

Outdoor Recreation, Parks, and Tourism Systems Management

8043 36 weeks

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Course Description

Suggested Grade Level: 11 or 12

This course offers instruction to students interested in careers in the recreation, parks, and tourism industries. Students will learn how to enhance the quality of life for people engaging in outdoor recreational activities. Instruction includes methods for advancing environmental conservation efforts, social equity, and health and wellness. Students will also explore the development and management of parks and recreational areas and the economic benefits and environmental effects of tourism.

As noted in [Superintendent's Memo #058-17 \(2-28-2017\)](#), this Career and Technical Education (CTE) course must maintain a maximum pupil-to-teacher ratio of 20 students to one teacher, due to safety regulations. The 2016-2018 biennial budget waiver of the teacher-to-pupil ratio staffing requirement does not apply.

Task Essentials Table

8043	Tasks/Competencies
<input checked="" type="checkbox"/>	Identify the role of supervised agricultural experiences (SAEs) in agricultural education.
<input checked="" type="checkbox"/>	Participate in an SAE.
<input checked="" type="checkbox"/>	Identify the benefits and responsibilities of FFA membership.
<input checked="" type="checkbox"/>	Describe leadership characteristics and opportunities as they relate to agriculture and FFA.
<input type="checkbox"/>	Apply for an FFA degree and/or an agricultural proficiency award.
<input checked="" type="checkbox"/>	Complete a nationally recognized certification for first aid.
<input checked="" type="checkbox"/>	Complete a nationally recognized cardiopulmonary resuscitation (CPR) and automatic external defibrillator (AED) certification.
<input type="checkbox"/>	Complete a nationally recognized wilderness first aid training.

<input checked="" type="radio"/>	Explain the dangers and hazards associated with the outdoors.
<input checked="" type="radio"/>	Demonstrate use of tools and equipment.
<input checked="" type="radio"/>	Evaluate the effects of personal values regarding leisure and recreational experiences on attitudes, behaviors, and the use of resources.
<input checked="" type="radio"/>	Describe the benefits of participating in outdoor recreational activities related to health, well-being, and quality of life.
<input checked="" type="radio"/>	Research the evolution and significance of recreation and leisure activities.
<input checked="" type="radio"/>	Conduct an agriscience research project related to outdoor recreation, parks, and tourism management.
<input checked="" type="radio"/>	Explain the benefits of ecotourism to states and localities.
<input checked="" type="radio"/>	Identify resources that promote and enhance recreational and leisure experiences.
<input checked="" type="radio"/>	Describe the procedures for promoting, organizing, and conducting a hunting and/or fishing expedition.
<input checked="" type="radio"/>	Explain the benefits of therapeutic recreation.
<input checked="" type="radio"/>	Develop a plan to promote an outdoor-based therapeutic recreation program.
<input checked="" type="radio"/>	Develop a plan for providing a nature-related experience to consumers.
<input checked="" type="radio"/>	Evaluate marketing strategies, tools, and techniques used for promoting outdoor experiences.
<input checked="" type="radio"/>	Create a marketing plan that can be used to promote an ecotourism business or outdoor recreation event.
<input checked="" type="radio"/>	Describe the customer service skills required for careers in the parks and recreation industry.
<input checked="" type="radio"/>	Identify the major elements influencing consumer use of federal, state, and local parks and recreational areas.
<input checked="" type="radio"/>	Identify the location and related characteristics of state parks and national forests.
<input checked="" type="radio"/>	Describe the safety procedures for outdoor recreation and adventure tourism.
<input checked="" type="radio"/>	Develop procedures for maintaining security and preventing accidents.
<input checked="" type="radio"/>	Inspect recreational areas for safety hazards.
<input checked="" type="radio"/>	Identify procedures for reporting violators in recreational areas and parks.
<input type="radio"/>	Explain the procedure for preparing a case for prosecution against violators.
<input checked="" type="radio"/>	Develop a landscape design to manage traffic flow, increase security, and establish boundaries.

<input checked="" type="radio"/>	Explain the importance of user-friendly wayfinding systems to assist visitors in parks, historic sites, and recreational areas.
<input checked="" type="radio"/>	Develop a plan for cleaning and sanitizing the campground and recreational area buildings and facilities.
<input checked="" type="radio"/>	List common supplies needed for recreation facilities.
<input checked="" type="radio"/>	Describe methods for controlling insects in outdoor recreational areas.
<input checked="" type="radio"/>	Describe methods for minimizing negative wildlife encounters in outdoor recreational areas.
<input checked="" type="radio"/>	Develop policies, procedures, regulations, and rules for campground and recreational area use.
<input type="radio"/>	Develop a plan for the location, construction, and maintenance of scenic trails with minimal environmental impact.
<input type="radio"/>	Compile an inventory of a site's natural and historical resources.
<input checked="" type="radio"/>	Explain the roles and duties of outdoor recreation supervisors, employees, and volunteers.
<input checked="" type="radio"/>	Design a recreational enterprise.
<input type="radio"/>	Develop a plan for gathering data on the use of a recreational area.
<input checked="" type="radio"/>	Develop plans for various outdoor recreational activities.
<input checked="" type="radio"/>	Develop an interpretive or environmental education program.
<input type="radio"/>	Design a play area for children.
<input checked="" type="radio"/>	Describe the process for securing a portable restroom for an event/program.
<input type="radio"/>	Develop a rainout plan.
<input checked="" type="radio"/>	Create rosters, schedules, and playoff brackets.
<input checked="" type="radio"/>	Identify the processes for recruiting, hiring, and training employees.
<input checked="" type="radio"/>	Create a schedule for staff members for the spring, summer, or fall season.
<input type="radio"/>	Maintain roadless character and values of wilderness areas to comply with land-use restrictions of the Roadless Area Conservation Rule.
<input checked="" type="radio"/>	Identify the location of the Appalachian Trail.
<input checked="" type="radio"/>	Navigate from a starting point to a destination point.
<input checked="" type="radio"/>	Explain the economic significance of the Appalachian Trail (AT) to Virginia's outdoor tourism industry.

<input checked="" type="radio"/>	Evaluate the environmental and economic effects of a recreational enterprise on the wilderness area.
<input checked="" type="radio"/>	Describe ethics issues faced in outdoor recreation management.
<input checked="" type="radio"/>	Research the history of forest and park policy in the United States.
<input checked="" type="radio"/>	Describe the scope of government agencies involved in forest, recreation, wildlife, and parks management.
<input checked="" type="radio"/>	Design a recreational facility using Leadership in Energy and Environmental Design (LEED) principles.
<input checked="" type="radio"/>	Perform basic concrete and masonry maintenance.
<input checked="" type="radio"/>	Demonstrate basic carpentry skills.
<input type="radio"/>	Construct a fence.
<input checked="" type="radio"/>	Demonstrate basic electrical skills.
<input checked="" type="radio"/>	Demonstrate basic plumbing skills.
<input type="radio"/>	Describe local ordinances related to swimming pools.
<input checked="" type="radio"/>	Describe the process and equipment used to maintain a swimming pool.
<input checked="" type="radio"/>	Paint various surfaces.
<input checked="" type="radio"/>	Describe the process of repairing roads and driveways.
<input checked="" type="radio"/>	Describe basic maintenance requirements for vehicles and equipment essential to the outdoor recreation, parks, and tourism industry.

Legend: Essential Non-essential Omitted

Note: Competencies 39-43 have been added to ensure compliance with federal legislation: National FFA Organization's Federal Charter Amendments Act (Public Law 116-7, <https://www.congress.gov/116/plaws/publ7/PLAW-116publ7.pdf>). All inquiries may be sent to cte@doe.virginia.gov. Students are provided opportunities for leadership, personal growth, and career success. Instruction is delivered through three major components: classroom and laboratory instruction, supervised agricultural experience (SAE) program, and student leadership (FFA).

