



Biology (BIO) 1B Syllabus

Course Name

BIO 1B

Biology I – Semester B

Course Information

BIO 1B is the second semester of this two-semester course.

In this course, you'll work through the last three units of your biology textbook. Topics covered include Darwin's theory of evolution, the evolution of populations, classification of organisms, the history of life on Earth, viruses and prokaryotes, protists and fungi, plant structure and function, plant reproduction and response, animal evolution and diversity, feeding relationships among animals, the interactions of various body systems in animals, animal behavior, and the human body.

Course Delivery Method

Online

Contacting Your Instructor

You may contact your instructor through the Blackboard messaging system. Technical support is available 24/7 at www.k12.ttu.edu.

Course Objectives

After completing this course, you should be able to:

1. understand that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells;
2. compare the structures of viruses to cells, describe viral reproduction, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza;

3. understand evolutionary theory as a scientific explanation for the unity and diversity of life;
4. understand that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made;
5. recognize the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms;
6. analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules having information such as the DNA molecule for self-replicating life;
7. understand that biological systems are composed of multiple levels;
8. describe the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants;
9. explain how biological systems work to achieve and maintain balance;
10. describe the role of internal feedback mechanisms in the maintenance of homeostasis; and
11. summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems.

BIO addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the [Texas Education Agency](#) website.

Textbook and Materials

The required textbook for this course is:

- Miller, Kenneth R., and Joseph S. Levine. (2015). *Biology*. Texas Edition. Hoboken, NJ: Pearson Education, Inc. ISBN-13: 978-0-13-324517-2, ISBN-10: 0-13-324517-9.

This title may also be known as *Miller & Levine Biology, Texas Biology Student Edition*.

This digital textbook can only be purchased through the TTU K-12 partner bookstore. You can find the link to the bookstore in the Current Students section of the [TTU K-12](#) website. Once you have purchased the digital textbook, you will receive a username and password via email.

Additionally, you will need an online account at [Savvas Realize](#) in order to access your textbook, course videos, the learning activities, and other online resources.

If you would like a printed book, you can purchase the **optional** printed text:

- Miller, Kenneth R., and Joseph S. Levine. (2015). *Biology*. Texas Edition. Hoboken, NJ: Pearson Education, Inc. ISBN-13: 978-0-13-317640-7, ISBN-10: 0-13-317640-1.

Please note that you will not be able to access any of the digital resources if you purchase only the printed textbook.

We will cover all the TEKS required by the state of Texas. **It is essential that your textbook be the Texas version.** All page numbers and referrals will be to that version.

Technical Requirements

- Internet access – preferably high speed (for accessing Blackboard)
- Email
- Word processing software such as Microsoft Word
- Adobe Reader (download from Adobe.com)
- Audio and video capabilities (for watching/listening to course content)
- PDF app (free options available)

Technical Skill Requirements

Be comfortable with the following:

- using a word processor
- Internet search engines and browsers
- creating PDFs (see **Requirements for Creating PDFs** in the Syllabus section of your course)

Course Organization

This course consists of 15 lessons, three Unit Reviews, and a final examination. Each lesson includes several activities that present content knowledge. Each lesson also includes multiple graded assignments to ensure that you learn the content that has been presented in the activities. Some of the assignments are automatically-graded quizzes, and some are written assignments or activities that your instructor will grade.

The course follows the structure of the textbook. Each chapter is a lesson, and each lesson is subdivided into three to five parts. For each part, you'll watch and take notes on a video lecture, as well as complete readings and take notes from your textbook. As you complete each part, you'll take a short multiple-choice quiz (usually ten or fewer questions). After you've completed all the parts of each chapter, you'll work through a lab (one chapter has two labs).

The chapters (or lessons) are also grouped into units. After you've completed the chapters in a unit, you'll have a unit review section with three sections: a selected notebook submission, a discussion forum assignment, and a unit assessment. The notebook submission will ask you to submit specific items from your notes taken while watching the instruction video lectures; each lesson will guide you on the notes you should take.

Be sure you read all instructions carefully and ask your instructor for help if something is not clear.

Lab Reports

Each chapter (or lesson) will contain a lab assignment (one chapter has two). Virtual Labs will use a standard seven-part lab report, as detailed below. Other types of labs will have varying formats; specific details are provided for each lab individually. You will need to use a word processor such as Microsoft Word, Microsoft WordPad, OpenOffice.org Writer, or Notepad to write your lab report.

Virtual Lab Report Format

Use the following format to write up your Virtual Lab reports:

1. Abstract
2. Problem (Question)
3. Hypothesis
4. Experiment
5. Results
6. Conclusions
7. Future

Always follow this format when you submit a Virtual Lab. Writing lab reports is standard procedure in science because it allows others to read about and understand what you did. It also gives others the opportunity to duplicate your experiment. All scientists know the scientific community may dismiss an experiment that can't be duplicated.

