



**Career & Technical Education**

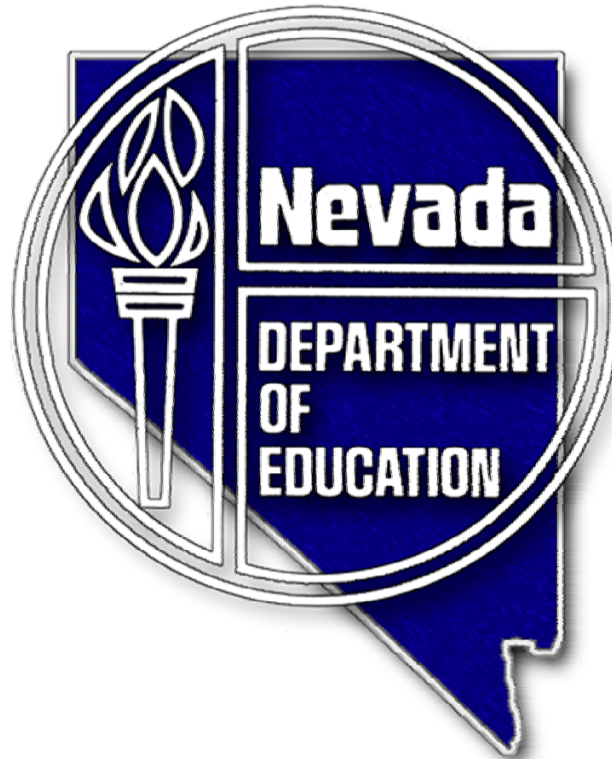
*Skills for Employment & Lifelong Learning*

# Career And Technical Education Skills For Employment And Lifelong Learning Initiative

Department of Education  
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## EXECUTIVE SUMMARY

The purpose of this plan is to improve the quality of Career and Technical Education (CTE) by implementing Program Quality Criteria that address the four pillars of No Child Left Behind, the benchmarks of the American Diploma Project, and the key issues of the Nevada P-16 Initiatives 2002-2007.

Program improvement will be accomplished through the following:

- High-quality professional development opportunities will be provided for all CTE instructors, including the integration of academics and career and technical education,
- Development of CTE Skill Standards and CTE Curriculum Guides,
- Business, Industry and Community linkages to improve CTE programs and address the concerns of local employers,
- Utilizing CTE data to improve programs and attainment of academic and career and technical education standards by CTE students; and
- Developing linkages with postsecondary education through tech prep and articulation agreements.

The following ten State Program Quality Criteria address program improvement in these areas:

- Standards and Instruction,
- Leadership and Citizenship Development,
- Practical Application of Occupational Skills,
- Qualified and Competent Personnel,
- Facilities, Equipment, and Materials,
- Community Business, and Industry Involvement,
- Career Guidance,
- Program Promotion,
- Program Accountability and Planning; and
- Student-Teacher Ratio.

During the next year, each program area will develop Program Quality Criteria based on the State Program Quality Criteria and provide training to local education agencies on implementing the criteria.

## Introduction

Career and Technical Education (CTE) has evolved over the years to include a plethora of skilled training opportunities for both secondary and postsecondary students. While postsecondary programs are viewed as being on the “front end” of education’s effort to prepare students for the workforce, it is often the secondary-level programs that provide the inertia that steer high-school students from an education that has little focus to one with much focus, especially in helping the students clarify educational and career goals after graduation.

As in most states, CTE plays a critical role in public education in Nevada. This last academic year, over 79,000 high school and 47,500 community college students enrolled in one or more CTE courses. Of those high-school students, more and more graduating seniors are seeking postsecondary education options at community colleges, promoted in large part through the establishment of articulation agreements through Tech Prep. The focus of this plan is to improve and expand secondary CTE programs. In the future, collaboration will occur with the University and Community College System of Nevada to develop an improvement and expansion plan for CTE postsecondary programs funded by the Carl D. Perkins grant. In Nevada’s high schools, CTE programs vary from the traditional areas, such as woodworking and livestock production, to programs preparing students for careers in information technology. Because students’ aptitudes for learning vary tremendously, the demand for both the traditional and newer programs remains high.

