

Biology, Part 1



How to Take This Course

Complete all the quizzes and the assignment in each unit. Once the quizzes for a unit are complete, you will have access to the unit test. We recommend you complete the unit assignment before you attempt the unit test, the assignment will help you prepare. You will have access to the final when all unit tests are complete and your assignments are graded.

Allow 2-3 days for an assignment to be graded. Read the full course instructions to understand the course grading.

Instructions for the Course

How This Course Works & Suggested Timeline

Submitting Your Assignments

Ask The Teacher

Meet your teacher for this course and ask a question.

Laboratory Science

This is a laboratory science course, all assignments in this course are mandatory. Each unit will have a written assignment, plus a lab. You need to complete each lab as directed, and submit your lab write up; as well as, complete the written assignment.

You do NOT have to purchase a lab kit, things you will need for the labs are common household items, NO specialist equipment is required.

Unit 1. The Study of Life

You will be introduced to the nature of science in this unit. You will use science and engineering practices to design your own lab about plant growth. The unit will cover the characteristics of life, the chemical building blocks of life, including the importance of carbon, and how these elements combine to form important macro-molecules.

1.1 The Nature of Science

1.1 Quiz

1.2 What is Biology?

1.2 Quiz

1.3 The Chemistry of Life

1.3 Quiz

Unit 1 Assignment: The Study of Life

Unit 1 Lab Assignments: Experimental Design with Radish Seeds and Calorimetry

Unit 2. The Basic Unit of Life

In this unit you will use multiple sources to examine cells, the basic unit of life, the structures and functions of the cell organelles in prokaryotic and eukaryotic organisms will be compared. Key cell processes, including photosynthesis, respiration, and mitosis will be modeled.

2.1 Basic Cell Structure

2.1 Quiz

2.2 Photosynthesis

2.2 Quiz

2.3 Cellular Respiration

2.3 Quiz

2.4 Mitosis

2.4 Quiz

Unit 2 Assignment: Innercellatic Voyage

Unit 2 Lab Assignments: Egg Osmosis and Carbon Transfer Through Snails and Elodea

Unit 3. Molecular Genetics

In this unit you will learn about molecular genetics, studying the structure and function of DNA, the complex processes of replication, transcription, and translation. You will learn how the structure of DNA determines the structure of proteins that carry out essential functions, and you will analyze ethical, moral, and legal issues surrounding genetic advances.

3.1 Introduction to DNA

3.1 Quiz

3.2 Replication

3.2 Quiz

3.3 Transcription & Translation

3.3 Quiz

3.4 Genetic Advances

3.4 Quiz

Unit 3 Assignment: Genetic Engineering

Unit 3 Lab Assignments: From Replication to Transcription and Translation to Mutation; and DNA Extraction

Unit 4: Heredity

In this unit you will gain an appreciation for, and an understanding of, genetics and the inheritance of organisms' traits from their ancestors. Connections between the role of DNA and the coding of inherited traits. You will compare the process of meiosis to mitosis. The causes of genetic variation, including nature vs nurture, will be discussed. You will use Punnett squares to determine the probability of expressed traits in a population

4.1 Meiosis

4.1 Quiz

4.2 Inherited Human Traits

4.2 Quiz

4.3 Punnett Squares

4.3 Quiz

Unit 4 Assignment: Genetic Disease Research Project

Unit 4 Lab Assignment: Inherited Human Traits

Unit 5. Explaining Biodiversity

In this unit you will examine various sources of information describing the diversity of life on Earth and construct an explanation based on evidence which explains the process of evolution by natural selection. Using your knowledge of heredity you will explore advantageous heritable traits in populations and how these populations change over time. You will learn how changes in environmental conditions, including human activity, can result in changes to biodiversity.

5.1 A Brief History of Life

5.1 Quiz

5.2 Darwin's Theory

5.2 Quiz

5.3 Speciation

5.3 Quiz

Unit 5 Assignment: Animal Evolution

Unit 5 Lab Assignments: Woollybooger Competition and Comparing Hominoid Skulls

Unit 6. Bacteria, Viruses, & Protists

Although not glamorous, microscopic life on earth is amazing, and along with viruses, this unit covers these interesting organisms.

6.1 Classification

6.1 Quiz

6.2 Viruses

6.2 Quiz

6.3 Bacteria

6.3 Quiz

6.4 Protists

6.4 Quiz

Unit 6 Assignment: Microbe Menu

Unit 6 Lab Assignments: Making a Cladogram; Investigating Bacterial Growth; and Testing Antibacterial Agents

The Final

Complete all the assignments and unit tests in this course. Once they are complete and the assignments have been graded, the Final will be made available and appear below the Practice Final.

Warning: You have only ONE attempt at the Final. There is a 3 hour time limit.

Are you ready to take the Final? We highly recommend you take the Practice Final first and if you are weak in any area, review the relevant course material again. You have unlimited attempts at the practice final; it will help you to prepare.

Good Luck!!

Practice Final Exam

Course Completion

The "Certificate" and "Request a Course Completion Record" links below are not active, they cannot be accessed until you have completed the final. Upon satisfying this requirement, the links will become active and you can use them.

Before you go, we would appreciate your opinion on the course, please take 1 minute to complete the feedback form. We hope you enjoyed this course!

Course Feedback

Thank you for taking this course! Let us know what you think about it.

Request a Transcript

If you need SVHS to send proof of your course completion directly to your school complete this form.

Restricted Not available unless: The activity **Final Exam** is marked complete

Certificate of Completion

Restricted Not available unless: The activity **Final Exam** is marked complete