Curriculum Framework

Task Number 39

Identify the role of supervised agricultural experiences (SAEs) in agricultural education.

Definition

Identification should include

- defining an SAE program as *an opportunity for students to consider multiple careers and occupations in the agriculture, food, and natural resources (AFNR) industries, learn expected workplace behavior, develop specific skills within an industry, and apply academic and occupational skills in the workplace or a simulated workplace environment*
- researching the Foundational SAE
 - career exploration and planning
 - personal financial planning and management
 - workplace safety
 - employability skills for college and career readiness
 - agricultural literacy
- researching the Immersion SAE
 - entrepreneurship/ownership
 - placement/internships
 - research (experimental, analytical, invention)
 - school business enterprises
 - service learning
- developing a plan to participate in an SAE, based on personal and career goals
- researching available awards and degrees, based on SAE participation.

Teacher resource: [SAE Resources](#), National Council for Agricultural Education

Process/Skill Questions

- What are examples of SAEs related to this course and in the AFNR industries?
- Where can a copy of the Virginia SAE Record Book be found?
- What is an Immersion SAE?
- How does a placement/internship SAE differ from an ownership/entrepreneurship SAE?
- How does an SAE provide relevant work experience and contribute to the development of critical thinking skills?
- How is the SAE an extended individualized instructional component of a student's Career Plan of Study?
- How can an SAE be used to provide evidence of student growth and participation in authentic, work-related tasks?
- What are the four types of SAEs?
- What are the advantages of participating in work-based learning experiences and projects?
- How does one choose an appropriate SAE in which to participate?

Task Number 40

Participate in an SAE.

Definition

Participation should include

- developing, completing, or continuing a plan to participate in an SAE as a work-based learning experience, based on personal and career goals
- documenting experience, connections, positions held, and competencies attained, using the *Virginia SAE Record Book*
- researching available awards and degrees, based on SAE participation.

Teacher resources:

[FFA SAE](#)

[The Agricultural Experience Tracker](#)

Process/Skill Questions

- What are the advantages of participating in work-based learning experiences and projects?
- How do SAEs help prepare students for the workforce?
- What are some examples of SAEs in AFNR?

Exploring Leadership Opportunities through FFA

Task Number 41

Identify the benefits and responsibilities of FFA membership.

Definition

Identification should include

- benefits
 - listing opportunities to participate in community improvement projects and career development events (CDEs) and leadership development events (LDEs)
 - exploring leadership development opportunities
- responsibilities
 - researching the responsibilities of FFA officers, committees, and members
 - locating resources that guide participation in FFA activities
 - explaining the FFA Creed, Motto, Salute, and mission statement
 - explaining the meaning of the FFA emblem, colors, and symbols
 - explaining significant events and the history of the organization.

Process/Skill Questions

- How does one become an FFA member?
- What is the FFA's mission and how does it accomplish its mission?
- What are the benefits and responsibilities of FFA membership?
- What five FFA activities are available through the local chapter?
- What are some significant events in FFA history? How have these events shaped membership over time?
- What is the FFA program of activities (POA), and how is it used?

Task Number 42

Describe leadership characteristics and opportunities as they relate to agriculture and FFA.

Definition

Description should include

- examples of successful leaders
- types of leadership
 - autocratic
 - participative
 - laissez-faire
 - servant
 - followership
- positive leadership qualities and traits of successful leaders
- opportunities for participating in leadership activities in FFA
- demonstrating methods for conducting an effective meeting.

Process/Skill Questions

- Who are some successful leaders in the agriculture industry?
- What qualities make a successful leader?
- What are leadership traits?
- What is the difference between positive and negative leadership?

Task Number 43

Apply for an FFA degree and/or an agricultural proficiency award.

Definition

Application should include

- identifying types of FFA degrees
 - Greenhand

- Chapter
- State
- American
- identifying proficiency award areas
 - entrepreneurship
 - placement
 - combined
 - agriscience research
- exploring CDEs and LDEs related to this course
- identifying all SAE criteria to be eligible for the award
- identifying the type of award
- applying for an FFA award.

Teacher resource: [FFA Agricultural Proficiency Awards](#)

Process/Skill Questions

- Where are the awards and their application criteria located?
- What are the benefits of winning an FFA award?
- What are the benefits and requirements of an FFA degree?
- What FFA awards are available?
- How does the FFA degree program reward FFA members in all phases of leadership, skills, and occupational development?
- What is the highest degree that can be conferred upon an FFA member at the national level?
- What are the requirements for a Greenhand FFA degree?

Developing Safety Skills and Awareness

Task Number 44

Complete a nationally recognized certification for first aid.

Definition

Completion includes fulfilling the course requirements of a nationally recognized first aid certifying organization, such as the American Heart Association (AHA) or the American Red Cross.

Process/Skill Questions

- When is it appropriate to perform cardiopulmonary resuscitation (CPR)? Use an automated external defibrillator (AED)?
- What are the essential components of performing CPR? Using an AED?
- How does one's level of medical training affect the responsibility to react in a medical emergency?
- How does the Good Samaritan Law affect a responder?

Task Number 45

Complete a nationally recognized cardiopulmonary resuscitation (CPR) and automatic external defibrillator (AED) certification.

Definition

Completion includes fulfilling the course requirements of a nationally recognized emergency cardiac care certifying organization, such as the AHA or the American Red Cross. Emergency cardiac care includes

- adult, pediatric, and infant CPR
- use of AED
- second rescuer CPR
- eliminating airway obstructions
- use of barrier devices, including a bag valve mask (BVM) resuscitator.

Process/Skill Questions

- When is it appropriate to perform CPR? Use an AED?
- What are the essential components of performing CPR? Using an AED?
- How does one's level of medical training affect the responsibility to react in a medical emergency?
- How does the Good Samaritan Law affect a responder?

Task Number 46

Complete a nationally recognized wilderness first aid training.

Definition

Completion should include fulfilling the requirements of a nationally recognized wilderness first aid training, such as American Red Cross Wilderness Training.

Process/Skill Questions

- How can a nationally recognized wilderness first aid training course prepare one for understanding the importance of trip-planning principles and hazard identification and assessment?
- How can completion help one develop outdoor leadership and decision-making skills?
- What are some risks that are unique to solo adventures?
- What does it mean to venture beyond the reach of traditional emergency services, and how can planning mitigate hazards and increase the effectiveness of response measures?

Task Number 47

Explain the dangers and hazards associated with the outdoors.

Definition

Explanation should include hazards such as

- plants (e.g., poison ivy, poison oak, sumac)
- animals (e.g., bears, snakes, coyotes)
- insects (e.g., mosquitoes, ticks)
- arachnids (e.g., brown recluse, black widow)
- environmental exposure (e.g., hypothermia, heat stroke)
- pathway obstructions and hazards
- chemical use (e.g., gas stoves)
- boating (see [Virginia Boater Education](#)).

Process/Skill Questions

- What methods can be used to educate the public about wild animals?
- What hazardous plants, animals, and insects are commonly found in Virginia's outdoor recreation areas?
- How should pathway hazards be marked?
- What chemical safety issues might arise in an outdoor recreation area?
- Who is required to complete Virginia's boater education course?

Task Number 48

Demonstrate use of tools and equipment.

Definition

Demonstration could include explaining the dangers associated with the operation of equipment such as

- electric or gas-powered tools (e.g., mowers, trimmers)
- hand tools (e.g., handsaws, rakes).

Demonstration should also include

- passing written tests with 100 percent accuracy on
 - general lab/workshop safety
 - safety and operating procedures for all tools, equipment, and machinery
 - the major parts of all tools, equipment, and machinery
- passing a proficiency/performance test with 100% accuracy for all tools, equipment, and machinery
- following manufacturer instructions and reviewing safety manuals, when applicable
- following all recommended safety guidelines and procedures when using tools, equipment, and machinery
- selecting and wearing all required personal protective equipment (PPE)
- following the safety standards and regulations of the Environmental Protective Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Equipment and Engine Training Council (EETC) Education Committee, and safety data sheets (SDS)
- using safety guards on equipment
- following applicable lockout/tagout procedures

- maintaining proper distance around operating equipment.

