Florida CTE

Agriculture, Food, and Natural Resources: Introduction to Natural Resources

Identify major ecosystems in Florida. CTE.11.0	**11.01** Identify common plant and animal species of the major ecosystems. CTE.11.01
	11.02 Identify the boundary between uplands and wetlands using resources such as: aerial photographs, soils, plants, and/or hydrology. CTE.11.02
	11.03 Identify environmental factors affecting Florida's major ecosystems. CTE.11.03
	11.04 Identify threatened and endangered plant and animal species of specific habitats. CTE.11.04
	11.05 Analyze biological and economical, impacts on managing ecosystems. CTE.11.05
	11.06 Trace the effects of pollution through an ecosystem. CTE.11.06
	11.07 Explain how lack of predation contributes to uncontrollable exotic populations. CTE.11.07
	11.08 Explain how exotic populations stress native. CTE.11.08
Describe hydrology. CTE.12.0	**12.01** Define basic hydrological terms. CTE.12.01
	12.02 Explain surface water systems. CTE.12.02
	12.03 Explain ground water systems. CTE.12.03
	12.04 Describe and diagram the water, carbon, nitrogen, oxygen, sulfur, and phosphorus cycles. CTE.12.04
	12.05 Discuss the Clean Water Act. CTE.12.05
	12.06 List the components of Florida's fresh water systems (lakes, ground water, aquifer, springs, rivers, sink holes and swamps) and explain the importance of managing these resources. CTE.12.06

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Practice safety skills and procedures. CTE.13.0	**13.01**	**Demonstrate proper safety precautions and use of common laboratory, testing, and personal protective equipment.** CTE.13.01
	13.02	**Identify and utilize safe practices with equipment.** CTE.13.02
	13.03	**Identify physical, chemical, biological, and zoological hazards.** CTE.13.03
	13.04	**Extract and utilize pertinent information from a container label and/or Material Safety Data Sheet (MSDS) following Environmental Protection Agency (EPA) regulations.** CTE.13.04
	13.05	**Determine, review, and follow relevant regulations.** CTE.13.05
	13.06	**Maintain appropriate safety records.** CTE.13.06
	13.07	**Identify and describe "on the job" hazards and risks including fire/explosive, lead asbestos, and weather hazards.** CTE.13.07
Demonstrate sampling procedures. CTE.14.0	**14.01**	**Define sampling objectives and protocol.** CTE.14.01
	14.02	**Operate, calibrate, and maintain sampling equipment.** CTE.14.02
	14.03	**Develop sampling strategy.** CTE.14.03
	14.04	**Perform applicable field measurements.** CTE.14.04
	14.05	**Appropriately preserve, document, and dispose of samples.** CTE.14.05
	14.06	**Identify cross-contamination and other risks associated with sampling.** CTE.14.06
	14.07	**Describe, plan, and utilize quality assurance practices.** CTE.14.07
	14.08	**Perform periodic follow-up sampling.** CTE.14.08
Collect and test samples used to determine soil characteristics. CTE.15.0	**15.01**	**Collect soil samples from test area and complete soil data forms.** CTE.15.01
	15.02	**Determine soil pH using pH test kit.** CTE.15.02
	15.03	**Conduct soil and mineral and analysis using soil test kit.** CTE.15.03
	15.04	**Determine and record texture, structure, temperature and color of each soil layer.** CTE.15.04
	15.05	**Analyze soil data and write lab report.** CTE.15.05
	15.06	**Determine the effect of texture, density, and porosity on permeability/infiltration rates and seasonal high groundwater table.** CTE.15.06

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	15.07 Examine the relationship between soil texture, water movement and water holding capacity. CTE.15.07
	15.08 Determine land class capability utilizing resources, such as: NRCS County Soil Survey, using Geographic Information Systems or other resources. CTE.15.08
Describe related geologic principles. CTE.16.0	**16.01** Explain the geological history of Florida. CTE.16.01
	16.02 Analyze a soil profile and describe the associated components. CTE.16.02
	16.03 Evaluate soil profiles, land-capability classes, and soil conservation practices. CTE.16.03
	16.04 Interpret legal descriptions of land. CTE.16.04
	16.05 Identify mapping and surveying techniques and equipment. CTE.16.05
Discuss related standards and regulations. CTE.17.0	**17.01** Identify where local state, and federal regulations are documented and describe their impact. CTE.17.01
	17.02 Identify local, state, and national regulatory agencies and discuss their roles in relation to state and federal laws and statures. CTE.17.02
	17.03 Research how rules and laws are made and implemented. CTE.17.03
	17.04 Research and report how endangered species get listed at the state and federal level. CTE.17.04
Identify wetland management practices. CTE.18.0	**18.01** Identify ecosystems. CTE.18.01
	18.02 Discuss the structure, function, and delineation of wetlands. (Including characteristics, habitat value, and wetland fauna and flora. CTE.18.02
	18.03 Define characteristics of wetlands. CTE.18.03
	18.04 Discuss habitat value. CTE.18.04
	18.05 Identify wetland fauna and flora. CTE.18.05
	18.06 Determine desirable vs. invasive plant and animal species in Florida wetlands. CTE.18.06
	18.07 Research control treatments for invasive plants. CTE.18.07
	18.08 Discuss mitigation techniques. CTE.18.08
	09 Evaluate impacts on wetlands. CTE.18.09

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Describe methods to manage wildlife. CTE.19.0	**19.01**	**Identify wildlife species in the various Florida environments.** CTE.19.01
	19.02	**Identify and describe life cycle of game species and non- game.** CTE.19.02
	19.03	**Discuss urban wildlife management.** CTE.19.03
	19.04	**Identify wildlife management techniques and principles.** CTE.19.04
	19.05	**Identify common wildlife diseases and parasites.** CTE.19.05
	19.06	**Discuss wildlife population dynamics.** CTE.19.06
Describe procedures to manage forests. CTE.20.0	**20.01**	**Describe dendrology.** CTE.20.01
	20.02	**Describe silviculture. (Including harvesting techniques, timber stand improvements)** CTE.20.02
	20.03	**Describe replanting techniques.** CTE.20.03
	20.04	**Describe the need for prescribed fires.** CTE.20.04
	20.05	**Identify timber and forest products.** CTE.20.05