ENVIRONMENTAL AND NATURAL RESOURCES

Currently Oregon FFA uses the Oregon ENVIRONTHON event as the qualifier for the state winning environmental and natural resources Career Development Event. Event is usually held annually in April or May.

You must register both with the Oregon FFA state office and the Oregon Environthon.

The Environmental and National Resources Career Development Event (CDE) provides competing students an opportunity gain awareness and demonstrate knowledge in areas that affect our air, soil and water. Competitors interpret data, use measuring devices in the field and work through real-life scenarios involving environmental threats in pursuit of scoring the highest as a team and individual.

Each team of FFA members competes in all types of weather conditions – just like professionals working the environmental and natural resource industry – in pursuit of recognition for demonstrating skills relevant to GPS navigation, soil science, water management and wildlife conservation. The competitors produce written statements and an oral presentation, and must exhibit competency via writing and identification activities.

Through these challenges, students develop interest and knowledge in sustainable management of our environment and will become the future stewards of resources critical to the future of agriculture.

ALIGNMENT TO AFNR CONTENT STANDARDS & OREGON EMPLOYABILITY SKILLS
- OES Adaptability: Open to Change
- OES Collaboration: Team Player
- OES Digital Literacy: Good with Technology
- OES Entrepreneurial Mindset: Go-Getter
- OES Self-Awareness: Self-Understanding
- OES Analysis/Solution Mindset: Problem Solver
- OES Communication: Good Communicator
- OES Empathy: Sensitive to Others' Feelings
- OES Resilience: Plans for Success and Handles Failure
- OES Social Diversity/Awareness: Sensitivity to Differences
- AS.01.01 Evaluate the development and implications of animal origin, domestication and distribution on production practices and the environment.
- AS.01.02 Assess and select animal production methods for use in animal systems based upon their effectiveness and impacts.
- AS.01.03 Analyze and apply laws and sustainable practices to animal agriculture from a global perspective.
- AS.08.01 Design and implement methods to reduce the effects of animal production on the environment.
- AS.08.02 Evaluate the effects of environmental conditions on animals and create plans to ensure favorable environments for animals.
- BS.01.01 Investigate and explain the relationship between past, current and emerging applications of biotechnology in agriculture (e.g., major innovators, historical developments, potential applications of biotechnology, etc.).
- BS.02.01 Read, document, evaluate and secure accurate laboratory records of experimental protocols, observations and results.
- BS.02.02 Implement standard operating procedures for the proper maintenance, use and sterilization of equipment in a laboratory.
- BS.02.04 Safely manage and dispose of biological materials, chemicals and wastes according to standard operating procedures.
- BS.03.01 Apply biotechnology principles, techniques and processes to create transgenic species through genetic engineering.
- BS.03.03 Apply biotechnology principles, techniques and processes to protect the environment and maximize use of natural resources (e.g., biomass, bioprospecting, industrial biotechnology, etc.).

- BS.03.04 Apply biotechnology principles, techniques and processes to enhance plant and animal care and production (e.g., selective breeding, pharmaceuticals, biodiversity, etc.).
- BS.03.05 Apply biotechnology principles, techniques and processes to produce biofuels (e.g., fermentation, transesterification, methanogenesis, etc.).
- BS.03.06 Apply biotechnology principles, techniques and processes to improve waste management (e.g., genetically modified organisms, bioremediation, etc.).
- CRP.02.01 Use strategic thinking to connect and apply academic learning, knowledge and skills to solve problems in the workplace and community.
- CRP.02.02 Use strategic thinking to connect and apply technical concepts to solve problems in the workplace and community.
- CRP.04.01 Speak using strategies that ensure clarity, logic, purpose and professionalism in formal and informal settings.
- CRP.04.03 Model active listening strategies when interacting with others in formal and informal settings.
- CRP.05.02 Make, defend and evaluate decisions at work and in the community using information about the potential environmental, social and economic impacts.
- CRP.06.01 Synthesize information, knowledge and experience to generate original ideas and challenge assumptions in the workplace and community.
- CRP.06.03 Create and execute a plan of action to act upon new ideas and introduce innovations to workplace and community organizations.
- CRP.07.02 Evaluate the validity of sources and data used when considering the adoption of new technologies, practices and ideas in the workplace and community.
- CRP.08.01 Apply reason and logic to evaluate workplace and community situations from multiple perspectives.
- CRP.08.02 Investigate, prioritize and select solutions to solve problems in the workplace and community.
- CRP.08.03 Establish plans to solve workplace and community problems and execute them with resiliency.
- CRP.09.01 Model characteristics of ethical and effective leaders in the workplace and community (e.g. integrity, self-awareness, self-regulation, etc.).
- CRP.09.03 Demonstrate behaviors that contribute to a positive morale and culture in the workplace and community (e.g., positively influencing others, effectively communicating, etc.).
- CRP.12.02 Create and implement strategies to engage team members to work toward team and organizational goals in a variety of workplace and community situations (e.g., meetings, presentations, etc.).
- CS.01.01 Research, examine and discuss issues and trends that impact AFNR systems on local, state, national and global levels.
- CS.01.02 Examine technologies and analyze their impact on AFNR systems.
- CS.02.01 Research and use geographic and economic data to solve problems in AFNR systems.
- CS.02.02 Examine the components of the AFNR systems and assess their impact on the local, state, national and global society and economy.
- CS.03.01 Identify and explain the implications of required regulations to maintain and improve safety, health and environmental management systems.
- CS.03.02 Develop and implement a plan to maintain and improve health, safety and environmental compliance and performance.
- CS.04.01 Identify and implement practices to steward natural resources in different AFNR systems.
- CS.04.02 Assess and explain the natural resource related trends, technologies and policies that impact AFNR systems.
- CS.06.01 Examine and explain foundational cycles and systems of AFNR.
- CS.06.02 Analyze and explain the connection and relationships between different AFNR systems on a national and global level.
- ESS.01.01 Analyze and interpret laboratory and field samples in environmental service systems.
- ESS.01.02 Properly utilize scientific instruments in environmental monitoring situations (e.g., laboratory equipment, environmental monitoring instruments, etc.).
- ESS.02.01 Interpret and evaluate the impact of laws, agencies, policies and practices affecting environmental service systems.