Teacher resources:

[Laboratory Safety Resources](#), Virginia Tech

[Safety Best Practice Guide](#), Virginia Department of Education (VDOE)

[National Safe Tractor and Machinery Operation Program \(NSTMOP\) program overview](#), Penn State Extension

[National Safe Tractor and Machinery Operation Program \(NSTMOP\) instructor training course](#), Penn State Extension

Teachers must become certified to teach and organize the NSTMOP to certify students.

Process/Skill Questions

- Why is it important to achieve 100 percent accuracy on tests regarding safety and operating procedures before using tools, equipment, and machinery?
- What information should be provided to emergency responders if a chemical is splashed in a student's eye?
- How can a standardized document that contains occupational safety and health data assist one in the event of a chemical spill?
- Why does the International Hazard Communication Standard (HCS) mandate that chemical manufacturers communicate a chemical's hazard information to chemical handlers?
- Where can one find information on the chemical properties, health and environmental hazards, protective measures, and safety precautions for storing, handling, and transporting chemicals?
- Why is it important to keep safety guards in place when operating power tools, machinery, and equipment?
- What are *lockout/tagout procedures*, and why are they used?

Promoting Leisure and Recreation Enterprises

Task Number 49

Evaluate the effects of personal values regarding leisure and recreational experiences on attitudes, behaviors, and the use of resources.

Definition

Evaluation should include

- defining *leisure*
- identifying factors that influence the amount of time people commit to leisure activity
- defining *recreation*
- identifying the benefits of various forms of outdoor recreation, such as
 - camping
 - hiking
 - hunting
 - fishing
 - archery
 - boating
 - cycling
 - nature study/observation
 - historical and cultural study
 - motorized activities (e.g., boating, all-terrain vehicles [ATVs], motorcycles, side-by-sides)
 - art activities (e.g., photography, painting *en plein air*)
 - summer camps/outdoor education.

Process/Skill Questions

- Why do people enjoy outdoor recreation and leisure activities? What are the benefits?
- What are different ways that natural resources are utilized for recreation?
- What are ways to connect to nature?
- How can leisure and recreational activities contribute to physical and psychological well-being in adolescents?

Task Number 50

Describe the benefits of participating in outdoor recreational activities related to health, well-being, and quality of life.

Definition

Description should include a discussion of

- how outdoor recreation assists in the mitigation of the health crisis stemming from physical inactivity, obesity, and the contribution of physical inactivity and obesity to chronic diseases
- how outdoor recreational activities can reduce depression, improve self-esteem, and promote personal growth
- how recreational facilities promote social bonds, cultural sensitivity, and support seniors and persons with disabilities
- the benefits of natural landscapes and historic sites
- the importance of public lands and the preservation of natural resources and wildlife areas.

Teacher resources:

[Virginia Outdoors Plan 2018](#), Virginia Department of Conservation and Recreation

[Virginia Department of Conservation and Recreation](#)

Process/Skill Questions

- How can participating in outdoor recreational activities stem the tide of chronic obesity?
- How do outdoor recreational activities encourage cultural sensitivity?
- Why are public lands and the preservation of natural resources and wildlife important to humanity?

Task Number 51

Research the evolution and significance of recreation and leisure activities.

Definition

Research could include

- the importance of publicly accessible lands (e.g., parks, forests, wilderness management areas, wildlife refuges, nature preserves)
- transition of activities required for sustenance to leisure activities
 - hunting
 - fishing
 - horseback riding
 - hiking
 - biking
- how technology (e.g., global positioning system [GPS], equipment advancements) has changed outdoor adventures

Process/Skill Questions

- Why is important to keep traditional activities alive in cultures around the world?
- What activities could preserve the cultural heritage in the local area?
- What role has technology played in the evolution of recreation and leisure?
- How has the evolution of recreation and leisure activities affected the economy? The environment?

Task Number 52

Conduct an agriscience research project related to outdoor recreation, parks, and tourism management.

Definition

Project should include scientific research and may focus on one of a variety of topics, such as

- stewardship of land and water
- anthropogenic effect on resources (e.g., erosion of trails, wildlife displacement, and plant erosion)
- observations of migratory birds
- other environmental issues related to outdoor recreation, parks, and tourism systems management.

Process/Skill Questions

- What issues would merit the importance of an agriscience research project?
- How can research enhance the outdoor recreation experience?
- Why is it important to follow proper scientific procedure?
- Who are the foremost researchers in agriscience?
- What factors influence the carrying capacity of a resource?
- How is climate change influencing recreation and leisure activities?

Task Number 53

Explain the benefits of ecotourism to states and localities.

Definition

Explanation should include

- benefits of ecotourism, especially in rural areas
- use of nature and natural resources to attract commerce to a locality or state
- trends and popular outdoor activities in the student's locality and in Virginia
- benefits to sporting goods retailers, outfitters, local hotels, restaurants, and additional amenity providers (e.g., farmers' markets, theaters, gas stations).

Process/Skill Questions

- What draws tourists to a local area?
- What are the local ecotourism-related businesses?
- How does ecotourism benefit communities?
- What role does ecotourism play in local, state, and federal commerce?

Task Number 54

Identify resources that promote and enhance recreational and leisure experiences.

Definition

Identification should include amenities that extend options for leisure, such as

- primitive/rustic camping and resort-style lodging
- interpretation and guided tours
- historical experiences
- wineries and breweries
- rafting, tubing, kayaking, and canoeing
- ATV rentals.

Process/Skill Questions

- What amenities or luxuries have the potential to enhance various leisure experiences?
- How could a business promote new amenities without deterring traditionalists?
- How has technology played a role in enhancing the leisure experience?

Task Number 55

Describe the procedures for promoting, organizing, and conducting a hunting and/or fishing expedition.

Definition

Description should include

- location and acreage
- lodging and/or camping options
- fish and/or game stock levels
- fish and/or game movement patterns
- insurance requirements
- legal concerns
- support staff (e.g., guides, cooks)
- promotional tools (e.g., advertisements, online marketing).

Process/Skill Questions

- What questions should one ask an individual who is interested in participating in a hunting and/or fishing expedition?
- What information is essential to know about one's customers?
- What are strategies one might use to promote a newly established business?
- What is a testimonial, and why is it useful?
- What laws and regulations apply to excursion businesses?

Task Number 56

Explain the benefits of therapeutic recreation.

Definition

Explanation should include

- various purposes of therapeutic recreation
- role of therapeutic recreation in improving physical and mental well-being
- examples of therapeutic recreation.

Process/Skill Questions

- What are the benefits of therapeutic recreation?
- How can therapeutic recreation assist persons with disabilities?
- What activities could be considered therapeutic?
- What therapeutic outdoor activities are available in the local area?
- How can nature and animals play a role in therapy?

Task Number 57

Develop a plan to promote an outdoor-based therapeutic recreation program.

Definition

Development should include

- outlining the goals and mission of outfitters (e.g., [James River Association](#), [Chesapeake Bay Foundation](#), [Blue Ridge Discovery Center](#), [Outward Bound](#))
- promoting experiences to a diverse population
- highlighting benefits and exciting features to increase interest
- developing a list of frequently asked questions
- planning information sessions for potential participants.

Process/Skill Questions

- How can outdoor recreational experiences benefit participants?
- What skills can one acquire through participation in these programs?
- What strategies are used to increase participation in outdoor recreational experiences?
- What is the target market for Outward Bound experiences?
- Where are Outward Bound camps located? Why have they chosen these locations?

Task Number 58

Develop a plan for providing a nature-related experience to consumers.

