

**PRINCIPLES OF BIOLOGY BIO (110 WC)**  
**COURSE SYLLABUS**  
**Southwestern Community College, Sylva NC**

**Instructor:** Eddie Lunsford

**Course Description:** This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to every day life. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

**Assumed Competencies:** None

**Course Requirements:**

**Textbooks (2):** Both textbooks are available from the Southwestern Community College book store. They can be shipped to you by calling 1 800 447 4091; ext. 222. These books are also available from various on-line book dealers. See the note on shipping microscopy slides below.

Graham, Tom, M. (1999). *Biology: Life Features, 3<sup>rd</sup>. edition, revised*. Pearson Custom Publishing. ISBN: 0-536-67918-5. Note that an older 3<sup>rd</sup> edition (ISBN: 0-536-02421-9) may be used in place of the revised edition.

Allen, Garland & Baker, Jeffrey. (2001). *Biology: Scientific Processes and Social Issues*. Fitzgerald Science Press, Inc. ISBN: 1-891786-09-1

**Access to a computer with word processing and electronic mail capabilities:** Your home computer or any computer with these capabilities should suffice. You may also work from SCC computer lab or library facilities.

**Microscope slides and cover slips:** These materials may be shipped with your textbooks if you are ordering from the college bookstore. Otherwise, notify the instructor immediately to have them shipped to you separately.

**Approved test proctoring facility and proctor:** Twice during this semester, you will need to go to an approved facility (usually a public facility such as a school, library,

university, etc.) to take a midterm and a final exam. Other tests will be given but not proctored. It is your responsibility to locate a proctor and facility, to have them complete the attached form and to mail it to me (Eddie Lunsford; Balsam Building, Southwestern Community College; 447 College Drive; Sylva, NC 28779). I reserve the right to reject any request for approval. If you are within convenient driving distance to Southwestern Community College, I will be happy to make arrangements for you to take your exams on the Sylva campus. You may also take your exams at any SCC campus facility. The Sylva campus features the Learning Assistance Center in Oaks Hall and maintains a web site at [www.southwest.cc.nc.us/learnasstctr](http://www.southwest.cc.nc.us/learnasstctr). If you want me to serve as your proctor, please put my name on your proctor form and mail it directly to me. If you want to take your exams at a particular SCC campus, list the name of the campus on your proctor form and mail it to me directly.

**Approved laboratory mentor and facility:** Once during this semester, you will need to go to an approved facility to complete a microscopy lab. It is your responsibility to locate a mentor and facility, to have them complete the attached form and to mail it to me (Eddie Lunsford; Balsam Building) Southwestern Community College; 447 College Drive; Sylva, NC 28779). I reserve the right to reject any request for approval. If you are within convenient driving distance to Southwestern Community College, I will be happy to make arrangements for you to complete the microscopy laboratory on campus. Very few people have their own microscope. If you happen to be one of those people, and would like for me to consider letting you use it for this course, please notify me immediately.

**Time:** This course requires an average minimum commitment of 12 hours per week, including completion of tests, completion of labs and time for study. Time management and planning skills are essential. Many labs require cooperation among all class members in order to complete.

**Miscellaneous supplies:** A few readily available supplies will be required for selected laboratory activities. It is your responsibility to acquire these supplies. Microscopy supplies will be sent to you with your textbooks or separately if requested. You will need the following other materials during the semester.

- ruler; preferably calibrated in metric units
- string or thread; probably less than one yard
- mealworms; about one dozen, readily available at pet shops and bait shops
- small plastic container; a sandwich-sized to shoe box-sized will work
- white (Irish) potato; two large or several small
- purple cabbage; about one-half cabbage head

- small cups; white or clear, plastic or Styrofoam, approximately 12-25 (can be reused in 2 activities)
- dry yeast, one small package
- masking tape
- empty plastic soda or water bottles; about one-half liter in capacity, need 6 to 8 (you may want to start saving these now)
- small balloons; all the same size, need 6 to 8
- very dark food coloring (such as red, green or blue); one small bottle of one color
- unwaxed brown paper; from a grocery bag or lunch bag (you may want to start saving these now)
- shortening; any kind you have on hand such as oil, lard or other solid shortening
- cotton swabs; 10-15
- a few other common household items you probably have on hand (dry cereal, sugar, various other kitchen staples)

**Evaluation:** Grades will be calculated as follows.

Lab reports, proctor form and mentor form:	1 grade for each
Lab reports 3 and 11:	2 grades for each
At-Home Tests	3 grades for each
Mid term and final exams:	4 grades for each

Grades will be assigned according to the following scale, based on the average described above.

