

**Agriculture & Natural
Resource Education
Program Area
Quality Criteria
Grade 9-12**



Agriculture Education
Office of, Career, Technical and Adult Ed.
Nevada Department of Education, Carson City

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

1. STANDARDS AND INSTRUCTION

Quality Criteria

The Agriculture Program has been organized and sequenced around career paths with clear performance standards leading students to entry-level employment, job advancement, entrepreneurship, advanced education and training, and personal use. Instruction is performance-based and integrates academic knowledge and skills, which reflect current and emerging technologies and practices in business, industry, and the home environment.

- 1.1 The content of the Agriculture Program has been assessed against and where necessary, modified to satisfy the Standards.*
- 1.2 The curriculum is in written form and includes:
 - 1.2.1 Course description(s), goals, objectives, and outlines*
 - 1.2.2 Course program duration*
 - 1.2.3 Description of major instructional methodologies/strategies*
 - 1.2.4 Performance standards for program completers*
 - 1.2.5 Student evaluation procedures**
- 1.3 Academic courses, technical preparation course sequences, and workplace learning sequences are structured in career path clusters.*
- 1.4 Curriculum and instruction provide students with career path information and planning strategies. Career performance standards are interwoven and reinforced throughout the curriculum.*

- 1.5 Integration across disciplines is evident in planning curriculum development, instruction, and assessment.***
- 1.6 The curriculum indicates that students in agriculture education courses/programs engage in specific activities designed to enhance academic skills in math, science, communication, and technology.***
- 1.7 Each course of study incorporates higher order thinking skills and includes the application of group, individual decision-making, and interpersonal skills.***
- 1.8 Evidence exists that Agriculture courses are sequenced to support the Agriculture clusters identified in each career path.***
- 1.9 Courses of study for each program indicate a planned, logical, and articulated sequence of learning experiences required to meet the identified instructional objectives.***
- 1.10 Instruction is competency-based, sufficient in duration, current and relevant, and reflects the knowledge, attitudes, and skills currently required in the identified career path.***
- 1.11 Information Technology instruction is provided throughout the Agriculture program to assist students with career path objectives.***
- 1.12 The Agriculture standards have been designed to serve the needs of all students, especially those with special learning needs resulting from academic and economic disadvantages, and mental, emotional, and physical disabilities.***
- 1.13 Documentation exists that validate course/program articulation and sequencing between and among feeder schools, high schools, adult education, community colleges, and four-year institutions.***
- 1.14 The program uses business and industry sponsored resources and support, such as guest speakers, equipment, demonstrations, field trips, student scholarships, community learning sites, partnerships, and placement opportunities.***

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

2. LEADERSHIP AND CITIZENSHIP DEVELOPMENT

Quality Criteria

Students develop leadership, citizenship, interpersonal, and employment skills by participating in community service projects and cooperative, individualized, and competitive instructional activities through involvement in the FFA.

- 2.1 All Agriculture students have full access to FFA.*
- 2.2 The FFA Activities are integral to instruction, are conducted by the appropriate Agriculture instructors, and are supported by the administration of the local education agency.*
- 2.3 Instruction intended to develop and/or enhance citizenship, leadership, and interpersonal skills, as defined in the Agriculture and Natural Resource Performance Standards, is clearly identified in courses and activities throughout the program.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

3. PRACTICAL APPLICATION OF OCCUPATIONAL SKILLS

Quality Criteria

Practical application of occupational skills is accomplished through classroom simulation of work-based experiences. These experiences are directly related to, and coordinated and evaluated with regular classroom instruction through involvement in a Supervised Agriculture Experience.

- 3.1 The Agriculture program includes classroom simulations of work-site experiences or paid/unpaid job-site experiences. These experiences are directly related to, and coordinated and evaluated with regular classroom instruction.*
- 3.2 If a community-based and/or work-based experience is included in the operation of a program, student supervision is accomplished through the cooperation of the credentialed instructor(s) and when appropriate the on-site supervisor(s).*
- 3.3 If a community-based and/or work-site experience is included in the operation of a program, there is a specific training plan for each student that is used to guide and evaluate a student's progress.*
- 3.4 A variety of instructional strategies such as work exploration, experiences are available for all students.*
- 3.5 Services and/or resources are available to assist special populations with the practical application of skills.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

4. QUALIFIED AND COMPETENT PERSONNEL

Quality Criteria

All Agriculture education teachers are competent and qualified with the appropriate occupational proficiency. In addition, instructors, administrators, guidance/counseling staff, and instructional support staff are involved in an ongoing program for professional development designed to enhance the quality of instruction.