Definition

Development should include

- opportunities for consumers to experience a change from daily life
- appeal of nature to consumers who may not have regular access to the outdoors
- methods for advertising to consumers.

Process/Skill Questions

- How do outdoor escape experiences like National Outdoor Leadership Schools (NOLS) benefit consumers?
- What role does liability play in escape experiences?
- How can the safety of participants be ensured?
- What positive and negative effects do modern luxuries have on our ability to appreciate nature?

Task Number 59

Evaluate marketing strategies, tools, and techniques used for promoting outdoor experiences.

Definition

Evaluation should include

- goals of the promotional activity or event
- target audience
 - existing clients
 - prospective clients
 - influencers
 - collaborators
- promotional mix (e.g., flyer, brochure, newspaper ad, email, direct mail, website, social media, television ad)
- data analysis
- an evaluation component (i.e., collecting feedback).

Process/Skill Questions

- What are the 4 Ps of Marketing?
- What types of marketing strategies, tools, and techniques can be used to promote an outdoor experience?
- How has social media changed advertising?
- What are popular formats of print advertisements?
- How long before an event should promotional activities begin?
- What factors determine when, where, and how to successfully promote an event?

Task Number 60

Create a marketing plan that can be used to promote an ecotourism business or outdoor recreation event.

Definition

Creation should include one or more of the following:

- Newspaper ad
- Radio ad

- Television ad
- Flyer
- Brochure
- Social media ad
- Tourism video
- Website
- Email
- Direct mail

Process/Skill Questions

- What social media outlets will be most effective for promoting the program, based on the target market?
- How might one plan to distribute flyers, brochures, or road signs?
- Which elements of a print advertisement get the most attention? Which elements of a radio advertisement get the most attention?
- What waivers, permits, and releases are required for media capture?

Task Number 61

Describe the customer service skills required for careers in the parks and recreation industry.

Definition

Description should include

- situations in which customer service is practiced
- jobs that require customer service skills (e.g., community liaison, park ranger, salesperson)
- effects of good and poor customer service
- methods for improving customer service.

Process/Skill Questions

- What are examples of good customer service?
- How can a business promote good customer service?
- How can an individual employee improve their customer service skills?
- Why is customer service such a crucial factor in the success of a business?

Managing Recreational Areas and Enterprises

Task Number 62

Identify the major elements influencing consumer use of federal, state, and local parks and recreational areas.

Definition

Identification should include

- access to natural resources
- popular elements of parks (e.g., facilities, recreational opportunities, amenities, equipment rental)
- most common elements of recreational areas.

Process/Skill Questions

- What would happen if all parks and recreational areas were uniform and did not use their natural resources?
- How does diversity among parks create a larger market and higher demand?
- What unique aspects of parks and outdoor recreational areas attract people to use them?
- What are the keys to creating an inviting public space that will draw visitors from across the country and/or the local region?

Task Number 63

Identify the location and related characteristics of state parks and national forests.

Definition

Identification should include the advantages of location, access, and resources.

Process/Skill Questions

- What locations make parks popular?
- Where is the largest concentration of state parks and national forests located?
- What challenges do national forests and state parks face?

Task Number 64

Describe the safety procedures for outdoor recreation and adventure tourism.

Definition

Description should include

- first aid procedures

- components of a first aid kit
- safety standards/protocols for outdoor recreation and adventure tourism (e.g., camping, hunting, fishing, boating, and ATV riding).

Process/Skill Questions

- Where can boating safety procedures be found?
- What are the requirements for obtaining a boating license?
- What fire safety precautions should be taken when camping?
- Where is hunter safety education offered? How does one obtain a hunting license?
- Where would one find ATV trails?

Task Number 65

Develop procedures for maintaining security and preventing accidents.

Definition

Development should include a program that surveys most used recreational areas, as well as hidden areas. Additionally, a maintenance checklist and schedule should be developed to prevent accidents.

Process/Skill Questions

- Why is a security system important for a recreational area?
- When considering maintenance procedures, what should be mandatory, and what should be optional?
- What considerations should be taken to prevent accidents?
- Why is documentation of accidents important? What procedures should be followed when an accident occurs?

Task Number 66

Inspect recreational areas for safety hazards.

Definition

Inspection should include

- hazards associated with parks and recreational facilities
- safety concerns, ranked in priority based on a risk analysis assessment
- first aid and emergency response needs for parks and tourism.

Process/Skill Questions

- What hazards are found in nature?
- How should safety hazards be marked and communicated to visitors?

- How does human interaction increase risk in outdoor venues?
- What are potential injuries associated with recreational activities?
- What methods can be used to mitigate hazards and risks?

Task Number 67

Identify procedures for reporting violators in recreational areas and parks.

Definition

Identification should include

- common violations in an outdoor recreational setting
- which law enforcement agency should be notified regarding violations in a specific recreational area.

Process/Skill Questions

- What is the mission of law enforcement in parks and recreational areas?

Task Number 68

Explain the procedure for preparing a case for prosecution against violators.

Definition

Explanation should include the procedure for

- preserving the scene
- gathering evidence
- working with local officials
- working with witnesses.

Process/Skill Questions

- Why is collaboration with local officials necessary?
- Why should special consideration be taken when meeting with witnesses?
- What kind of evidence should be collected? How should it be collected?

Task Number 69

Develop a landscape design to manage traffic flow, increase security, and establish boundaries.

Definition

Development should include the materials and steps required for managing traffic flow. Materials may include

- suitable plants
- tree shelters
- stakes
- mats
- staples
- boulders
- other materials

Steps may include

- site identification
- site preparation
- project costs analysis
- budgeting
- installation
- management.

Process/Skill Questions

- How are living fences used as natural deterrents along trails and landscaping in wildlife areas?
- What are the advantages and disadvantages of living fences?
- What are local examples of living fences?
- What are the costs associated with the establishment of living fences?
- What maintenance and safety issues are associated with living fences?

Task Number 70

Explain the importance of user-friendly wayfinding systems to assist visitors in parks, historic sites, and recreational areas.

Definition

Explanation should include the importance of

- disseminating information (e.g., hours of operation, regulatory information, safety precautions) through multiple deliveries (e.g., brochures, kiosks, maps, signage, touch screens, websites, apps)
- identifying attractions, trails, access points, bathrooms, parking, and food facilities
- determining the navigational needs of visitors
 - determining visitors' current location
 - designating the appropriate route
 - reassurance of following the correct route
 - pathway fencing
 - bollards
 - visual cues

- confirming arrival at the desired destination.

Process/Skill Questions

- What are visitors' needs for various outdoor recreation venues?
- How might visitors arrive and travel through different parks?
- How could fluctuations in visitor numbers affect navigational patterns?
- What methods may be used to disseminate navigational information?
- What problems can result from inadequate information?

Task Number 71

Develop a plan for cleaning and sanitizing the campground and recreational area buildings and facilities.

Definition

Development should include plans for cleaning and sanitizing

- campgrounds
 - picnic tables
 - fire rings
 - litter and litter receptacles
- buildings and facilities
 - restrooms
 - food purveyors
 - water fountains
 - lodging areas.

Steps should be taken to identify sanitation procedures, training protocols, and supplies needed.

Process/Skill Questions

- What areas would require routine cleaning and sanitation?
- How much time should be required for cleaning?
- What materials and equipment are required for sanitation?
- How will employees be trained to follow sanitation procedures?
- What issues may arise from improper cleaning?

Task Number 72

List common supplies needed for recreation facilities.

Definition

List should include

- inventory analysis
- supply needs
- use data.

Lists should include price information, budget information, and generally accepted accounting principles (GAAP).

Process/Skill Questions

- What supplies are needed for outdoor recreation facilities?
- How are purchases made and accounted for?
- What are examples of perishables goods, consumables, fixed costs, and discretionary funds?
- What is GAAP, and why is it used?
- What are the components of a balance sheet?
- How can supply usage be managed?