- ESS.02.02 Compare and contrast the impact of current trends on regulation of environmental service systems (e.g., climate change, population growth, international trade, etc.).
- ESS.02.03 Examine and summarize the impact of public perceptions and social movements on the regulation of environmental service systems.
- ESS.03.01 Apply meteorology principles to environmental service systems.
- ESS.03.02 Apply soil science and hydrology principles to environmental service systems.
- ESS.03.03 Apply chemistry principles to environmental service systems.
- ESS.03.04 Apply microbiology principles to environmental service systems.
- ESS.03.05 Apply ecology principles to environmental service systems.
- ESS.04.01 Use pollution control measures to maintain a safe facility and environment.
- ESS.04.02 Manage safe disposal of all categories of solid waste in environmental service systems.
- ESS.04.03 Apply techniques to ensure a safe supply of drinking water and adequate treatment of wastewater according to applicable rules and regulations.
- ESS.04.04 Compare and contrast the impact of conventional and alternative energy sources on the environment and operation of environmental service systems.
- ESS.05.01 Use technological and mathematical tools to map land, facilities and infrastructure for environmental service systems.
- ESS.05.02 Perform assessments of environmental conditions using equipment, machinery and technology.
- NRS.01.01 Apply methods of classification to examine natural resource availability and ecosystem function in a particular region.
- NRS.01.02 Classify different types of natural resources in order to enable protection, conservation, enhancement and management in a particular geographical region.
- NRS.01.03 Apply ecological concepts and principles to atmospheric natural resource systems.
- NRS.01.04 Apply ecological concepts and principles to aquatic natural resource systems.
- NRS.01.05 Apply ecological concepts and principles to terrestrial natural resource systems.
- NRS.01.06 Apply ecological concepts and principles to living organisms in natural resource systems.
- NRS.02.01 Examine and interpret the purpose, enforcement, impact and effectiveness of laws and agencies related to natural resource management, protection, enhancement and improvement (e.g., water regulations, game laws, historic preservation laws, environmental policy, etc.).
- NRS.02.02 Assess the impact of human activities on the availability of natural resources.
- NRS.02.03 Analyze how modern perceptions of natural resource management, protection, enhancement and improvement change and develop over time.
- NRS.02.04 Examine and explain how economics affects the use of natural resources.
- NRS.02.05 Communicate information to the public regarding topics related to the management, protection, enhancement, and improvement of natural resources.
- NRS.03.01 Sustainably produce, harvest, process and use natural resource products (e.g., forest products, wildlife, minerals, fossil fuels, shale oil, alternative energy, recreation, aquatic species, etc.).
- NRS.03.02 Demonstrate cartographic skills, tools and technologies to aid in developing, implementing and evaluating natural resource management plans.
- NRS.04.01 Demonstrate natural resource protection, maintenance, enhancement and improvement techniques.
- NRS.04.02 Diagnose plant and wildlife diseases and follow protocols to prevent their spread.
- NRS.04.03 Prevent or manage introduction of ecologically harmful species in a particular region.
- NRS.04.04 Manage fires in natural resource systems.
- PS.01.01 Determine the influence of environmental factors on plant growth.
- PS.01.03 Develop and implement a fertilization plan for specific plants or crops.
- PS.02.01 Classify plants according to taxonomic systems.
- PS.03.01 Demonstrate plant propagation techniques in plant system activities.
- PS.03.03 Develop and implement a plan for integrated pest management for plant production.
- PS.03.05 Harvest, handle and store crops according to current industry standards.
- PST.01.01 Apply physical science and engineering principles to assess and select energy sources for AFNR power, structural and technical systems.
- PST.05.03 Apply geospatial technologies to solve problems and increase the efficiency of AFNR systems.