100 – 93 = A      86 – 92 = B      78 – 85 = C      70 – 77 = D      below 70 = F

**Special Policies:**

1. **Late Work:** Three points will be deducted on late lab reports and at home tests per calendar day late, including weekends and holidays. Any lab report submitted later than two (2) weeks (or missing at two weeks) after the due date will automatically be assigned a grade of “zero.” In the case of the mid-term and final exams, a deadline will be provided after which the tests will no longer be accepted for a grade. I am sometimes willing to extend deadlines to a limited extent when personal emergencies and/or scheduling problems arise. However, it is important that you

understand that such extensions MUST be specifically asked for AND approved. When the course has officially ended, all missing grades will be recorded as “zero.”

2. **Extra Credit Work:** On some occasions, I may offer extra credit point activities to everyone enrolled in the course. Please do not ask me for individual extra credit assignments. This would be unfair to the other class members.
3. **Discussion Board Responses:** The discussion board will be our primary means of interaction in this class. It is important that you check the discussion board often. Some discussion activities will be required and graded. In addition to completing these required posts, you should always feel free to add any questions, comments, etc. on the discussion board. Please remember to type all entries in complete, grammatically correct sentences. Do not use profanity or any type of inflammatory language. Examples of poor discussion board entries include things like: “Me too,” “I agree,” and similar non-detailed responses. Your discussion board entries and responses should be detailed enough to stand on their own. Failure to do so for required discussion board posts may have an impact on your grade for the activity.
4. **Cheating and Academic Dishonesty:** Academic honesty is vital and I will accept nothing less. If a student cheats, a grade of “zero” will be given for the assignment in question and the episode will be reported to the academic dean at Southwestern Community College and to the student’s academic advisor. I consider the following things to be cheating.
  - a. Use of notes, text, or any other source of stored information during a proctored test.
  - b. Copying anything from another student’s paper. This includes all class activities and assignments.
  - c. Giving or receiving verbal communication about a test, lab activity or any other assignment related to the class. Do your own work.
  - d. Copying any information from any published source without giving proper citations.
  - e. Including false data in a lab report, project or other assignment.
  - f. Submitting false information concerning a lab mentor or test proctor.
  - g. Sharing or discussing at-home tests with any person other than the course instructor. At-home tests are ONLY to be exchanged and discussed between you and the instructor, not with another student.

**Success in Class:** I very much want your experience with this class to be enjoyable and beneficial to your educational experiences. I will work very hard to keep up my end of a

learning partnership. Please follow the suggestions below to keep up your end of the partnership.

- a. **Reading:** This is essential and there is no substitute. Read all text assignments and other guides thoroughly and completely. Take notes as you read, using your objectives as a guide.
- b. **Study:** Use your objectives. They are a valuable guide for organizing your study. Tests are based only on unit objectives. Study every day for short periods of time rather than cramming.
- c. **Be Organized:** Check the class web site early and often, at least three or four times per week but preferably every day. Keep track of all deadlines and important dates. Print a copy of this syllabus and refer to it often. Work ahead on major projects by breaking them into small, manageable tasks.
- d. **Shortcuts:** Do not look for shortcuts. If you want to learn, there are none. Do not jump into any activity without having read and clearly understood all of your assignments. This will invariably cause frustration and will probably have a bad impact on your grade for the activity.
- e. **Ask Questions:** Please feel free to ask questions concerning the organization of the class and/or the class materials. I can help you only if I know and understand where you're having questions or difficulties. Questions having to do with class objectives, lab activities or tests should be posted on the discussion board. Please be as specific as possible with your questions.
- f. **Keep back up copies of all of your work:** Regardless of the nature of the assignment (except for proctored tests) keep back up disk copies, photocopies or some other back-up for every assignment. Keep them until at least six weeks after the course ends.
- g. **Organize Your Assignments Before Submitting Them:** Put your name on all pages of all assignments that you submit. List page numbers with your name as necessary (ex: Sam Smith, p. 4 of 5). Faxes and electronic mailings are printed on a community printer. Failure to list your name and page numbers could result in the assignments being lost. Be sure to include my name as the recipient on any fax you send.