- 4.1 Each instructor holds a valid Nevada teaching credential authorizing the teaching of the assigned Agriculture education courses.*
- 4.2 Each Agriculture instructor has the appropriate occupational proficiency and work experience and/or professional preparation in their area(s) of instruction.*
- 4.3 Each Agriculture instructor uses a variety of instructional strategies/materials and effective teaching techniques to enhance student learning and meet the individual needs of the learner, including special populations.*
- 4.4 All Agriculture instructors annually participate in professional development activities that are designed to enhance or expand their knowledge of AGRICULTURE skills, technology, instructional strategies, effective teaching techniques or integration of academic and agriculture instruction as indicated in their professional development plan.*
- 4.5 Administrators, guidance/counseling staff and instructional support staff are involved in professional development designed to enhance the quality of Agriculture programs.*

- 4.6** *Each Agriculture instructor is actively involved in professional subject matter and agriculture education associations.*
- 4.7** *At least one agriculture program instructor participates in the annual Leadership/Management conference sponsored by the Nevada Department of Education. Information and materials disseminated at the conference are shared with department staff members.*
- 4.8** *Where appropriate, Agriculture subject matter instructor has been designated chairperson/manager of the program area.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

5. FACILITIES, EQUIPMENT, AND MATERIALS

Quality Criteria

Facilities, equipment, instructional materials and supplies comply with health and safety standards, reflect and/or simulate current and emerging technologies and applications, and are of sufficient quantity and quality to meet the instructional objectives and individual needs of all students.

- 5.1 Facilities, equipment, and materials are comparable to and/or simulate those currently used by business and industry and are of a quantity and quality needed to accomplish stated instructional objectives, as verified by a program advisory committee.*
- 5.2 Where appropriate, provisions have been made for community or school-based laboratory facilities to enhance practical instruction.*
- 5.3 Facilities, equipment, and instructional materials are regularly maintained, replaced, repaired, and updated to meet the local, state, and federal health and safety rules and regulations.*
- 5.5 Instructional materials are adapted and/or supplemented to meet the specific needs of special populations.*
- 5.6 Adequate and secure storage space is provided for materials, supplies, records, and equipment.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

6. COMMUNITY, BUSINESS, AND INDUSTRY INVOLVEMENT

Quality Criteria

Individuals who represent the community, business, industry, students, parents, districts, staff, post-secondary agencies, and labor, serve on a subject-area advisory committee to provide guidance. Staff uses the advice of the advisory committee in the design, development, operation, evaluation, and support of each program area.

- 6.1 The advisory committee membership includes, but is not limited to representatives from the community, special populations, business, industry, students, parents, community agencies, staff, post-secondary agencies, labor, and other individuals having skills in and knowledge of the occupation(s) for which instruction is provided.*
- 6.2 The advisory committee assists in developing and implementing a long-range and short-range plan to ensure that the program remains current and relevant.*
- 6.3 The advisory committee provides advice, support, counsel, written recommendations, and verification pertaining, but not limited to the following: instructional content, budget, program promotion, student recruitment, facilities, safety standards, equipment and materials, articulation, program planning, job placement, class size, supervised agriculture experience, FFA organizations, proficiency standards, new technology, and current industry practices.*
- 6.4 Agriculture staff actively participates in the advisory committee meetings.*
- 6.5 The advisory committee meets a minimum of three times a year.*

- 6.6** *The advisory committee provides input on program decisions affecting special populations.*
- 6.7** *A record of recommendations and/or actions taken during advisory committee meetings is maintained and is provided to school/district administrators.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

7. CAREER GUIDANCE

Quality Criteria

Career-vocational education staff, guidance counselors, and other resource personnel provide career guidance services to ensure that students enroll in Agriculture courses/programs that are consistent with their aptitudes, interests, abilities, and career path goals.

