

**Course description:**

Focuses on foundations in cell structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function: information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology.

**Required course materials:**

- 1.) Campbell Biology in Focus\_2<sup>nd</sup> edition. (ISBN: 9780321962751) (1<sup>st</sup> ed. is fine, ISBN: 9780321813800)
- 2.) General Biology 101 Lab Manual 9781681357140 (for lab only)

**General Course Purpose:**

This course is to provide students with an opportunity to acquire fundamental knowledge of the principles and living systems and their applications to everyday life. The course is designed for both science and non-science majors. The course may serve as a prerequisite for advanced biology courses, as a laboratory science graduation requirement, or as transfer credit for a four-year institution. BIO 101 is a prerequisite for BIO 102.

**Course Objectives:**

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

- A. Describe the fundamental importance of evolution as a unifying concept in biology
- B. Describe the major taxonomic groups of living organisms
- C. Explain introductory ecological principles
- D. Apply the scientific method to investigate elementary biological problems (in lab)
- E. Diagram and describe the atomic structure of biologically important elements
- F. Explain the principles of chemical bonding and apply those principles to the formation and properties of both inorganic and organic molecules
- G. Describe the structure and function of enzymes and their roles in metabolic pathways
- H. Diagram a typical plant, animal and prokaryotic cell and label the component parts of each and explain their function
- I. Describe the processes by which materials move across the cell membrane and within the cell
- J. Describe the main events of cell division and relate these to the formation of new cells
- K. Apply the basic principles of inheritance and probability to the solution of genetic problems
- L. Describe the molecular aspects of the storage, expression, and transmission of genetic information
- M. Describe the recent developments in genetics and relate these to human welfare
- N. Discuss the relevance of genetics to evolution
- O. Describe the main features of the modern theory of evolution

**Attendance:** With the exception of school holidays, attendance is mandatory. Please be here ON TIME. Class attendance and participation are critical for learning. You are responsible for the material covered whether or not you were in class. Please do not email your professor if you cannot attend class that day. If you expect to miss several classes, then send an email.

**Class cancellation:** if school is closed on the day of a test or exam, or due date of an assignment, the event is rescheduled for the next class meeting. If the opening of the school is delayed, our class will still meet if there is more than 45 minutes left of the class.

**Withdrawal:** A student may withdraw from the course without penalty if done before Oct 31. If a student tries to withdraw online from a course AFTER the deadline, they will receive an “F” for the course.

- Students with F1 visas and those receiving federal financial aid and veterans’ benefits will suffer adverse consequences from withdrawing from a course. Usually the problem occurs when withdrawing gives the student too few credits to maintain a full-time student status.
- Late withdrawals, which require both extenuating circumstances and documentation, are rarely granted. I will not consider granting a student a late withdrawal unless he/she was earning a C or better before the withdrawal deadline.

**Academic dishonesty:** In this course, academic dishonesty is defined to include any form of cheating or plagiarism. Cheating includes, but is not limited to, such acts as stealing or altering testing instruments; falsifying the identity of persons for any academic purpose; offering, giving or receiving unauthorized assistance on any examination, quiz or any other written or oral material in a course. Any student(s) caught cheating will be given at least a zero for the quiz/test but may be given an ‘F’ for the course. Earning an “A” in the course is not possible if you are caught cheating. All cheating incidents will be reported to NovaCares and the incident will remain on your file while you are an NVCC student.

**Statement on disruptive students in the classroom:**

Please don't be disruptive. Any disruption of class activity can result in a dismissal from class and a loss of up to 25 points from your grade. More than two dismissals will result in an 'F' for this class. All cell phones should be off and put away during class, especially during a test or exam. If your cell phone rings in class you will lose "participation" points. If your cell phone rings during a test or exam you will lose points from your exam grade.

**Lateness:** Do not arrive late for lecture; it is rude and you will lose attendance points. Be courteous. If you do arrive late, take a seat near the door. Avoid walking across the front of the classroom. Lateness is even more disruptive during a test or exam. If you arrive late for a test or exam you will lose points directly from your test or exam grade. You may not leave the room during your test or exam, unless you have finished taking the test/exam. If you do leave the room during a test or exam, then your exam will be considered complete when you leave.