**How to Contact Me:** Please feel free to contact me as follows.

**By electronic mail:** [elunsford@southwesterncc.edu](mailto:elunsford@southwesterncc.edu) (If you enclose an attachment, put your name and page numbers on ALL pages of the attachment)

**By telephone:** 1 800 447 4091; ext. 351

**By fax:** 828 586 3129 (Be certain to put your name on ALL pages and my name on the cover sheet, also include page numbers on ALL pages)

**By postal mail:** Eddie Lunsford  
 Balsam Building  
 Southwestern Community College  
 447 College Drive  
 Sylva, NC 28779

### Class Topics, Assignments, Due Dates

Item & Reading Assignments	Lab Activities and Due Dates for Lab Report. Textbook readings when applicable	Tests Taken at Home & Due Date	Proctored Tests Taken at Approved Testing Facility & Due Date
UNIT I:  <b>Foundations Of Science &amp; Diversity of Life</b>  Read Graham: p. 2 – 45 Allen & Baker: p. 33-114	<b>Lab 1: Science Autobiography</b>  Turn in by posting on discussion board.  <b>Due August 24</b>	None Until Unit II is completed	None Until Unit III is completed
	<b>Lab 2: Measurement in International System</b>  Turn in as RTF e-mail attachment or by postal mail or fax.  <b>Due August 31</b>		
	<b>Lab 3: Mealworm Activity</b>  Turn in as RTF e-mail attachment or by postal mail or fax  <b>Due October 10</b>		

	<p><b>Lab 4: Use of the Scientific Literature</b></p> <p>Turn in as RTF e-mail attachment or by postal mail or fax.</p> <p>Read: Allen &amp; Baker: p. 115-46, 187-206 before beginning this lab</p> <p><b>Due September 7</b></p>		
	<p><b>Lab 5: Taxonomy &amp; Diversity</b></p> <p>Turn in as RTF e-mail attachment</p> <p>Read: Graham: p. 111-35 before beginning this activity</p> <p><b>Due September 14</b></p>		
<b>Item &amp; Reading Assignments</b>	<b>Lab Activities and Due Dates for Lab Report. Textbook readings when applicable</b>	<b>Tests Taken at Home &amp; Due Date</b>	<b>Proctored Tests Taken at Approved Testing Facility &amp; Due Date</b>
<p>UNIT II: Chemistry</p> <p>Read Graham: p. 49 – 79</p>	<p><b>Lab 6: Acid-Base Indicator Activity</b></p> <p>Turn in as RTF e-mail attachment or by postal mail or fax (Note: discussion board posts required)</p> <p>Read Graham: p. 74-6 before beginning this activity</p> <p><b>Discussion board post due September 19</b></p> <p><b>Lab report due September 21</b></p>	<p><b>At Home Test on Units I and II</b></p> <p>All assignments in Units I and II must be completed (or be assigned a grade of “zero”) before taking this test. Note that Lab 3 may not be completed (but should be started) by the time you are ready to take this test.</p> <p>Send an e-mail to the instructor asking for this test when you have COMPLETED Units I and</p>	<p>None Until Unit III is completed</p>

	<p><b>Lab 7: Identification of Fats in Foods</b></p> <p>Turn in as RTF e-mail attachment or by postal mail or fax</p> <p>Read Graham: p. 65-7 before beginning this activity</p> <p><b>Due September 28</b></p>	<p>II.</p> <p><u>You MAY NOT obtain this test from another student or from any other source. Failure to request the test directly from the instructor will result in your test being rejected and given a grade of "zero."</u></p> <p><b>Due October 12 (RTF e-mail attachment)</b></p>	
	<p><b>Lab 8: Dietary Biochemistry</b></p> <p>Turn in as RTF e-mail attachment or by postal mail or fax</p> <p>Read Graham: p. 61-8 before beginning this activity</p> <p><b>Due October 5</b></p>		
<b>Item &amp; Reading Assignments</b>	<b>Lab Activities and Due Dates for Lab Report. Textbook readings when applicable</b>	<b>Tests Taken at Home &amp; Due Date</b>	<b>Proctored Tests Taken at Approved Testing Facility &amp; Due Date</b>
<p><b>UNIT III: Cell Biology</b></p> <p>Read Graham: p. 80 – 101, 306 – 33 Allen &amp; Baker: p. 8 – 10, 13, 41-4, 151-2</p>	<p><b>Lab 9: Diffusion Activity</b></p> <p>Turn in as RTF e-mail attachment or by postal mail or fax</p> <p>Read Graham: p. 92-6; and Allen &amp; Baker: p. 187-207 before beginning this activity</p> <p><b>Due October 19</b></p>	<p>None for Unit III.</p>	<p><b>Midterm Exam on Units I – III</b></p> <p>All assignments in Units I through III must be completed (or be assigned a grade of "zero") before taking this test.</p> <p>Make an appointment with your test proctor when you have COMPLETED Units I through III.</p> <p><u>Ask your test proctor to mail your completed test to me by postal mail (or campus mail if you take your test at SCC). Tests submitted in any other way will be rejected and given a grade of "zero."</u></p> <p><b>Due November 1</b></p>
	<p><b>Lab 10: Microscope Activity</b></p> <p><u>Ask your Laboratory Mentor to mail your completed lab report to me by postal mail. Reports submitted any other way will be rejected and given a grade of "zero."</u></p> <p><b>Due October 26</b></p>		
<b>Item &amp; Reading Assignments</b>	<b>Lab Activities and Due Dates for Lab Report. Textbook readings when applicable</b>	<b>Tests Taken at Home &amp; Due Date</b>	<b>Proctored Tests Taken at Approved Testing Facility &amp; Due Date</b>