- 7.1 Ongoing individual assessments, counseling, career planning, and support services are initiated no later than the 9th grade for all students, including special populations.*
- 7.2 Agriculture staff assists guidance counselors and other resource personnel to provide career guidance activities, which include:
 - 7.2.1 Recruitment, program information, and promotional activities for students, parents, and counselors;*
 - 7.2.2 Implementation of the national goal of eliminating discrimination on the basis of gender, race, disability, or disadvantage;*
 - 7.2.3 A systematic process to ensure student enrollment in programs consistent with their aptitudes, abilities, and career path goals.**
- 7.3 Agriculture instruction includes career planning, employability skills, articulation options and provides students with information relevant to their career path goals.*

- 7.4** *Students are made aware of options for post-secondary education, advanced training, job specific requirements such as licensure, and employment opportunities consistent with their career path goals.*
- 7.5** *With the assistance of their Agriculture instructor, Agriculture students annually review their career development plan, refine their occupational choice.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

8. PROGRAM PROMOTION

Quality Criteria

There is a systematic plan of program promotion to inform students, parents, counselors, other subject-matter teachers, administrators, board members, community members, and business and industry representatives, of options, advantages, quality, accountability, and availability of agriculture education programs.

- 8.1 There is a plan for program promotion and recruitment throughout the school year.*
- 8.2 Program promotion activities are planned and conducted during the year to inform students, parents, counselors, other subject matter teachers, site/district administrators, board members, advisory committee members, business and industry representatives, and community member about the achievements of AGRICULTURE students and merits of Agriculture programs.*
- 8.3 Promotional materials including, but not limited to, a descriptive program brochure has been developed to publicize the Agriculture programs' organization, sequence, and benefits.*
- 8.4 Equal access to Agriculture programs and services is available to all students, including those with special needs.*
- 8.5 Promotional activities are conducted annually to improve articulation with feeder schools and advanced training/education agencies.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

9. PROGRAM ACCOUNTABILITY AND PLANNING

Quality Criteria

There is an annual program assessment using input from instructors, administrators, students, other staff, and advisory committee members which ensures that the program scope, design, content, instruction, and administration is meeting the program objectives. The annual assessment process is used to develop a Program Improvement Plan for the short and long-range administration and operation of agriculture education programs.

- 9.1 A performance-based assessment system is used to measure students' performance in the application of vocational and academic skills and knowledge of occupational tasks.*
- 9.2 There is an annual program assessment, including review of the Program Improvement Plan, using input from instructors, administrators, students, other staff, and advisory committee members based upon the Quality Criteria for High Schools Agriculture and Natural Resource Education.*
- 9.3 Records and reports are maintained and submitted as required to comply with federal, state, and local regulations and policies.*
- 9.4 The Program Improvement Plan is based on the analysis of data collected for program accountability and is utilized in the application for the Carl D. Perkins Vocational and Applied Technology Act Funds. Sources of data are collected, analyzed and interpreted, and utilized as required by local, state, and federal mandates, including, but not limited to: Occupational Research Data Systems (), AGRICULTURE Student Follow-up, Coordinated Compliance Review,*

Accreditation, Program Quality Review, special populations enrollment, and job market analysis for each occupational cluster.

9.5 *Funding sources for programs/courses are clearly identified and guidelines for use of these funds are provided to the instructional staff for program budget development and for monitoring expenditures.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

10. STUDENT-TEACHER RATIO

Quality Criteria

High quality instruction in Agriculture is dependent upon maintaining a student-teacher ratio that insures effective instruction and safe working conditions. Agriculture education courses are action-oriented, applied learning activities. Under these conditions, lower class size must be maintained.

10.1 Minimum Compliance Criteria:

- 1. Maximum enrollment per teacher in the classroom is 30 students per class.*
- 2. Maximum enrollment per teacher in a shop or laboratory class is 20 students per class.*
- 3. Maximum number of individual student per full-time equivalent for instruction and supervised agriculture experience programs and student actively engaged in FFA leadership activities is 60 students. For Agriculture Incentive Grant purposes, freshmen are counted as $\frac{1}{2}$ when determining the 60-student limitation.*

10.2 Community Awareness and Commitment:

- 1. Invite your State Supervisor to speak to your site and district administration, and advisory committee on maintaining low class sizes.*
- 2. Develop a student selection criteria policy that identifies those students who have an interest or should be placed in the Agriculture program.*

RELATED INFORMATION, STRATEGIES, ACTIVITIES AND RESOURCES

11. FULL YEAR EMPLOYMENT

Quality Criteria

Provisions are established by the school site which provide adequate teacher release time to conduct the necessary year round activities of the program.

