

ENVIRONMENTAL SYSTEMS

MODULE CORRELATION CHART—TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS)

TEKS	Modules
1. Scientific processes. The student, for at least 40 percent of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices.	
A. Demonstrate safe practices during field and laboratory investigations.	1, 6
B. Make wise choices in the use and conservation of resources and the disposal or recycling of materials.	4, 6
2. Scientific processes. The student uses scientific methods during field and lab investigations.	
A. Plan and implement investigative procedures including asking questions, formulating testable hypothesis, and selecting equipment and technology.	4, 5
B. Collect data and take measurements with precision.	2, 4, 5
C. Organize, analyze, evaluate, make inferences, and predict trends from data.	3, 4, 5
D. Communicate valid conclusions.	5
3. Scientific processes. The student uses critical thinking and scientific problem-solving to make informed decisions.	
A. Analyze, review, and critique scientific explanations, including hypothesis and theories, as to their strengths and weaknesses using scientific evidence and information.	2, 4, 5
B. Make responsible choices in selecting everyday products and services using scientific information.	5, 7
C. Evaluate the impact of research on scientific thought, society, and the environment.	5, 7
D. Describe the connection between environmental science and future careers.	8
E. Research and describe the history of environmental science and contributions of scientists.	8
4. Scientific concepts. The student understands the relationships of biotic and abiotic factors within habitats, ecosystems, and biomes.	
A. Identify indigenous plants and animals; assess their role within an ecosystem, and compare them to plants and other animals in other ecosystems and biomes.	1
B. Make observations and compile data about fluctuations in abiotic cycles and evaluate the effects of abiotic factors on local ecosystems and biomes.	1
C. Evaluate the impact of human activity such as methods of pest control, hydroponics, organic gardening, or farming on ecosystems.	3, 4
D. Predict how the introduction, removal, or reintroduction of an organism may alter the food chain and affect existing populations.	1
E. Predict changes that may occur in an ecosystem if biodiversity is increased or reduced.	1

5.	Science concepts. The student understands the interrelationships among the resources within the local environmental system.	
A.	Summarize methods of land use and management.	4
B.	Identify the source, use, quality, and conservation of water.	4
C.	Document the use and conservation of both renewable and non-renewable resources.	2
D.	Identify renewable and non-renewable resources that must come from outside an ecosystem such as food, water, lumber, and energy.	2, 4
E.	Analyze and evaluate the economic significance and interdependence of components of the environmental system.	7
F.	Evaluate the impact of human activity and technology on land fertility and aquatic viability.	3, 4, 6
6.	Science concepts. The student knows the sources and flow of energy through an environmental system.	
A.	Summarize forms and sources of energy.	2
B.	Explain the flow of energy in an ecosystem.	1
C.	Investigate and explain the effects of energy transformations within an ecosystem.	1
D.	Investigate and identify energy interactions in an ecosystem.	1
7.	Science concepts. The student knows the relationship between carrying capacity and changes in populations and ecosystems.	
A.	Relate carrying capacity to population dynamics.	7
B.	Calculate exponential growth of populations.	7
C.	Evaluate the depletion of non-renewable resources and propose alternatives.	2
D.	Analyze and make predictions about the impact on populations of geographic locales, natural events, diseases, and birth and death rates.	6, 7
8.	Science concepts. The student knows that environments change.	
A.	Analyze and describe the effects on environments of events such as fires, hurricanes, deforestation, mining, population growth, and municipal development.	6, 7
B.	Explain how regional changes in the environment may have a global effect.	3
C.	Describe how communities have restored an ecosystem.	5
D.	Examine and describe a habitat restoration or protection program.	