Three years ago, the Office of Career, Technical and Adult Education (OCTAE) at the Department of Education initiated an effort to establish state skill standards for each discipline. While far from finished, the development and implementation of state skill standards are gradually providing the basis for program improvement. That is, investments to improve programs may be based on the ability of each program to teach the established skill standards. Program improvement, however, is far more encompassing than state skill standards. Professional development, facilities and equipment, business and industry involvement, and student–teacher ratios are all important factors in a program’s ability to deliver quality instruction to students.

To promote a more comprehensive approach to improve CTE programs, the Department of Education is supporting the development of Program Quality Criteria for career and technical education. The Program Quality Criteria is designed as an assessment tool to measure to what depth a CTE program has implemented the elements necessary to ensure quality. For example, to what level is business and industry involved in the local program? Is an appropriate student-teacher ratio maintained to ensure both quality instruction and enforce safety? Does the instructor seek professional development on a regular basis to remain current in his/her discipline?

The Improvement Plan also demonstrates how CTE can play a crucial role in fulfilling the mandates of *No Child Left Behind*. This will be accomplished through professional development and integration of academics in CTE programs. In addition, the Improvement Plan explains how CTE will integrate the benchmarks of the American Diploma Project in CTE programs (document attached for reference). The CTE Improvement plan addresses the key issues identified in the Nevada P-16 Initiatives 2002-2007 through collaboration with secondary and postsecondary institutions and assisting all students in gaining skills and knowledge to be successful beyond high school (document attached for reference).

Economic downturns and budget constraints should in no way deter states, school districts and higher education, especially community colleges, from maintaining support for CTE programs. This is especially important since, as recent and past reports have cited, the demand for skilled workers in the United States, especially in key fields such as the health care industry, is projected to continued to increase.

## PROFESSIONAL DEVELOPMENT

The *No Child Left Behind Act* requires all schools, districts, and the State Department of Education to establish annual measurable objectives written as an annual increase in the percentage of teachers of core academic subjects who will receive “high-quality” professional development to enable them to be highly qualified, effective classroom teachers. To be considered “high-quality” professional development, activities must meet the criteria outlined in the *No Child Left Behind Act* definition of professional development. By aligning with these criteria, professional development should be:

- focused on instruction to improve student learning so that all students may meet standards,
- an integral part of educational improvement plans that are developed with extensive participation of teachers, parents, and administrators of schools, which includes a needs assessment of professional development based upon student and staff data,
- sustained and intensive; and
- regularly and systematically evaluated for impact on increased teacher effectiveness and improved student academic achievement with findings to be used to improve effectiveness and inform decisions about subsequent professional development programming.

The provisions of the *No Child Left Behind Act* also require that professional development activities include one (1) of the following activities that advance teacher knowledge in:

- content knowledge and skills aligned to standards and assessment to help students meet standards,
- instructional strategies supported by scientifically based research,
- improving classroom management skills,
- assisting teachers in providing instruction to students with limited English proficiency to improve their language and academic skills including appropriate use of curricula and assessments,
- instruction in methods of teaching children with special needs,
- training in technology and technology applications so they are effectively used to improve teaching and learning in academic subjects,
- instruction in the use of data and assessment to inform classroom practice; and
- instruction in ways teachers may work more effectively with parents.

Consistent with the provisions in the *No Child Left Behind Act*, the Office of Career, Technical, and Adult Education will engage in strategies to improve teacher quality through professional development activities in a collaborative fashion. This collaboration will involve efforts to seek the input of teachers, principals, parents, administrators, paraprofessionals and other school personnel regarding the professional development needs of career and technical education teachers throughout the state.