11.1 Effective instruction in Agriculture education extends beyond the regular school day, school year and school environment. The basic component of instruction occurs as group instruction in the classroom, shop or field during regularly scheduled classes September through June.

11.2 There are two additional major components of instruction: activities conducted as part of the program of work of the FFA Chapter and individually conducted activities of students' supervised agriculture experience programs. These two components are integral to the total instructional program.

11.3 Minimum Compliance Criteria:

- 1. A minimum of one full-time equivalent teacher shall be employed during the summer months for each 60 Agriculture students engaged in FFA and supervised agriculture experience during that period.*
- 2. In addition to any preparation period otherwise provided to teachers at the program site, one project supervised period shall be provided in the Agriculture teacher's assignment during the regular school year for each 60 Agriculture students actively engaged in FFA and supervised agriculture experience out of class activities.*

Appendix A
GLOSSARY
GENERAL

Advisory Committee

An advisory committee assists in curriculum review, verification of labor market needs, provides support and strengthens the relationship between business, industry, the community, and education. The advisory committee membership includes, but is not limited to representatives from the community, special populations, business, industry, students, parents, community agencies, staff, post-secondary agencies, labor, and other individuals having skills in and knowledge of the occupation(s) for which instruction is provided.

Applied Academics

The integration of academic principles and concepts through classroom and laboratory activities which connect to the theoretical knowledge to the workplace application.

Apprenticeship

A program registered with The Department of Labor or the state apprenticeship agency in accordance with the act of August 16, 1937 known as the National Apprenticeship Act (29USC.50) that is conducted or sponsored by an employer, a group of employees, or a joint apprenticeship committee representing both employers and a union and that contains all terms and conditions for the qualification, recruitment, selection, employment, and training of apprentices.

Authentic Assessment

Evaluations are primarily based on student performance and may include examinations, assignments, portfolios, and qualitative evaluations of student performance.

Career Guidance

Programs that (1) pertain to the body of subject matter and related techniques and methods organized for the development in individuals of career awareness, career planning, career decision making, placement skills, and knowledge and understanding of local, state, and national occupational, educational, and labor market needs, trends, opportunities, and occupational choices. (2) assist those individuals in making and implementing informed educational and occupational choices.

Course

A sequence of instructional units that includes a body of facts, understandings, processes, skills, values, and appreciations that constitute the substance of a specific aspect of knowledge, activity, or experience. A course is offered for a prescribed length of time, such as a quarter, a semester, or year. When the student successfully completes the course, he or she receives a prescribed number of units.

Course of Study

A course outline is usually a topical listing of all subject matter to be included in a course. However, for the purposes of the Curriculum Process Guide in this document, the course outline also contains other pertinent information, such as course title, course description, course goals and objectives, and instructional hours and grade levels. Used in this context, course outline may also be referred to as a course of study.

Community Classroom

A course outline is usually a topical listing of all subject matter to be included in a course. However, for the purposes of the Curriculum Process Guide in this document, the course outline also contains other pertinent information, such as course title, course description, course goals and objectives, and instructional hours and grade levels. Used in this context, course outline may also be referred to as a course of study.

Continuum

A kindergarten through university continuum of well-planned, coordinated, articulated, integrated and sequential experiences. These experiences prepare students for successful transition to and participation in the home, community, workplace, and pursuit of lifelong learning.

Curriculum

Instructional and related or supportive materials, including materials using advanced learning technology in any occupational field that is designed to strengthen the academic foundation and prepare individuals for reemployment at the entry level or to upgrade occupational competencies of those previously or presently employed in any occupational field and appropriate counseling and guidance materials.