Task Number 73

Describe methods for controlling insects in outdoor recreational areas.

Definition

Description should include

- identification of insects
- use of entomology guides
- methods for controlling insects (e.g., pesticide application, regular cleaning, waste management).

Process/Skill Questions

- What pests are associated with outdoor facilities?
- What is *entomology*?
- What are *invasive species*, and how do they affect outdoor recreation?
- What is *integrated pest management (IPM)*?
- What are label restrictions, pesticide regulations, and licensing?
- What safety precautions should be taken when handling pesticides?
- Why is it important to keep exterior table surfaces and serving tools and equipment wiped clean?
- Why should garbage cans be washed out and kept at a significant distance from serving and eating areas?
- Why is it important to keep all foods and drinks covered during an outdoor event?

Task Number 74

Describe methods for minimizing negative wildlife encounters in outdoor recreational areas.

Definition

Description should include

- potential wildlife hazards and risks
- animal welfare issues
- effects of human activity on ecosystems
- policies and regulations related to wildlife
- education of visitors (e.g., trash removal, pet safety).

Process/Skill Questions

- What plant and animal species may be hazardous in nature?
- How does animal behavior affect wildlife policy?
- How can human populations affect wild animals and plants?
- What safety measures can minimize human and wildlife injury?
- What are three game laws designed to protect both animals and humans?
- What role does human behavior play in wildlife encounters?
- How do pets influence wildlife behavior?
- What is a *bear box*? Why is it important to use one in bear-prone areas?

Task Number 75

Develop policies, procedures, regulations, and rules for campground and recreational area use.

Definition

Development should include

- a hazard and risk assessment
- the process of policy, procedure, regulation, and rule development
- education and information dissemination (e.g., signage, signal words, warning labels)
- plans for the enforcement of policies, procedures, regulations, and rules.

Process/Skill Questions

- Why do recreational facilities need policies, procedures, regulations, and rules?
- Why would private recreational areas have different rules from public facilities?
- Who enforces rules and regulations on public lands and parks?
- What are five common rules at most recreational facilities?
- How are rules made and changed on public lands?

Task Number 76

Develop a plan for the location, construction, and maintenance of scenic trails with minimal environmental impact.

Definition

Development should include

- materials
 - topographic and soils maps
 - hydrological information
 - environmental impact studies
 - viewshed studies
- the steps required to construct and maintain a scenic trail
- public hearings and notification
- site planning and engineering
- hazard assessment
- acquiring appropriate permits
- construction
- maintenance.

Process/Skill Questions

- Why would a permit be required to construct a scenic trail?
- Why is public input required on public lands?
- How would topographic maps aid in trail planning and development?
- How does the trail's location and/or intended use affect its design?
- What information could be obtained from a soils survey?
- What tools and equipment may be needed for trail construction?

Task Number 77

Compile an inventory of a site's natural and historical resources.

Definition

Compilation should include

- field examinations, data collection, historical research
- water, forestry, wildlife, mineral, soil, and plant compositions
- cultural and historical resources
- forest management plans
 - soil surveys
 - biological surveys
 - reports of historical significance.

Process/Skill Questions

- Why is it important to inventory an area's natural resources?
- What materials can aid in an inventory analysis?
- What equipment and technology may help in natural resource inventory?
- Why are cultural and historical resources important?
- Where can historical records and information be found?

Task Number 78

Explain the roles and duties of outdoor recreation supervisors, employees, and volunteers.

Definition

Explanation could include job descriptions, duties, responsibilities, education, and skills required for various positions.

Process/Skill Questions

- What are the educational requirements for a park manager?
- Why do outdoor recreation facilities use volunteers?
- Why do many recreation parks use seasonal employees?
- How do wages earned differ among outdoor recreation positions?
- What type of training would be required for park rangers, seasonal employees, and supervisors?

Planning Recreational Activities

Task Number 79

Design a recreational enterprise.

Definition

Design should include the components of the given or selected enterprise, such as

- facilities
- staffing requirements
- target market
- legal considerations
- liability insurance.

Process/Skill Questions

- What are local recreational enterprises?

- What are the negative consequences of failing to plan for a recreational enterprise before opening for business?
- How do recreational enterprises identify target markets (i.e., customers)?

Task Number 80

Develop a plan for gathering data on the use of a recreational area.

Definition

Development should include techniques of gathering data, such as

- surveys
- economic impact studies
- anecdotal feedback.

Process/Skill Questions

- What kind of survey would be most productive?
- What is the best way to get visitors to answer surveys?
- What are the advantages and disadvantages of collecting rental and storage fees?
- What is the purpose of an economic impact study? What data can be drawn from the study to make sound decisions?

Task Number 81

Develop plans for various outdoor recreational activities.

Definition

Development may include

- sledding, snowmobiling, ATV riding, horseback riding, bike trail riding
- shooting skeet, rifles, and pistols, and archery
- paintball courses
- zip-lining, wall climbing, rappelling courses
- canoeing, kayaking, paddle boarding.

Development should include

- multiuse areas
- conflicting use
- waivers
- rental agreements
- soil surveys
- GPS
- topographical maps

- natural hazards.

Process/Skill Questions

- What is the space requirement for the area?
- What types of material should be used for trails?
- What length should a horse trail be? A bike trail? A walking trail? How wide should each trail be?
- What types of insurance might be needed?
- How much will the environment need to be modified?
- What types of activities might require transportation?
- When might age limits be required for an outdoor activity?
- What types of amenities might be needed?
- What environmental impacts need to be considered?
- What is the appropriate fee structure for the activity?

Task Number 82

Develop an interpretive or environmental education program.

Definition

Development should include

- learning objectives
- age-appropriate activities
- alignment with Virginia Standards of Learning.

Process/Skill Questions

- What age level will be the focus of the program?
- What accommodations will need to be available?
- What is the ideal size and space needed to conduct the program effectively?

Task Number 83

Design a play area for children.

Definition

Design should include safety considerations, types of materials, and steps for constructing a play area.

Process/Skill Questions

- How might natural features be incorporated into the design?
- What interactive areas will be included in the design?
- How could the play area be adapted to special events, such as birthday parties?
- What are the advantages and disadvantages of indoor and outdoor play areas?

- What accommodations need to be considered for children with special needs?

Task Number 84

Describe the process for securing a portable restroom for an event/program.

Definition

Description should include

- locating a provider
- choosing a product
- calculating or estimating the number of event attendees
- determining the number of portable restrooms required
- choosing location(s) for portable restroom(s).

Process/Skill Questions

- How can different types of events call for different numbers of restrooms?
- Who provides portable restrooms in the local area?
- When should portable restrooms be delivered? When should they be serviced? When should they be removed?
- What are the Health Department requirements for providing restrooms at events?

Task Number 85

Develop a rainout plan.

Definition

Development should include

- planning inclement weather activities
- communicating with stakeholders regarding changing venue/plans
- planning a location for alternate activities
- preparing a contingency plan for rescheduling or alternate date(s).

Process/Skill Questions

- What situations will require a change in venue or cancellation of specific events?
- What activities could be conducted regardless of the weather?
- What specific weather conditions might activities require?

Task Number 86

Create rosters, schedules, and playoff brackets.

Definition

Creation should include

- methods of determining teams, if needed
- times and days of activities
- types of playoff brackets (e.g., elimination counts, round robin).

Process/Skill Questions

- What are advantages/disadvantages of having participants select their own teams or having it be random?
- What are advantages/disadvantages of different playoff structures?
- What online bracket generators can help?
- How could one employ a time-limit system for games, and why would one take this approach?

Task Number 87

Identify the processes for recruiting, hiring, and training employees.

Definition

Identification should include the processes of

- writing a job description
- developing an online application
- establishing an interview process
- calling references
- conducting background checks
- establishing employee benefits (e.g., salary, health insurance, life insurance, sick leave, paid vacation, retirement plans)
- establishing a timeline for the hiring process.

