Florida CTE

Agriculture, Food and Natural Resources: Animal Science and Services 4: Grades 9-12

Apply animal health practices. The student will be able to: 21.0	1 **Administer prescribed oral medications.** 21.1
	2 **Locate injection points of selected animals.** 21.2
	3 **Sterilize instruments and supplies.** 21.3
	4 **Interpret and follow directions on medications and animal health aids, including withdrawal periods.** 21.4
	5 **Dip, spray, or dust animals for external parasites (under supervision).** 21.5
	6 **Dispose of empty chemical and medical containers as prescribed.** 21.6
	7 **Store medications and chemicals safely and securely.** 21.7
	8 **Dispose of biomedical waste and by products (needles, scalpel blades, medicines, etc.).** 21.8
Maintain equipment and facilities. The student will be able to: 22.0	1 **Clean and disinfect pens, cages, feeders, waterers, trailers, and other equipment according to Best Management Practices.** 22.1
	2 **Dispose of animal residue and waste according to Best Management Practices.** 22.2
	3 **Prepare and maintain equipment and instruments.** 22.3
	4 **Repair and maintain pens, cages and other facilities and structures.** 22.4
	5 **Create a clean, sanitary, and healthy environment for animals.** 22.5
Operate, maintain, and repair machinery and equipment. The student will be able to: 23.0	1 **Use equipment-operator and repair manuals.** 23.1
	2 **Operate, service, and maintain equipment.** 23.2
	Maintain records of equipment maintenance and repair. 23.3

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	4 Prepare equipment for storage. 23.4
	5 Demonstrate safety practices in operating machinery and equipment. 23.5
Investigate emerging technologies in Animal Science. The student will be able to: 24.0	1 Identify new technologies in animal science. 24.1
	2 Research emerging technologies and determine their impact on animal industry and society. 24.2
Apply scientific principles in the selection and breeding of animals. The student will be able to: 25.0	1 Compare and contrast the use of genetically superior animals in the production of animals and animal products. 25.1
	2 Identify and categorize natural and artificial breeding methods (e.g., natural breeding, artificial insemination, estrous synchronization, flushing, cloning, etc.). 25.2
	3 Select animal breeding methods based on reproductive and economic efficiency. 25.3
	4 Examine the use of quantitative breeding values (e.g., EPDs, Performance records, pedigrees) in the selection of genetically superior breeding stock. 25.4
	5 Compare and contrast quantitative breeding value differences between genetically superior animals and animals of average genetic value. 25.5
	6 Select and assess animal performance based on quantitative breeding values for specific characteristics. 25.6
	7 Identify and summarize the advantages and disadvantages of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer (e.g., cost, labor, equipment, etc.). 25.7
	8 Analyze the processes of major reproductive management practices, including estrous synchronization, superovulation, flushing and embryo transfer. 25.8
	9 Create and evaluate plans and procedures for estrous synchronization, superovulation, flushing, embryo transfer and other reproductive management practices. 25.9
	10 Calculate the potential economic benefits of natural versus artificial breeding methods. 25.10
	11 Analyze the materials, methods, and processes of artificial insemination. 25.11
	12 Demonstrate artificial insemination techniques. 25.12
Ma rec be	**laintain and analyze animal records.** 26.1

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	2 Maintain machinery and equipment records. 26.2
	3 Maintain and analyze basic business records (inventory, depreciation, receipts, and expenses) using computer applications. 26.3
	4 Prepare and maintain Supervised Agricultural Experience (SAE) records. 26.4
Manage pasture and forage crops. The student will be able to: 27.0	1 Compare pasture, forage and feed crop production and harvesting systems. 27.1
	2 Assist in determining pasture and forage needs. 27.2
	3 Take a forage sample and interpret results. 27.3
	4 Determine range and pasture quality. 27.4
	5 Assist in the development of a plan for the rotation of fields, pens and pastures. 27.5
Understand the relationship of animal production and the environment. The student will be able to: 28.0	1 Evaluate the relationship between animal agriculture on the environment. 28.1
	2 Outline methods of balancing the effects of animal agriculture on the environment. 28.2
	3 Describe BMPs (Best Management Practices) to balance the impact of animal agriculture on the environment. 28.3
	4 Determine positive effects of animal agriculture on the environment. 28.4
Evaluate the effects of environmental conditions on animals. The student will be able to: 29.0	1 Identify optimal environmental conditions for animals. 29.1
	2 Describe the effects of environmental conditions on animal populations and performance. 29.2
	3 Establish and maintain favorable environmental conditions for animal growth and performance. 29.3
Identify and interpret environmental issues and regulations pertaining to animal industry. The student will be able to: 30.0	1 Determine environmental issues pertinent to your area. 30.1
	2 Calculate the economic impact of environmental regulations on the industry. 30.2
	3 Discuss emerging technologies and determine their effectiveness as related to environmental quality. 30.3
	4 Evaluate an animal facility to determine if standards have been met. 30.4
	5 Design a facility that meets standards for the legal, safe, ethical, and efficient production of animals. 30.5