post-lab questions will be collected and graded on four randomly selected dates. It is the student's responsibility to turn in post-lab questions, if collected, to their lab instructor in a timely fashion. Post-lab questions will not be accepted late.

Students are expected to dress appropriately for the laboratory to minimize the possibility of the spread of contamination and risk to personal safety. No open-toed shoes are allowed, and
garments that cover the legs are recommended. Students are required to report to their laboratory instructor any concern for personal safety or injury sustained during various exercises.

Drink, food, and any form of tobacco are not allowed in the classroom or laboratory.

Student Participation in Dissections: During Biology 1120, students will study the anatomy and physiology of vertebrates using fetal pigs and rats as representative organisms. The anatomy and physiology of invertebrates will be studied using clams, crayfish, earthworms and starfish as representative organisms.

As are ALL laboratory exercises in Biology 1110 and 1120, the laboratory investigations involving dissections are mandatory. All students enrolled in the course are expected to participate. However in consideration of religious and/or moral objections of isolated individuals, students wishing to be excused from the actual physical dissection may petition for a waiver by submitting a written request to the Biology Program Coordinator, Room 232 Alexander Building. Students requesting waivers are encouraged to support their request with pertinent evidence or documentation.

Full time biology faculty members reserve the right to grant or deny waivers. Appeals may be made to the Office of the vice president of Academic Affairs.

Students waiving the vertebrate and invertebrate exercises will be excused only from the actual physical dissection and expected to attend lab, master all materials presented in laboratory, and be responsible for all assignments and quizzes. All students are required to take the laboratory exams which include material from the animal dissection exercises. Pregnant students are advised to consult their physician about their attendance of the dissection labs. With proper documentation from the physician, alternate activities will be assigned to pregnant students.

C. Field Work:

Students may be required to read supplemental articles or papers on reserve in the library.

D. Other Evaluation Methods:

Other evaluation methods may be arranged at the discretion of the lead instructor and lecture instructor.

E. Grading Scale:

Point Distribution:

<table>
<thead>
<tr>
<th>Lecture tests and Assignments</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1 100 pts.</td>
<td>Post-lab questions 60 pts. (4×15)</td>
</tr>
<tr>
<td>Unit 2 100 pts.</td>
<td>Pre-lab quizzes 20 pts. (4×5)</td>
</tr>
<tr>
<td>Unit 3 100 pts.</td>
<td>Leaf collection/dich. 40 pts.</td>
</tr>
<tr>
<td>Unit 4 100 pts. key exercise</td>
<td>Lab Practical - 1 50 pts.</td>
</tr>
<tr>
<td>Unit 5 100 pts.</td>
<td>Lab Practical - 2 45 pts.</td>
</tr>
<tr>
<td>Comp. Final 100 pts.</td>
<td>TOTAL 215pts.</td>
</tr>
<tr>
<td>Assignments 50 pts.</td>
<td></td>
</tr>
<tr>
<td>TOTAL 650 pts.</td>
<td></td>
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Letter grades will be distributed as follows:
A  90% and above 778 or more points earned
B+ 87-89% 752-777 points
B  80-86% 692-751 points
C+ 77-79% 666-691 points
C  70-76% 604-665 points
VI. Policies:

A. Attendance Policy:

As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75% of their scheduled class and laboratory meetings in order to receive credit for the course. Consistent tardiness and excessive absenteeism may lower the final grade.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices: cheating, plagiarism, purchasing or otherwise obtaining prewritten papers, taking an exam for another student, and providing others with information and/or answers regarding exams, or assignments.

C. Accommodations for disabilities:

If you need accommodation because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Privately after class or in the instructor's office.

To request accommodations students must register with Services for Students with Disabilities: Goins 127 or 131, Phone: (865) 539-7153 or (865) 694-6751 Voice/TDD.

D. Other Policies:

Classroom disruptions during lecture or laboratory, any form of communication during testing, or any other form of behavior that may prove distracting to others will not be tolerated and may lower the final grade.

Students are expected to work on biology related materials and participate in meaningful discussion where time permits.

Visitors are not allowed in the classroom or laboratory.

LABORATORY SUBSTITUTION POLICY:

There maybe a time during the semester that you will not be able to attend your regularly scheduled laboratory section. Since attendance is so critical to your laboratory grade, we do have a policy that will allow you to attend an alternate lab section ONE time during the semester. Lab substitution is only allowed in the case of an emergency and with adequate approval.

When attending an alternate lab, the STUDENT has the following responsibilities:

a. The student must inform his/her regular instructor, and obtain permission from the substituting instructor. A schedule of lab times and instructors is posted outside the laboratory door. A student should not assume that they could just "show up" and participate in an
b. The student must obtain a signature and date from the substituting instructor at the top of the laboratory report for that particular exercise.

c. If the substituting instructor collects laboratory report questions, the student MUST write the name of his/her regular instructor at the top of those documents. This will enable the substituting instructor to make the regular instructor aware of your attendance.

d. If the substituting instructor did not collect laboratory report questions, it is the student's responsibility to find out if they missed an assignment from their regular instructor as quickly as possible. The regular instructor will advise the student of options.