Process/Skill Questions

- What information should be included in a job application?
- What interviewing techniques would be appropriate?
- Where could specific jobs be advertised?
- What attributes would qualify an applicant for specific positions? What attributes would disqualify an applicant?
- How can a background check be performed on prospective employees?

Task Number 88

Create a schedule for staff members for the spring, summer, or fall season.

Definition

Creation should include

- staff duties
- required activities
- number of employee work hours per week
- time off.

Process/Skill Questions

- What duties might require special training or certifications?
- What are ways to distribute work and reward extra effort?
- What adjustments could be made to the schedule when an employee calls in sick or fails to show up for work?

Managing Wilderness Areas

Task Number 89

Maintain roadless character and values of wilderness areas to comply with land-use restrictions of the Roadless Area Conservation Rule.

Definition

Maintenance should include

- determination of activities allowed in roadless wilderness areas
- the concept of "leave no trace."

Process/Skill Questions

- What are circumstances that might lead to the creation of roadless wilderness areas?
- How can the pristine nature of these areas be preserved?

Task Number 90

Identify the location of the Appalachian Trail.

Definition

Identification should include locating the Appalachian Trail on a map.

Process/Skill Questions

- When was the Appalachian Trail designated as a national scenic trail?
- Who proposed the Appalachian Trail, and when?
- Through which states does the Appalachian Trail pass?
- What is the significance of the Appalachian Trail for hikers and outdoor recreation?
- How has the Appalachian Trail influenced outdoor recreation?

Task Number 91

Navigate from a starting point to a destination point.

Definition

Navigation should include

- using a compass, GPS, and a U.S. geological survey topographic map with specific points marked for identification, including
 - legal description
 - topographic map symbols
- discussing the meaning of map symbols and the size and the location of 40 acres or more in a section
- marking ten points on the map with a number or arrow pointing to the section, symbol, or area on the map to be identified, including
 - NW—northwest
 - T—township
 - SE—southeast
 - R—range
 - S—section (640 acres)
 - 1/4—quarter of a section (160 acres).

Teacher resources:

[Forestry](#), Virginia FFA Association

[Outreach Initiatives](#), The Institute of Navigation

Process/Skill Questions

- What is the legal description of the area boxed on the map provided?
- What is the item located at a given point on the map provided?
- What is the acreage of the area enclosed on the map provided?
- What section of the map has a city located in it?

Task Number 92

Explain the economic significance of the Appalachian Trail (AT) to Virginia's outdoor tourism industry.

Definition

Explanation should include

- hiking and camping supplies sold in Virginia
- shuttles and hostels that serve AT hikers
- travel to and from AT access points
- amenities near AT access points.

Process/Skill Questions

- What are the economic effects of outdoor activities?
- How have localities near the AT enhanced the economic benefits of their location?
- What effects do day hikers have on the economy? Through hikers? Section hikers?
- How have communities near the AT focused economic development to attract hikers?

Task Number 93

Evaluate the environmental and economic effects of a recreational enterprise on the wilderness area.

Definition

Evaluation should include

- environmental effects of human activity on wilderness areas
- the responsibility of outdoor recreation managers as stewards of the environment
- economic benefits of outdoor recreation.

Process/Skill Questions

- How can human use enhance/degrade wilderness areas?
- What are the local economic benefits created by wilderness areas?
- How are economic principles and wilderness principles in opposition to each other?

Task Number 94

Describe ethics issues faced in outdoor recreation management.

Definition

Description should include

- viewpoints of conservation and preservation proponents
- interests of hunters and non-hunters
- laws concerning outdoor recreation
- research of controversial topics in outdoor recreation (e.g., logging, species management).

Process/Skill Questions

- How does the outdoor recreational setting affect rules for use?
- What are current controversies related to outdoor recreation?
- How does the public view species management, specifically population reduction (e.g., deer herd thinning, geese flock thinning)?
- How have changing demographics affected the use of outdoor recreation centers?
- How has the condition of diminishing recreation and heritage assets contributed to a backlog of maintenance needs for recreation facilities, trails, and roads?
- How does unmanaged recreation contribute to degraded recreation settings, damaged heritage sites, unacceptable resource effects, and conflicts among users?

Examining State and Federal Policies Concerning Outdoor Recreation, Parks, and Tourism Management

Task Number 95

Research the history of forest and park policy in the United States.

Definition

Research should include

- history of National Parks and National Forests
- historical figures involved in establishment of federal lands (e.g., John Muir, Gifford Pinchot, Theodore Roosevelt, Stephen Mather)
- evolution of policies related to parks and forests.

Teacher resource: [Laws, Policies, and Regulations](#), National Park Service

Process/Skill Questions

- What percentage of the United States' geography is designated as federal lands?
- What was the first National Park? When was it established, and why?
- What is the primary purpose of a National Forest?
- How does National Forest policy differ from National Park policy?

Task Number 96

Describe the scope of government agencies involved in forest, recreation, wildlife, and parks management.

Definition

Description should include local, state, and federal agencies, such as

- local governments that own recreation areas
- [Virginia Department of Forestry \(VDOF\)](#)
- [Virginia Department of Conservation and Recreation \(VDCR\)](#)
- [Virginia Department of Game and Inland Fisheries \(VDGIF\)](#)
- [National Park Service \(NPS\)](#)
- [U.S. Forest Service \(USFS\)](#)
- [U.S. Fish and Wildlife Service \(USFWS\)](#)
- [Bureau of Land Management \(BLM\)](#).

Process/Skill Questions

- What are common attributes of land managed by each agency?
- How do the management agencies differ in their approaches and philosophies?
- How are policies established and enforced by different agencies?
- What enforcement authority do the VDGIF conservation police officers (game wardens), VDCR conservation officers (park police), and forest wardens have? How are they similar? How are they different?
- How are wildlife and forestry regulations established?
- What are examples of wildlife that regulations affect?
- How do these regulations affect the natural environment and the people that recreate in it?

Planning, Constructing, and Maintaining Facilities and Equipment

Task Number 97

Design a recreational facility using Leadership in Energy and Environmental Design (LEED) principles.

Definition

Design should include

- alternative energy sources
- sustainability principles
- water conservation
- natural lighting.

Teaching resource: [LEED](#), U.S. Green Building Council

Process/Skill Questions

- What are the different levels of LEED certification?
- What elements of facility design affect the level of certification?
- Why is it important to consider LEED design elements?
- What is the cost/benefit involved when adding a LEED design element to a facility design?

Task Number 98

Perform basic concrete and masonry maintenance.

Definition

Performance should include one or more of the following:

- Calculating cubic yards of material (e.g., stone, concrete, rebar) needed for a project
- Using tools to mix, spread, and finish concrete surfaces
- Mixing and pouring concrete into forms, such as
 - stepping-stones
 - mailboxes
 - signs
 - sidewalks
- Repairing masonry work
- Using retaining walls

Process/Skill Questions

- What is the purpose of the concrete form?
- What determines the proportions of the materials used to mix concrete?
- How is concrete and masonry maintenance affected by temperature? By humidity?

Task Number 99

Demonstrate basic carpentry skills.

Definition

Demonstration may include

- following plans and working drawings

- selecting equipment and supplies
- using carpentry tools and measuring instruments
- using layout tools (e.g., square, level, protractor)
- achieving various types of cuts with appropriate saws (e.g., miter saw, circular saw, jigsaw, reciprocating saw).

Process/Skill Questions

- Why is it important to understand the use of various tools?
 - What is the purpose of a project plan?
 - What views or objectives can be depicted by a project drawing?
-

Task Number 100

Construct a fence.

Definition

Construction should include

- determining the area to be fenced
- designing the fence
- identifying supplies needed
- using tools to complete the fence.

