

PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

**CONCEPTS OF BIOLOGY
BIOL 1310**

Class Hours: 3.0

Credit Hours: 3.0

Lab Hours: 2.0

Revised: Spring 2011

Catalog Course Description:

A survey of biology concepts and content as applicable to the Tennessee K-8 curriculum standards and the National Science Education Standards. Instructional topics to include: scientific method, cell structure and function, food production and energy for life, heredity and reproduction, diversity and adaptation among living things, interactions between living things and their environment, and biological change. Students will design, develop, and implement hands-on science activities for K-8 students; create and develop a course portfolio; and collect and evaluate biologically related resources. Course includes two hours of lecture and three hours of laboratory applications each week.

Entry Level Standards:

Students must be eligible for enrollment in English 1010 and have completed DSP Math.

Prerequisites:

None

Textbook(s) and Other Course Materials:

Cain, M. L., Yoon, C. K., & Singh-Cundy, A. (2009). Discover Biology: Core Topics (4th edition). New York: W. W. Norton & Company.

Scully, T. A. (2009). Discovering Biology in the Lab (Custom). New York: W. W. Norton & Company.

The text is required, and the student should take the text to each lecture and laboratory session. You will need the laboratory manual for each lab exercise. You will be required to record data in the manual and submit pages from the manual to your instructor for grading.

An important part of this class involves use of the Internet, Webmail, and online course resources. Home access is recommended, but Internet, Webmail, and online course resources can be accessed on campus at any of the library computers as well as computer labs.

NOTE: Experience has shown that purchasing the course textbooks from the PSCC Bookstore prevents delays in obtaining the lecture book and lab manual. Photocopies of lab exercises are not accepted for grading.

I. Week/Unit/Topic Basis:

Week	Topic
1	The Diversity of Life <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
2	The Diversity of Life <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
3	Cells: The Basic Units of Life <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
4	Cells: The Basic Units of Life <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
5	Cells: The Basic Units of Life <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
6	Genetics <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
7	Genetics <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
8	Genetics <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
9	Evolution <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i>

	<i>Project(s)</i>
10	Evolution <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
11	Evolution <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
12	Interactions with the Environment <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
13	Interactions with the Environment <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
14	Interactions with the Environment <i>Reading</i> <i>Exam(s)</i> <i>Learning activities</i> <i>Project(s)</i>
15	Final Exam Period Comprehensive Final Exam No learning activities

II. Course Goals*:

The course will:

Natural Sciences: *Issues in today's world require scientific information and a scientific approach to informed decision making. Therefore, the goal of the Natural Science requirement is to guide students toward becoming scientifically literate. This scientific understanding gained in these courses enhances students' ability to define and solve problems, reason with an open mind, think critically and creatively, suspend judgment, and make decisions that may have local or global significance. To achieve this outcome, students will demonstrate the ability to:*

- A. Conduct an experiment, collect and analyze data, and interpret results in a laboratory setting.
- B. Analyze, evaluate and test a scientific hypothesis.
- C. Use basic scientific language and processes, and be able to distinguish between scientific and non-scientific explanations.
- D. Identify unifying principles and repeatable patterns in nature, the values of natural diversity,

and apply them to problems or issues of a scientific nature.

- E. Analyze and discuss the impact of scientific discovery on human thought and behavior.

III. Expected Student Learning Outcomes*:

The student will be able to:

1. Read and critique scientific writings, including those from the text, biological journals, books and the Internet. (B, E)*
2. Listen to and discuss biological information presented by the instructor, educational videos, guest speakers and peers. (D, E)*
3. Work in teams to collect data, generate graphs and tables and summarize the data and draw conclusions using process skills such as: observing, measuring, classifying, communicating and inferring. (A, B, C)*
4. Write a formal paper based on a course topic and laboratory report based on one of the laboratory exercises completed. The laboratory report will include introduction, materials and methods, results, conclusion and reference sections. (A, B, E)*
5. Develop a scientific vocabulary that allows them to communicate scientific literacy more effectively with teachers, students, and community. (C, E)*
6. Locate and evaluate related scientific information in the Educational Resource Center (ERC) and on the Internet. (A, C)*
7. Interpret related biological information and evaluate its validity. (C, D)*
8. Exhibit enhanced critical thinking skills. (D, E)*
9. Transfer data files to/from one storage device to another and use the printing facilities available on the system. (A)*
10. Write essays. (A)*

* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

IV. Evaluation:

A. Testing Procedures: 45% of grade

Exams (400 points): Each chapter is evaluated using one or more exams. The exams will be non-cumulative, although students are expected to retain basic information acquired in previous chapters. Exams will consist of a possible combination matching, multiple choice, short answer, and true or false. The exams will emphasize lecture material and assigned readings, cover hands-on activities and labs, and may include related in- or out-of-class assignments.