Dictionary of Occupational Titles (DOT)

The DOT contains a comprehensive and standardized national occupational coding system. Occupational definitions are arranged by nine-digit code numbers to reflect the kind and level of work performed. Each nine-digit code number is composed of three 3-digit parts indicating the occupational group, the relationship of the worker to data, people, and things, and a unique identifier. The definition includes the major task elements of the job, task variables, alternative job titles, and industry designation.

Disadvantaged

Individuals (other than individuals with disabilities) who have economic or academic disadvantages and who require special services and assistance in order to enable those individuals to succeed in vocational education programs.

Disadvantaged includes students who are members of economically disadvantaged families, migrants, limited English proficient and students who are dropouts from or who are identified as potential dropouts from secondary school.

Entry Level

Acquisition of skills, knowledge, and attitudes for those jobs that require the least amount of preparation.

Framework

The model program framework consists of well-planned, articulated and sequential education experiences that prepare individuals for successful participation in work and the community. It encompasses awareness of career options, exploration of jobs, career guidance, establishment of career goals, development of work place skills, development of personal and leadership skill.

Gender Equity

A shift from historically gender-specific programs to equal opportunity programs. To eliminate bias as to language, character traits, social roles, occupational roles, physical appearance, vocational roles, patronization, racial stereotypes, numerical balance/omission/inconsistency and symbolic representation.

Handicapped

(See disadvantaged)

Integrated Curriculum

Integration among academic disciplines is a hallmark of the curriculum. This integration can take a variety of shapes--for instance, between math and science; history and English; or history, math, and the arts; and between academic and vocational disciplines, such as in Agriculture and science or math and business.

Job Market Analysis

The biennial review requires certain job market information to validate program appropriateness. The implementation, continuance, or termination of course depends, in part, upon labor market demand.

Leadership

These skills include being persuasive in a positive manner, good verbal and written communication skills, and the ability to organize people into a common effort.

Model Curriculum Standards and Framework

An outline of the components of a given course of study designed to provide state direction to school districts in the provision of instructional programs. In addition, the Framework sets minimum standards and guidelines for educational programs that reflect the philosophy, goals, and objectives of the State of Nevada.

Performance Standard

An outcome-based program where the teacher and student work as partners to reach recognized levels of performance and that curriculum and instruction are organized to produce such results.

Portfolio

The student portfolio includes examples and records of what a student knows and can do. The portfolio is used in post-secondary job placement or to gain entry into programs for further education.

Pursuing Excellence

Pursuing excellence is the Western Association of Schools and Colleges/Nevada Department of Education joint procedure for appraising the quality of a Nevada public high school. By electing this procedure, the school simultaneously fulfills all requirements for both a WASC accreditation and a CDE program quality review.

Restructuring

Organizational structure is designed that facilitates the school's task of reaching its learning goals. The school community redefines how it conducts its business. It reconsiders the way people interact; the relationship of a high school to the outside world; and how resources, including people, time, and money, are used. While specific approaches vary among schools, the elements can include: changes in the master schedule and flexible uses of time, such as Saturday classes; variable teaming of teachers for curricular units; reducing the number of students a teacher sees in a day; and students clustered in small learning teams or in organized programs that support personalized learning.

Secondary School Program Quality Criteria

The purpose of the statewide (AGRICULTURE) Program Improvement and Certification System is to recognize outstanding achievement and foster educational excellence in vocational education. The system utilizes the AGRICULTURE quality criteria and indicators as the standards for achieving “program certification”.

Sequential Courses

An integrated series of courses that are directly related to the educational and occupational skills preparation of individuals for jobs, or preparation for post-secondary education.

Special Population

Students with disabilities as well as those who are educationally and economically disadvantaged. This includes foster children, student having limited-English proficiency, participating in programs designed to eliminate sex bias, and incarcerated in correctional institutions.

Tech Prep

A combined secondary and post-secondary program that (1) leads to an associates degree or two-year certificate. (2) provides technical preparation in at least one field of engineering technology, applied science, mechanical, industrial, or practical art or trade. (3) leads to placement in employment.

Career and Technical Student Organization

Are those organizations for students enrolled in career and technical education programs and engage in students activities to develop leadership skills and which are an integral part of the classroom instructional program. These organizations must have state and national units which aggregate the work and purposes of instruction in career and technical education at the local level.