Process/Skill Questions

- What fencing materials have the longest life?
 - How does one determine the location of gates in a fence?
 - How is the appropriate material determined?
 - What safety considerations must be taken during construction?
 - How does the fence design fit into other features in the area (i.e., does it match other nearby fences, architecture, and natural landscapes)?
-

Task Number 101

Demonstrate basic electrical skills.

Definition

Demonstration should include

- using an amp probe on receptacles to determine how much is being pulled off a single breaker

- connecting receptacles, switches, and fixtures, including
 - single-pole switch
 - light fixture
 - duplex receptacle
 - three-way switch
 - ground-fault circuit interrupter (GFCI).

Process/Skill Questions

- Why is it important to know the names of common electrical components?
 - Why is it important to understand electrical safety and the steps to protect oneself while performing any electrical wiring and connecting any electrical fixtures?
 - What is the purpose of each wire in a circuit?
 - What is the *lockout/tagout program*?
 - Why is it important to know the location of the breaker box?
 - Where and for what purpose would one need a GFCI?
-

Task Number 102

Demonstrate basic plumbing skills.

Definition

Demonstration should include

- identifying pipe fittings by type (e.g., iron, copper, polyvinyl chloride [PVC], chlorinated polyvinyl chloride [CPVC], male, female)
- assembling various types of pipes with various fittings
- explaining the winterizing of pipes and facilities
- explaining maintenance of toilets (septic systems and municipal sewer systems).

Process/Skill Questions

- What are the advantages and disadvantages of using different plumbing materials?
- How can the hardness of water affect pipe fittings and the longevity of various kinds of pipe?
- What types of pipes are best used in colder climates or freezing situations?

Task Number 103

Describe local ordinances related to swimming pools.

Definition

Description should include all applicable local ordinances, including plumbing, building, electrical, and zoning ordinances related to the construction, maintenance, and operation of all swimming pools.

Teacher resources:

[Regulations Governing Tourist Establishment Swimming Pools and Other Public Pools](#), Virginia Department of Health

[Notice of Intended Regulatory Action \(NOIRA\) Agency Background Document](#), Virginia Regulatory Town Hall

Process/Skill Questions

- What are the maintenance requirements for a public pool?
- What are zoning laws/regulations related to the construction of public swimming pools, and why are they important?
- What requirements must be met to make pools inaccessible to small children?

Task Number 104

Describe the process and equipment used to maintain a swimming pool.

Definition

Description should include

- testing the water
- interpreting water test results
- listing equipment needed to maintain a pool system and how each piece of equipment is used
- maintaining hydrogen-ion concentration (pH) at a range of 6.8 to 8.0 and the residual chlorine content at a range of 0.0 to 1.0
- keeping records on file for a period of one year, including records of pH levels, free chlorine residual levels, water clarity, cleanliness, and other information relevant to the health and safety of bathers.

Process/Skill Questions

- What is the importance of testing the water at a public pool?
- Who regulates public swimming pools?
- What procedures should be taken if water test results are outside normal levels or if a biohazard has been introduced into the pool system?
- What safety issues should be considered when working with pool chemicals?

Task Number 105

Paint various surfaces.

Definition

Painting should include

- choosing equipment and supplies needed to complete the project (e.g., brushes, sprayers, rollers)
- applying paint to surfaces such as wood, concrete, metal, and grass.

Process/Skill Questions

- How does the surface being painted affect the preparation work that must be done before painting?
 - How does paint compare to lime/chalk when used to mark an athletic field? What are the advantages/disadvantages of each option?
 - How does weather affect paint application?
-

Task Number 106

Describe the process of repairing roads and driveways.

Definition

Description should include

- equipment for repairing gravel driveways (e.g., box graders, scraper blades, drags)
- techniques for repairing potholes and other damage to pavement.

Process/Skill Questions

- How can basic road maintenance extend the life of a gravel road and reduce repair costs?
- What are the benefits/disadvantages of paved vs. unpaved driving surfaces inside a park or recreation area?
- How are paved vs. unpaved surfaces maintained during and after snow events?

Task Number 107

Describe basic maintenance requirements for vehicles and equipment essential to the outdoor recreation, parks, and tourism industry.

Definition

Description should include

- engine maintenance
- brake maintenance
- winterization
- battery jumping, charging, and replacing
- fluid changing

- blade sharpening
- troubleshooting common problems.

Equipment that should be covered includes

- trucks
- tractors
- mowers
- two-stroke engines
- ATVs
- golf carts
- snowmobiles
- snowplows
- dump trucks.

Process/Skill Questions

- How does scheduling maintenance benefit the operator?
- What is the importance of blade balance on lawn mowers after sharpening?
- When is the best time to perform preventive maintenance?

SOL Correlation by Task

39	Identify the role of supervised agricultural experiences (SAEs) in agricultural education.	English: 11.3, 11.5, 12.3, 12.5
40	Participate in an SAE.	English: 11.5, 11.8, 12.5, 12.8
41	Identify the benefits and responsibilities of FFA membership.	English: 11.5, 11.6, 11.7, 11.8, 12.5, 12.6, 12.7, 12.8
42	Describe leadership characteristics and opportunities as they relate to agriculture and FFA.	English: 11.5, 12.5 History and Social Science: VUS.8, VUS.9, VUS.10, VUS.11, WHII.8, WHII.10, WHII.11
43	Apply for an FFA degree and/or an agricultural proficiency award.	English: 11.5, 12.5
44	Complete a nationally recognized certification for first aid.	English: 11.5, 12.5
45	Complete a nationally recognized cardiopulmonary resuscitation (CPR) and automatic external defibrillator (AED) certification.	English: 11.5, 12.5
46	Complete a nationally recognized wilderness first aid training.	English: 11.5, 12.5
47	Explain the dangers and hazards associated with the outdoors.	English: 11.5, 12.5
48	Demonstrate use of tools and equipment.	English: 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.7, GOVT.8, GOVT.9

		Science: CH.1
49	Evaluate the effects of personal values regarding leisure and recreational experiences on attitudes, behaviors, and the use of resources.	English: 11.3, 11.5, 12.3, 12.5
50	Describe the benefits of participating in outdoor recreational activities related to health, well-being, and quality of life.	English: 11.5, 12.5
51	Research the evolution and significance of recreation and leisure activities.	English: 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.12, VUS.14, WG.17, WHII.14
52	Conduct an agriscience research project related to outdoor recreation, parks, and tourism management.	English: 11.5, 11.8, 12.5, 12.8 Mathematics: AFDA.8, AII.9, PS.5, PS.6, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.10*
53	Explain the benefits of ecotourism to states and localities.	English: 11.5, 12.5 History and Social Science: GOVT.9, GOVT.12, GOVT.14
54	Identify resources that promote and enhance recreational and leisure experiences.	English: 11.5, 12.5
55	Describe the procedures for promoting, organizing, and conducting a hunting and/or fishing expedition.	English: 11.5, 12.5
56	Explain the benefits of therapeutic recreation.	English: 11.5, 12.5
57	Develop a plan to promote an outdoor-based therapeutic recreation program.	English: 11.1, 12.1
58	Develop a plan for providing a nature-related experience to consumers.	English: 11.1, 12.1
59	Evaluate marketing strategies, tools, and techniques used for promoting outdoor experiences.	English: 11.5, 12.5 Mathematics: AFDA.8, PS.5, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10*
60	Create a marketing plan that can be used to promote an ecotourism business or outdoor recreation event.	English: 11.1, 11.5, 12.1, 12.5
61	Describe the customer service skills required for careers in the parks and recreation industry.	English: 11.5, 12.5
62	Identify the major elements influencing consumer use of federal, state, and local parks and recreational areas.	English: 11.5, 12.5
63	Identify the location and related characteristics of state parks and national forests.	English: 11.5, 12.5
64	Describe the safety procedures for outdoor recreation and adventure tourism.	English: 11.5, 12.5
65	Develop procedures for maintaining security and preventing accidents.	English: 11.1, 11.5, 12.1, 12.5
66	Inspect recreational areas for safety hazards.	English: 11.5, 12.5
67	Identify procedures for reporting violators in recreational areas and parks.	English: 11.5, 12.5