<p><b>UNIT IV: Metabolism &amp; Evolution</b></p> <p>Read Graham: p. 140-58, 407-33 Allen &amp; Baker: p. 25, 152-5, 172, 175</p>	<p><b>Lab 11: Yeast Metabolism</b></p> <p>Turn in by posting as an attachment on discussion board (Note: Multiple discussion board posts are required, in addition to the completed lab report)</p> <p>Read Graham: p. 153-8 and Allen &amp; Baker: p. 115-46, 187-206 before beginning this activity</p> <p><b>First one of several Discussion board posts due November 2</b></p> <p><b>Lab report due November 10</b></p>	<p>None Until Unit V is completed.</p>	<p>None Until Unit VI is completed.</p>
	<p><b>Lab 12: Protein Synthesis &amp; Evolution</b></p> <p>Turn in as an RTF e-mail attachment or by postal mail or fax</p> <p>Read Graham: p. 310-20, 420-2 before beginning this activity</p> <p><b>Due November 16</b></p>		
<p><b>Item &amp; Reading Assignments</b></p>	<p><b>Lab Activities and Due Dates for Lab Report. Textbook readings when applicable</b></p>	<p><b>Tests Taken at Home &amp; Due Date</b></p>	<p><b>Proctored Tests Taken at Approved Testing Facility &amp; Due Date</b></p>
<p>UNIT V: Ecology</p> <p>Read Graham: p. 166-84, 282-303</p>	<p><b>Lab 13: Symbiosis: Friends &amp; Foes</b></p> <p>Turn in as discussion board post.</p> <p>Read Graham: 286-8 before beginning this activity</p> <p><b>Due November 22</b></p>	<p><b>At Home Test on Units I V and V</b></p> <p>All assignments in Units IV and V must be completed (or be assigned a grade of "zero") before taking this test.</p> <p>Send an e-mail to the instructor asking for this test when you have COMPLETED Units I and II.</p> <p><u>You MAY NOT obtain this test from another student or from any other source. Failure to request the test directly from the instructor will result in your test being rejected and given a grade of "zero."</u></p> <p><b>Due December 5 (RTF e-mail attachment)</b></p>	<p>None Until Unit VI is Completed</p>
	<p><b>Lab 14: Mark &amp; Recapture</b></p> <p>Turn in as RTF e-mail attachment or by postal mail or fax</p> <p><b>Due November 29</b></p>		

Item & Reading Assignments	Lab Activities and Due Dates for Lab Report. Textbook readings when applicable	Tests Taken at Home & Due Date	Proctored Tests Taken at Approved Testing Facility & Due Date
<p>UNIT VI: Genetics</p> <p>Read Graham: p. 334-54 Allen &amp; Baker: p. 8, 159</p>	<p><b>Lab 15: Punnett Square &amp; Predictions</b></p> <p>Turn in as an e-mail attachment or by postal mail (Note: discussion board posts required)</p> <p>Read Graham: p. 336-40 before beginning this activity</p> <p>Discussion board post due December 7</p> <p>Lab Report due December 9</p>	<p>None</p>	<p><b>Final Exam on Units IV – VI</b></p> <p>All assignments in Units IV through VI must be completed (or be assigned a grade of “zero”) before taking this test.</p> <p>Make an appointment with your test proctor when you have COMPLETED Units IV through VI.</p> <p><u>Ask your test proctor to mail your completed test to me by postal mail (or campus mail if you take your test at SCC). Tests submitted in any other way will be rejected and given a grade of “zero.”</u></p> <p>Due December 13</p>

DRAFT

**Request for Approval**  
**Test Proctor and Test Proctoring Facility**

You (the student) are responsible for identifying, locating and seeking approval for a test proctoring facility and a test proctor that will be used twice during the duration of this course. I must approve the proctor and facility in advance. Take this form to a public institution (high school, elementary school, college, university, learning or testing facility, community or academic library) and make contact with an individual who is willing to proctor two tests for you. Follow the specific directions below.