There are no makeup exams. The lecture exams cannot be taken before the scheduled day and time. There is a comprehensive final for the course. The final exam is mandatory.

B. Laboratory Expectations: 30% of grade

Learning activities (250 points): Students will conduct a variety of assignments, including labs and hands-on activities determined by the instructor.

C. Field Work: 20% of grade

Projects (175 points): Students are required to conduct projects. The projects include out-of-class, off-campus field work in the *great* outdoors and in-class field trips. Also, projects include a formal paper and laboratory report.

D. Other Evaluation Methods: 5% of grade

Other Evaluation Methods (40 points): See instructor for specific information.

E. Grading Scale:

Grading Scale (out of a total of 865 possible points)

90-100%	(778-865 points)	A
87-89%	(752-777 points)	B+
80-86%	(692-751 points)	B
77-79%	(666-691 points)	C+
70-76%	(604-665 points)	C
60-69%	(519-603 points)	D
0-59%	(0-518 points)	F

V. Policies:

A. Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of the Learning Division, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of the Learning Division.

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, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

C. Accommodations for disabilities:

Students who need accommodations because of a disability, have emergency medical

information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at www.pstcc.edu/departments/swd/.

D. Other Policies:

Electronic devices: Use of electronic devices in the classroom is inconsiderate and disruptive. If cell phones must be brought into the classroom, they need to be turned off or on silent mode and stored out of sight in backpacks or bags. During class, unrelated activities such as text messaging, reading e-mail, doing work for other courses, or playing computer games, are not permitted. Students should receive prior approval from the instructor before using a class or personal computer.

Laboratory Safety: Students must come to the laboratory prepared. Preparation includes, but is not limited to: 1) reading exercises in advance, 2) turning in completed assignments, and 3) bringing the lab manual to class.

No food, drink, shorts or open-toed/open-heeled shoes are allowed in lab. No one not appropriately dressed will be allowed in lab. Report spills or injuries to the instructor, and when unsure of what to do, ask your instructor.

Missed work: Missed course work cannot be made up. Exams and projects are due by the scheduled submission deadline. If a student arrives late for class or leaves class before dismissal, then credit including partial points will not be earned for the day's course work.

Participation: PSCC expects students to attend all scheduled instructional activities and to be on time. Students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. If a student is absent from class, it is the student's responsibility to follow the syllabus for the course.

Students are expected to continue learning even in the absence of class meetings, and should continue studying course materials in accordance with the course schedule as if they were attending class.

Online access: An important part of this class involves use of the Internet, Webmail, and online course resources. Home access is recommended, but these resources can be accessed on campus at any of the library computers as well as computer labs. Students are responsible for communications and course content posted online.

Professionalism: The professional attributes that will be evaluated include, but are not limited to:

1. The student adheres to the attendance policies established by the College and the timetable, including arrival and departure at the official course times.
2. The student is consistently well prepared and submits all assignments according to the deadlines set by the instructor, and the course syllabus and schedule.
3. The student demonstrates a respectful attitude and professional demeanor with faculty and peers.
4. The student demonstrates flexibility with changes to the course schedule.
5. The student demonstrates the ability to follow verbal and written instructions.
6. The student complies with all safety regulations.
7. The student is cooperative in class and laboratory and not disruptive of his/her

peers.

8. The student checks his or her work for accuracy including spelling and grammar and factual correctness.
9. The student checks the web mail and D2L Email frequently, and consistently checks for updates on the course online site.
10. The student is attentive and participates in class.

Syllabus Changes: The course schedule is subject to change as opportunities for field trips, outreach programs, and guest speakers become available. Also, the instructor may make changes based on the timeline of the class, feedback from learners and/or logistical issues and will inform you as a change is made. Changes to the syllabus and class schedule may include modifying reading assignments and learning activities.