68	Explain the procedure for preparing a case for prosecution against violators.	English: 11.5, 12.5
69	Develop a landscape design to manage traffic flow, increase security, and establish boundaries.	English: 11.1, 11.5, 12.1, 12.5
70	Explain the importance of user-friendly wayfinding systems to assist visitors in parks, historic sites, and recreational areas.	English: 11.5, 12.5
71	Develop a plan for cleaning and sanitizing the campground and recreational area buildings and facilities.	English: 11.1, 11.5, 12.1, 12.5
72	List common supplies needed for recreation facilities.	English: 11.6, 11.7, 12.6, 12.7
73	Describe methods for controlling insects in outdoor recreational areas.	English: 11.5, 12.5 Science: BIO.8
74	Describe methods for minimizing negative wildlife encounters in outdoor recreational areas.	English: 11.5, 12.5
75	Develop policies, procedures, regulations, and rules for campground and recreational area use.	English: 11.1, 11.5, 12.1, 12.5
76	Develop a plan for the location, construction, and maintenance of scenic trails with minimal environmental impact.	English: 11.1, 11.5, 12.1, 12.5 Science: ES.1
77	Compile an inventory of a site's natural and historical resources.	English: 11.6, 11.7, 12.6, 12.7 History and Social Science: GOVT.7, GOVT.8 Science: BIO.8, ES.8
78	Explain the roles and duties of outdoor recreation supervisors, employees, and volunteers.	English: 11.5, 12.5 History and Social Science: GOVT.7, GOVT.8
79	Design a recreational enterprise.	English: 11.1, 12.1
80	Develop a plan for gathering data on the use of a recreational area.	English: 11.1, 12.1 History and Social Science: GOVT.7, GOVT.8, GOVT.9, GOVT.12 Mathematics: AFDA.8, PS.5, PS.1*, PS.2*, PS.3*, PS.4*, PS.7*, PS.8*, PS.9*, PS.10*
81	Develop plans for various outdoor recreational activities.	English: 11.1, 12.1 Science: ES.1
82	Develop an interpretive or environmental education program.	English: 11.1, 12.1
83	Design a play area for children.	English: 11.1, 12.1
84	Describe the process for securing a portable restroom for an event/program.	English: 11.5, 12.5
85	Develop a rainout plan.	English: 11.3, 11.5, 12.3, 12.5

86	Create rosters, schedules, and playoff brackets.	English: 11.1, 11.5, 12.1, 12.5 Mathematics: DM.13, DM.3*
87	Identify the processes for recruiting, hiring, and training employees.	English: 11.5, 12.5
88	Create a schedule for staff members for the spring, summer, or fall season.	English: 11.1, 11.5, 12.1, 12.5
89	Maintain roadless character and values of wilderness areas to comply with land-use restrictions of the Roadless Area Conservation Rule.	English: 11.5, 12.5
90	Identify the location of the Appalachian Trail.	English: 11.5, 12.5 History and Social Science: GOVT.7, GOVT.8
91	Navigate from a starting point to a destination point.	English: 11.1, 11.5, 12.1, 12.5 Science: ES.1
92	Explain the economic significance of the Appalachian Trail (AT) to Virginia's outdoor tourism industry.	English: 11.5, 12.5 History and Social Science: GOVT.8, GOVT.9, GOVT.12
93	Evaluate the environmental and economic effects of a recreational enterprise on the wilderness area.	English: 11.5, 12.5 Science: BIO.8
94	Describe ethics issues faced in outdoor recreation management.	English: 11.5, 12.5
95	Research the history of forest and park policy in the United States.	English: 11.5, 11.8, 12.5, 12.8
96	Describe the scope of government agencies involved in forest, recreation, wildlife, and parks management.	English: 11.5, 12.5 History and Social Science: GOVT.7, GOVT.8, GOVT.9
97	Design a recreational facility using Leadership in Energy and Environmental Design (LEED) principles.	English: 11.1, 12.1
98	Perform basic concrete and masonry maintenance.	English: 11.5, 12.5
99	Demonstrate basic carpentry skills.	
100	Construct a fence.	
101	Demonstrate basic electrical skills.	
102	Demonstrate basic plumbing skills.	English: 11.5, 12.5
103	Describe local ordinances related to swimming pools.	English: 11.5, 11.8, 12.5, 12.8 History and Social Science: GOVT.8, GOVT.9
104	Describe the process and equipment used to maintain a swimming pool.	English: 11.5, 11.6, 11.7, 12.5, 12.6, 12.7
105	Paint various surfaces.	
106	Describe the process of repairing roads and driveways.	English: 11.5, 12.5

107	Describe basic maintenance requirements for vehicles and equipment essential to the outdoor recreation, parks, and tourism industry.	English: 11.5, 12.5
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FFA Information

The National FFA is an organization dedicated to preparing members for leadership and careers in the science, business, and technology of agriculture. Local, state, and national activities and award programs provide opportunities to apply knowledge and skills acquired through agriculture education.

For additional information about the student organization, see the [National FFA website](#) and the [Virginia FFA Association website](#).

Entrepreneurship Infusion Units

Entrepreneurship Infusion Units may be used to help students achieve additional, focused competencies and enhance the validated tasks/competencies related to identifying and starting a new business venture. Because the unit is a complement to certain designated courses and is not mandatory, all tasks/competencies are marked “optional.”

Appendix: Credentials, Course Sequences, and Career Cluster Information

Industry Credentials: Only apply to 36-week courses

- College and Work Readiness Assessment (CWRA+)
- Customer Service Specialist (CSS) Examination
- Forest Products and Processing Assessment
- National Career Readiness Certificate Assessment
- Natural Resources Systems Assessment
- Workplace Readiness Skills for the Commonwealth Examination

Concentration sequences: *A combination of this course and those below, equivalent to two 36-week courses, is a concentration sequence. Students wishing to complete a specialization may take additional courses based on their career pathways. A program completer is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program.*

- Agricultural Business Fundamentals I (8022/36 weeks)
- Agricultural Business Management III (8026/36 weeks)
- Agricultural Business Operations II (8024/36 weeks)
- Applied Agricultural Concepts (8072/18 weeks)
- Applied Agricultural Concepts (8073/36 weeks)
- Community Forestry and Tree Management (8048/36 weeks)
- Ecology and Environmental Management (8045/18 weeks)
- Ecology and Environmental Management (8046/36 weeks)
- Fisheries and Wildlife Management (8041/36 weeks)
- Forestry Management (8042/36 weeks)
- Forestry Management, Advanced (8044/36 weeks)
- Introduction to Natural Resources and Ecology Systems (8040/36 weeks)

Career Cluster: Agriculture, Food and Natural Resources	
Pathway	Occupations
Agribusiness Systems	Agricultural Economist
Environmental Service Systems	Environmental Compliance Inspector Environmental Sampling and Analysis Technician Toxicologist Turf Farmer Water Conservationist
Food Products and Processing Systems	Biochemist
Natural Resources Systems	Ecologist Fish and Game Officer Fisheries Technician Forest Manager, Forester Forest Technician Geological Technician Logging Equipment Operator Microbiologist Outdoor Recreation Guide

Career Cluster: Agriculture, Food and Natural Resources	
Pathway	Occupations
	Park Manager Park Technician Range Technician Wildlife Manager
Plant Systems	Botanist Forest Geneticist Golf Course Superintendent Soil and Plant Scientist Tree Surgeon
Power, Structural, and Technical Systems	Agricultural Engineer Agricultural Equipment Operator Agricultural Equipment Parts Manager Agricultural Equipment Parts Salesperson