



BIOL 101

Principles of Biology

General Description

Introduction

Welcome to biology—the “science of life.” Understanding the living organisms around us is something all of us have been working toward throughout our lives. You are now about to embark on a more formal approach to the study of living organisms—their parts, their functions, and their interactions.

You may be studying biology because it is a fascinating subject that interests you, or because you want to prepare for a career that is dependent on an understanding of biology (health careers, physical education, environmental law, or many others), or it may just fulfill a curricular requirement. In any case, the course is designed to meet all those needs.

Although your purpose for taking this course may be quite different from that of other students, there are general course objectives that apply to all students. We hope that when you finish this course you will know the fundamental requirements faced by all living organisms and be able to describe how different organisms have become adapted to fulfill these requirements. In order to do this, you will need to know about all levels of organization—molecular, cellular, organismal, and, beyond the organism, ecological and evolutionary. Throughout, however, we will concentrate on the needs of organisms and how organisms meet those needs—how they are adapted to the environment and the lifestyle in which they meet the requirements of life.

Each lesson has more specific educational objectives to support and supplement the overall objectives of the course.

Text

Your main source of information in this course will be your textbook: *Biology: Concepts & Connections*, fifth edition, by Campbell, Reece, Taylor, and Simon, and the Study Guide, by Campbell, Reece, Taylor, Simon, and Liebeart, which should be purchased to accompany the text. This is a terrific textbook—it is well written with clear descriptions, excellent diagrams, and good humor. I hope you will enjoy reading each chapter.

You may purchase these two books, sold as a package, from the Higher Grounds bookstore at the Friday Center using the book order form in this manual, or online at <https://s4.its.unc.edu/HigherGrounds/>.

To guide you through your reading, this course manual features a commentary for each lesson, sometimes pointing out important points or clarifying difficult concepts, and sometimes just adding a few favorite “gee-whiz” anecdotes. The Student Study Guide has additional exercises to help you apply the material you have learned. It also points you to relevant exercises on the student CD that comes with the book.

You will have a chance to check your understanding of the material through self-help activities that accompany each lesson. Also, the study guide that accompanies the textbook will help you learn the material more thoroughly.

Course Plan

The course is divided into ten lessons. Each is equivalent to a week and a half of an on-campus course. Eight have written assignments for you to complete after you have read and studied the material. These assignments will usually ask you to think about or analyze the material in a **new** way. **Just restating material from the textbook is rarely helpful.** Please think about the material and answer the questions *in your own words* and with sufficient detail for me to be able to see that you understand the material. The questions are designed to elicit your thinking **rather than facts from the text**. In general, answers for each question range from three-fourths page to two pages. Try to answer questions without reference to the text or notes, but feel free to consult them when needed. Although you are welcome to use all materials

available to you in learning the material, please do not consult outside sources (such as other people or the Internet) in generating your answers to the written assignments. Each answer should be your own analysis, not that of others. Your pledge on each assignment will signify that these are your thoughts and conclusions. I want to assess what you have learned, not what you can find from another source.

There will also be two tests and a final exam. These will concentrate on factual information as well as your understanding of the concepts presented. The tests may be taken without supervision, but the final exam must be supervised in accordance with the policies of Self-paced Courses. All of these are closed-book tests and should be completed at one sitting in three hours or less. You are required to sign the honor pledge indicated on your exam (“I pledge that I have neither given nor received help on this closed-book test, and that all work is from memory”) in order to have your grade recorded. The final exam is cumulative; it covers the entire course.

An application to take the final exam is located at the end of this manual.

Grading

Your grade will be determined in the following way:

- Your written assignments will make up 30 percent of your grade.
- Each test will count 20 percent of your final grade (a total of 40 percent)
- The final exam will count 30 percent.

The grading scale will be a ten point scale: 90–100=A, 80–89=B, 70–79=C, 60–69=D, and below 60 percent is failing.

You must pass the final exam in order to receive credit for the course.

A Final Word

Good luck! I look forward to reading your analyses of the following material.