**The student:** Print your full name here \_\_\_\_\_

- I agree to come to this test proctoring facility and proctor on two occasions during this course to complete examinations in the Principles of Biology (BIO 110) course.
- I agree to provide photo identification to the proctor at each visit.
- I agree to follow all the proctor's instructions during testing.
- I agree to reimburse the proctoring facility for any expenses related to my two visits such as fees, postage, etc.
- I agree to provide adequate notice (as defined by the proctor) before each testing visit.

**The Proctoring facility:** Please print the full name and complete mailing address of the facility. Please include the complete telephone number.

Name of Proctoring Facility \_\_\_\_\_

Complete Mailing Address \_\_\_\_\_

Complete telephone number \_\_\_\_\_

**The Proctor:** Print your full name and title here \_\_\_\_\_

- I understand that my participation as a test proctor is voluntary.
- I understand the student will be responsible for payment of any fees related to the testing visits.
- I agree to provide the student with an original copy of two tests for the Principles of Biology (BIO 110) course that will be forwarded to me by postal mail.
- I agree to examine and approve the student's photo identification prior to each test.
- I agree to send the student's completed original test papers to the instructor, as soon as the test is completed, by postal mail.
- I agree that I WILL NOT photocopy, fax or otherwise duplicate any test papers.
- I agree to report any episode(s) of academic dishonesty to the course instructor.

**Agreement:** We, the student and test proctor, agree to the terms and conditions outlined above. We express this agreement by signing and returning this ORIGINAL document (photocopies of this document may be made) to: Eddie Lunsford; Balsam Building; Southwestern Community College; 447 College Drive; Sylva NC 28779. We understand that this agreement is provisionally made, subject to the approval of the course instructor.

Complete legal signature of Student \_\_\_\_\_

Complete legal signature of Proctor \_\_\_\_\_

**Request for Approval**  
**Laboratory Facility and Laboratory Mentor**

You (the student) are responsible for identifying, locating and seeking approval for a laboratory facility and laboratory mentor that will be used once during the duration of this course. I must approve the mentor and facility in advance. Take this form to an institution with a microscope and lab space (high school, elementary school, college, university, research laboratory, medical laboratory) and make contact with an individual who is willing to serve as a mentor for a basic microscopy lab that will be of approximately two hour's duration.

**The student:** Print your full name here \_\_\_\_\_

· I agree to come to laboratory facility and mentor on one occasion during this course to complete a laboratory activity on basic microscopy.

· I agree to provide photo identification to the mentor at each visit.

· I agree to follow all the mentor's instructions during the lab activity.

· I agree to reimburse the laboratory facility for any expenses related to my visit such as fees, postage, etc.

· I agree to provide adequate notice (as defined by the mentor) before my visit.

**The Laboratory facility:** Please print the full name and complete mailing address of the facility. Please include the complete telephone number.

Name of Laboratory Facility \_\_\_\_\_

Complete Mailing Address \_\_\_\_\_

Complete telephone number \_\_\_\_\_

**The Mentor:** Print your full name and title here \_\_\_\_\_

· I understand that my participation as a laboratory mentor is voluntary.

· I understand the student will be responsible for payment of any fees related to the laboratory activity.

· I agree to examine and approve the student's photo identification prior to the lab visit.

· I agree to send the student's completed laboratory papers to the instructor, as soon as the lab activity is completed, by postal mail.

· I agree that I WILL NOT photocopy, fax or otherwise duplicate any laboratory papers.

· I agree to report any episode(s) of academic dishonesty to the course instructor.

**Agreement:**

We, the student and laboratory mentor, agree to the terms and conditions outlined above. We express this agreement by signing and returning this ORIGINAL document (photocopies of this document may be made) to: Eddie Lunsford; Balsam Building; Southwestern Community College; 447 College Drive; Sylva NC 28779. We understand that this agreement is provisionally made, subject to the approval of the course instructor.

Complete legal signature of Student \_\_\_\_\_

Complete legal signature of Proctor \_\_\_\_\_