Write up your laboratory reports for each lab carefully; they account for a large part of each lesson grade. Your instructor will use the following lab scale to grade your Virtual Lab reports:

- Abstract (10%)
- Problem/Question (10%)
- Hypothesis (10%)
- Experiment (20%)
- Results (20%)
- Conclusions (20%)
- Future (10%)

Don't forget to proofread your labs: make sure they're clear and understandable!

Virtual Lab Report Template

Make sure you complete the whole lab before writing up your lab report. The template for the report is available in two formats, Word and PDF, in the Syllabus and Resources sections of the course.

These are just blank templates, so you'll have to adjust the spacing to make room for all the information in each section.

Lab Report Writing Tips

Here are a few things to keep in mind as you write your lab reports.

- All labs will have an **Abstract** that briefly summarizes the purpose, procedure, and findings. You can make sure that you cover these areas by using the sentence starters that are provided in the lab report template.
- All labs will have a **Conclusion** which summarizes the implications of the results. Then, the **Future** section should include at least one future study and at least one improvement to the study/lab.
- If the lab that you're working through is not a controlled experiment, then it may not have controls and/or variables. If this is the case, just note this in your **Experiment** section. If the lab includes real-world data, include a brief explanation of how the data was collected.
- If the lab is a virtual lab that includes data which you are creating, updating, or analyzing, then take a screenshot of the data and include it in your **Results** section. If the lab contains data which isn't already collated into a graph or chart, you'll need to create your own graphic(s) to display that information in a meaningful way.

In general, pay attention to the prompts in the lab template and they will guide you as you fill out your report.

Course Outline

Please note that some assignments will be hidden from you when you start the course. As you move through the lessons and complete assignments, more will unlock for you.

Lesson	Topic	Approximate Time for Completion
Chapter 16	Darwin's Theory of Evolution	One week
Chapter 17	Evolution of Populations	One week
Chapter 18	Classification	One week
Chapter 19	History of Life	One week
Unit 5 Review	Evolution (Chapters 16-19)	Two days
Chapter 20	Viruses and Prokaryotes	One week

Lesson	Topic	Approximate Time for Completion
Chapter 21	Protists and Fungi	One week
Chapter 22	Introduction to Plants	One week
Chapter 23	Plant Structure and Function	One week
Chapter 24	Plant Reproduction and Response	One week
Unit 6 Review	From Microorganisms to Plants (Chapters 20-24)	Two days
Chapter 25	Introduction to Animals	One week
Chapter 26	Animal Evolution and Diversity	One week
Chapter 27	Animal Systems I	One week
Chapter 28	Animal Systems II	One week
Chapter 29	Animal Behavior	One week
Chapter 30	The Human Body	One week
Unit 7 Review	Animals (Chapters 25-30)	Two days
Final Exam		

Assignment Schedule

Each of the following must be completed to complete the course. Items with an asterisk (*) indicate that these are summative assessments for the course.

Keep in mind that this course is meant to be completed in a particular sequence, so some assignments may not appear until you've completed prerequisite assignments.

For example, you will not be able to see anything in the Unit folders until you've completed the chapter assignments. The Unit folders contain Notebook, Discussion Forum, and Unit Test assignments.

Lesson	Weeks	Assignments
Chapter 16	1	Checkpoint 1 (Non-graded) Lesson 16.1 Quiz Lesson 16.2 Quiz Lesson 16.3 Quiz Lesson 16.4 Quiz Lesson 16 Lab
Chapter 17	2	Lesson 17.1 Quiz Lesson 17.2 Quiz

Lesson	Weeks	Assignments
		Lesson 17.3 Quiz Lesson 17.4 Quiz Lesson 17.2 Lab Lesson 17.4 Lab
Chapter 18	3	Lesson 18.1 Quiz Lesson 18.2 Quiz Lesson 18.3 Quiz Lesson 18 Lab Checkpoint 2 (Non-graded)
Chapter 19	4	Lesson 19.1 Quiz Lesson 19.2 Quiz Lesson 19.3 Quiz Lesson 19 Lab
Unit 5 Review		<i>This folder will appear empty until you've completed prerequisite chapter assignments.</i> Unit 5 Notebook Unit 5 Forum *Unit 5 Test
Chapter 20	5	Lesson 20.1 Quiz Lesson 20.2 Quiz Lesson 20.3 Quiz Lesson 20 Lab
Chapter 21	6	Lesson 21.1 Quiz Lesson 21.2 Quiz Lesson 21.3 Quiz Lesson 21.4 Quiz Lesson 21 Lab
Chapter 22	7	Lesson 22.1 Quiz Lesson 22.2 Quiz Lesson 22.3 Quiz Lesson 22.4 Quiz Lesson 22 Lab
Chapter 23	8	Lesson 23.1 Quiz Lesson 23.2 Quiz Lesson 23.3 Quiz Lesson 23.4 Quiz Lesson 23.5 Quiz Lesson 23 Lab