**Other policies:**

- Students with disabilities are encouraged to contact a Counselor for Disability Services (in rm 193 or call 703.933.1840) to discuss possible accommodations. All information is kept confidential and may increase your chances of success in the academic setting.
- I may choose to assign seating or ask students to move to other desks during a quiz or even a lecture.
- You may not audit this course.
- Email your professor if you want to: schedule a time to meet during office hours, ask a question about the material, inform me that you know if advance in you cannot attend on a test day.

**Grading and course requirements:**

The Lecture grade is based on tests, a midterm and a final exam. The format of the tests and exams will be multiple choice, matching, and short answer questions.

4 tests* (33.3 points each)	100 points	<b>*Lowest test grade is dropped</b>
Cell mini poster assignment	20 points	
Participation and attendance	30 points	
Midterm exam	100 points	
<u>Final exam</u>	<u>100 points</u>	
Lecture points =	350 points total	

**90-100% = A, 80-89% = B, 70-79% = C, 60-69% = D, Less than 60% = F**  
**(315-350pts) (280-314pts.) (245-279pts.) (210-244pts.) (<210pts)**

The lecture grade makes up 70% of your final grade; the lab grade makes up the remaining 30%.

For example, if you earn a 90% (289 out of 320 points) in lecture and an 80% in lab your grade is calculated like this:  $(90 \times .7) + (80 \times .3) = 87\%$

Policy regarding missed tests: **No make up tests will be given.** If you know in advance that you are going to miss a test or exam, let me know and we can plan for you to take it in advance. **The first time you miss a test, that test becomes your dropped test grade regardless of why you missed it.**

If you miss a second test and there are extraordinary circumstances that kept you from being present, inform me as soon as possible if such a circumstance arises. Documentation will be required to be considered for a make-up test. If a make-up is allowed, it will be given in the testing center the week before final exams.

**Suggestions for a good semester:**

Read the assigned textbook readings noted on your schedule (6 hours per week of studying is suggested).

Know what we are going to talk about before coming to class.

Do the assigned homework, bring it to class, and be prepared to answer questions about homework, if asked.

Turn in assignments when they are due to earn assignment or participation points. Late assignments are not accepted.

Go to blackboard for test review sheets and then use them.

Biology tutoring is available in Bisdorf Building, Room 234; (703) 845-6363.

The writing center is in room 229; they can help with writing lab reports.

Come see me during office hours.

Email me if you need to clarify a concept or ask questions.

Form a study group.

**Emergency preparedness:**

If for some reason classes are no longer able to meet on campus, please check into our course through blackboard. If necessary, the course will continue through blackboard until on campus classes can resume.

**Safety:**

Know the location of, and how to operate, fire exits, telephones, and alarms in use during regular school hours as well as after-hours.

**KNOW THESE EMERGENCY TELEPHONE NUMBERS:**

**Campus Police 1-1111 or 9-703-764-5000 from a campus phone or 703-764-5000 from a cell phone or direct line; public emergency operator: 911 from a campus phone (9- 911), cell phone, or direct line. Know what action to take in the following emergencies**

**EARTHQUAKE:** (1) Remain in the room but get under a desk or lab bench; (2) exit the building as soon as the earthquake stops; (3) Move away from the building and across the street.

**FIRE:** (1) Walk single-file, without talking, to the nearest safe exit (feel the door first to see if it is hot); (2) gather at pre-designated place outside of building. If there is no safe exit, (1) remain in the room; (2) place wet towels at the base(s) of the door(s); (3) get on floor and call Campus Police or 911 for help.

**TORNADO OR HURRICANE:** (1) move to a designated shelter-in-place room in the building; (2) remain until advised of the end of the threat.

**VIOLENT INCIDENT:** (1) leave the building. If there is no safe exit, (1) stay in room; (2) lock and barricade door(s); (3) stay behind chairs and desks away from door(s); (4) call Campus Police or 911; (5) turn off lights, computers, radios, and put cell phones on "vibrate;" (6) follow all directions of your instructor and of law enforcement personnel.

**BOMBTHREAT:** (1) Call Campus Police or 911; (2) do not use cell phones or two-way radios; (3) do not activate the fire alarm system; (4) evacuate the building as directed; (5) do not return to the building until cleared by authorized personnel.