



Environmental Systems (ENVIRSYS) 1B Syllabus

Course Name

ENVIRSYS 1B

Environmental Systems – Semester B

Course Information

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

In this course, you'll work through the last three units of your science textbook: Water, Air, and Land; Mineral and Energy Resources; and Our Health and Our Future.

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. conduct hands-on laboratory and field investigations using safe, environmentally appropriate, and ethical practices;
2. demonstrate safe practices during laboratory and field investigations, including appropriate first aid responses to accidents that could occur in the field such as insect stings, animal bites, overheating, sprains, and breaks;
3. demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials;
4. follow or plan and implement investigative procedures, including making observations, asking questions, formulating testable hypotheses, and selecting equipment and technology;

5. collect data individually or collaboratively, make measurements with precision and accuracy, record values using appropriate units, and calculate statistically relevant quantities to describe data, including mean, median, and range;
6. demonstrate the use of course apparatuses, equipment, techniques, and procedures, including meter sticks, rulers, pipettes, graduated cylinders, triple beam balances, timing devices, pH meters or probes, thermometers, calculators, computers, Internet access, turbidity testing devices, hand magnifiers, work and disposable gloves, compasses, first aid kits, binoculars, field guides, water quality test kits or probes, soil test kits or probes, 100-foot appraiser's tapes, tarps, shovels, trowels, screens, buckets, and rock and mineral samples;
7. use a wide variety of additional course apparatuses, equipment, techniques, materials, and procedures as appropriate such as air quality testing devices, cameras, flow meters, Global Positioning System (GPS) units, Geographic Information System (GIS) software, computer models, densitometers, clinometers, and field journals;
8. organize, analyze, evaluate, build models, make inferences, and predict trends from data;
9. communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.
10. use critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom;
11. understand the relationships of biotic and abiotic factors within habitats, ecosystems, and biomes;
12. diagram abiotic cycles, including the rock, hydrologic, carbon, and nitrogen cycles;
13. measure the concentration of solute, solvent, and solubility of dissolved substances such as dissolved oxygen, chlorides, and nitrates and describe their impact on an ecosystem;
14. predict how the introduction or removal of an invasive species may alter the food chain and affect existing populations in an ecosystem;
15. explain the interrelationships among the resources within the local environmental system;
16. describe the sources and flow of energy through an environmental system;
17. describe and compare renewable and non-renewable energy derived from natural and alternative sources such as oil, natural gas, coal, nuclear, solar, geothermal, hydroelectric, and wind;
18. recognize the relationship between carrying capacity and changes in populations and ecosystems;
19. analyze and predict the effects of non-renewable resource depletion;
20. understand that environments change naturally;
21. explain how regional changes in the environment may have a global effect; and
22. describe the impact of human activities on the environment.

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

Textbook and Materials

Textbook(s)

The required digital textbook for this course is:

- Heithaus, Michael R., and Karen Arms. (2013). *Environmental Science*. Orlando, FL: Houghton Mifflin Harcourt Publishing Company. ISBN-13: 978-0-547-90401-6

Additionally, students will need an online account at [Holt McDougal Online](#) in order to access some of the virtual lab materials and other online resources. **Students will obtain this account through their access to the digital textbook, which can only be purchased through the [TTU K-12 partner bookstore](#).**

Once you have purchased the digital textbook, you will receive a username and password via email from MBS Direct after they have set up your account.

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 11 lessons and a final examination. The course follows the structure of the textbook. Each chapter is a lesson, and each lesson is subdivided into two or three 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 less questions). Most lessons will also have a science journal entry or a discussion to participate in.

After you've completed all the parts of each chapter, you'll work through a lab and take a chapter test.

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

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
UNIT 4: Chapter 11	Water	1.5 weeks
Chapter 12	Air	1.5 weeks
Chapter 13	Atmosphere and Climate Change	1.5 weeks
Chapter 14	Land	1.5 weeks
Chapter 15	Food and Agriculture	1.5 weeks
Unit 4 Science Journal Entries		
UNIT 5: Chapter 16	Mining and Mineral Resources	1.5 weeks
Chapter 17	Nonrenewable Energy	1.5 weeks
Chapter 18	Renewable Energy	1.5 weeks
Chapter 19	Waste	1.5 weeks
Unit 5 Science Journal Entries		
UNIT 6: Chapter 20	The Environment and Human Health	1.5 weeks
Chapter 21	Economics, Policy, and the Future	One week
Unit 6 Science Journal Entries		
Final Exam		

continued →

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.

Lesson	Weeks	Assignments
11	1-2	Checkpoint 1 (Non-graded) Chapter 11.1 Quiz Chapter 11.2 Quiz Chapter 11.3 Quiz Chapter 11 Lab *Chapter 11 Test
12	2-3	Chapter 12.1 Quiz Chapter 12.1 Discussion Chapter 12.2 Quiz Chapter 12.3 Quiz Chapter 12 Lab *Chapter 12 Test
13	4-5	Chapter 13.1 Quiz Chapter 13.2 Quiz Chapter 13.3 Quiz Chapter 13 Lab *Chapter 13 Test Checkpoint 2 (Non-graded)
14	5-6	Chapter 14.1 Quiz Chapter 14.2 Quiz Chapter 14.3 Quiz Chapter 14 Lab *Chapter 14 Test
15	7-8	Chapter 15.1 Quiz Chapter 15.2 Quiz Chapter 15.3 Quiz *Chapter 15 Test
Unit 4 Journal		Entries for Lessons 11.1, 11.3, 12.2, 12.3, 13.1, 13.2, 14.2, 14.3, 15.1, and 15.3 (10 entries total)
16	8-9	Chapter 16.1 Quiz Chapter 16.2 Quiz Chapter 16.3 Quiz Chapter 16 Lab *Chapter 16 Test

Lesson	Weeks	Assignments
17	10-11	Chapter 17.1 Quiz Chapter 17.2 Quiz Chapter 17 Lab *Chapter 17 Test
18	11-12	Chapter 18.1 Quiz Chapter 18.2 Quiz Chapter 18.2 Discussion *Chapter 18 Test
19	13-14	Chapter 19.1 Quiz Chapter 19.2 Quiz Chapter 19.3 Quiz Chapter 19 Lab *Chapter 19 Test
Unit 5 Journal		Entries for Lessons 16.1, 16.3, 17.1, 17.2, 18.1, 19.2, and 19.3 (7 entries total)
20	14-15	Chapter 20.1 Quiz Chapter 20.2 Quiz Chapter 20.2 Discussion Chapter 20 Lab *Chapter 20 Test
21	16	Chapter 21.1 Quiz Chapter 21.2 Quiz Chapter 21.3 Quiz Chapter 21 Lab *Chapter 21 Test Checkpoint 3 (Non-graded)
Unit 6 Journal		Entries for Lessons 20.1, 21.1, 21.2, and 21.3 (4 entries total)
		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)**
 - Chapter 11 Test (30 points)
 - Chapter 12 Test (30 points)
 - Chapter 13 Test (30 points)
 - Chapter 14 Test (30 points)
 - Chapter 15 Test (30 points)
 - Chapter 16 Test (30 points)
 - Chapter 17 Test (29 points)
 - Chapter 18 Test (35 points)
 - Chapter 19 Test (32 points)
 - Chapter 20 Test (35 points)
 - Chapter 21 Test (30 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.