Lesson	Weeks	Assignments
Chapter 24	9	Lesson 24.1 Quiz Lesson 24.2 Quiz Lesson 24.3 Quiz Lesson 24.4 Quiz Lesson 24 Lab
Unit 6 Review		<i>This folder will appear empty until you've completed prerequisite chapter assignments.</i> Unit 6 Notebook Unit 6 Forum *Unit 6 Test
Chapter 25	10	Lesson 25.1 Quiz Lesson 25.2 Quiz Lesson 25 Lab
Chapter 26	11	Lesson 26.1 Quiz Lesson 26.2 Quiz Lesson 26.3 Quiz Lesson 26 Lab
Chapter 27	12	Lesson 27.1 Quiz Lesson 27.2 Quiz Lesson 27.3 Quiz Lesson 27.4 Quiz Lesson 27 Lab
Chapter 28	13	Lesson 28.1 Quiz Lesson 28.2 Quiz Lesson 28.3 Quiz Lesson 28.4 Quiz Lesson 28 Lab
Chapter 29	14	Lesson 29.1 Quiz Lesson 29.2 Quiz Lesson 29 Lab
Chapter 30	15	Lesson 30.1 Quiz Lesson 30.2 Quiz Lesson 30.3 Quiz Lesson 30.4 Quiz Lesson 30 Lab
Unit 7 Review	16	<i>This folder will appear empty until you've completed prerequisite chapter assignments.</i> Unit 7 Notebook

Lesson	Weeks	Assignments
		Unit 7 Forum *Unit 7 Test Checkpoint 3 (Non-graded)
		Final Exam

Course Credit

The course grade will be calculated as follows:

- 50% coursework average;
- 50% summative assessment average, including the final exam;
- A passing course grade is 70 or higher.

Students must attempt all assignments in the course. The final exam will not be available until all assignments have been accepted and graded by the teacher.

Students who score below 70% on the final exam will be eligible for one re-exam opportunity.

Coursework

The graded assignments within each lesson are formative in nature. This means that they are designed to assist you in applying and demonstrating the lesson concepts, as well as identifying areas in which you need additional review. You may use all the lesson's learning activities to assist you as you complete the graded assignments.

Summative Assessments

Summative assessments are those that allow you to demonstrate mastery of the course objectives. For summative assessments, you will NOT be allowed to use the learning materials. These are opportunities for you to show what you have learned by that point in the course.

Summative assessments may be proctored using the online proctoring system Proctorio. Information about Proctorio is provided in **Remote Proctoring** in the Syllabus section of your course. The summative assessments for this course are as follows:

- **Summative Assessments (20% of Course Grade)**
 - Unit 5 Test (80 points)
 - Unit 6 Test (80 points)
 - Unit 7 Test (80 points)
- **Summative Final Exam (30% of Course Grade)**

Course Completion

- Students may not complete the course in less than 30 days.
- All courses expire six months after the enrollment date.

Academic Integrity

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

“Scholastic dishonesty” includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

Student Expectations

You will be expected to log into the Blackboard course regularly to be aware of possible announcements/reminders and to pace your progress in the course.

Students are expected to maintain an online environment conducive to learning, which includes “netiquette” (Internet etiquette). Please review the basic rules for [Online Discussion Netiquette](#). Ensure that your email messages, discussion board postings, and other electronic communications are thoughtful and respectful. Diverse opinions are welcome in this course, and you are expected to demonstrate an open mind and courtesy when responding to the thoughts and ideas of others.

The following are prohibited:

- making offensive remarks in email or the discussion board;
- using inappropriate language or discussing inappropriate topics online;
- spamming;
- hacking;
- using TTU or Blackboard email or discussion boards for commercial purposes;
- using all caps (considered shouting in online communications); and
- cyber-bullying or online harassment of any type.

Inappropriate behavior shall result in consequences ranging from a request to correct the problem, to removal from the course or even the university, depending on the severity of the behavior. Disciplinary actions will be taken according to the TTU K-12 Student Handbook.

Communication

- You can expect a reply from your instructor within 2 business days.
- Use the Blackboard Course Messages tool for sending messages to your instructor.

Submitting Assignments

You will submit all assignments through the Blackboard Assignment Tool, rather than by mail or email.

Technical Difficulties

Getting Help

For student assistance with Blackboard, visit [TTU K-12 Support](#).

Computer Problems

A working computer is necessary for online coursework. Computer problems will not be accepted as a valid reason for failure to complete course activities within the allotted time frame. Identify a second computer, before the course begins, that you can use if you experience computer problems.

Server Problems

When the Blackboard server needs to be taken down for maintenance, the Blackboard administrator will post an announcement in your course informing you of the time and date. If the server experiences unforeseen problems, your course instructor will notify you.

Lost or Corrupted Files

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of technology failure (e.g., Blackboard server crash or virus infection, students' own computer problems, loss of files in cyberspace, etc.) or any disputes, the instructor may request or require you to resubmit the files. In some instances, the instructor may need to open another attempt within Blackboard, so communication with your instructor is critical in these circumstances.