All professional development activities will be coordinated with local education agencies and postsecondary institutions. Efforts will be made to coordinate and accomplish professional development with other school improvement initiatives.

In addition to the specific strategies detailed in the program quality criteria, professional development programs for teachers, counselors, and administrators will consist of inservice training to teachers regarding the use and application of state-of-the-art technology for CTE programs.

The Office of Career, Technical, and Adult Education will further promote professional development that incorporates program quality standards into the recommended courses of study. In addition, state skill

standards will be integrated into career and technical education courses, and where applicable, academic standards will also be integrated.

Technical assistance will be given to local education agencies for professional development activities that include hands-on learning, project-based learning, experiential learning, work-based learning and mentoring programs, and when appropriate occupational competency certificates will be distributed.

By focusing and coordinating many of these efforts through a partnership with the Nevada Association for Career and Technical Education (NACTE), professional development strategies will be enhanced. This will also allow for a systematic approach that targets those teachers involved in teaching career and technical education programs throughout Nevada.

## **DEVELOPMENT OF STATE SKILL STANDARDS**

### **Skill Standards**

It is essential that a rigorous, consistent statewide career and technical education system be developed. In order to accomplish this goal the Office of Career, Technical, and Adult Education has established a plan for the development of state skill standards and recommended course of study as two components for building the system.

Under the plan for state skill standards, an average of seven skill standard sets are developed and approved each year. The skill standards are based on industry, state, and national skill standards. Each year, writing team members are nominated from business and industry, parents, secondary and postsecondary education. Once teams are formed they meet an average of four times to develop the state skill standards. The state skill standards are crosswalked with the state academic standards. In addition, state skill standards will be crosswalked with the American Diploma project benchmarks. Upon completion the standards are placed on the Nevada Department of Education website and distributed to educators and other interested parties for their input. After the standards have gone through the review process they are revised as necessary and presented to the Nevada State Board of Education for approval.

As state skill standards are approved, high-quality professional development activities are conducted to assist instructors in implementing the skill standards. These activities include methodology for the integration of academic standards and career and technical education standards, providing opportunities for instructors to gain state-of-the-art-knowledge and skills to meet industry standards, effective teaching techniques and effective classroom management.

To complete the process an approach is being developed to assess the skills and knowledge that students have gained in career and technical education courses. This process includes utilizing industry standardized tests as well as developing tests based on state skill standards. The following State Skill Standards have been approved by the Nevada State Board of Education:

- Agricultural Mechanical Engineering Technology
- Agricultural Science Skill Standards
- Automotive Skill Standards
- Computer-Aided Drafting & Design
- Early Childhood Education and Service
- Family and Consumer Science Skill Standards
- Information Technology
- Marketing Skill Standards

- Plant Science & Environmental Horticulture
- School Counseling Program

## **Curriculum Guide**

The second component to building a rigorous, consistent statewide career and technical education system is the development of curriculum guides based on the skill standards. Once skill standards have been developed for an area, courses will be identified and goals, objectives, competencies, recommended activities and competency certificates will be developed. To accomplish this goal, nominations for the curriculum guide development team will be solicited. It is anticipated the team will need to meet at least twice to develop the course goals, objectives, competencies, recommended activities and competency certificates. Where available and feasible, national competency will be utilized. The curriculum guides will be presented to the Nevada State Board of Education for approval as addendum to the State Skill Standards documents.

## **BUSINESS, INDUSTRY AND COMMUNITY LINKAGES**

By becoming interdependent partners with employers, students, teachers, counselors, administrators, and community sponsors, career and technical education programs and services can be improved to meet student and employer needs for career and technical training in local communities. The goals of these partnerships are to encourage cooperation between business and education and to provide support and direction for career and technical education programs. Through such mechanisms as joint technical skills committees, business and industry can be involved in the development, implementation, and evaluation of career and technical education programs. Linkages also serve to meet the needs of local employers, by strengthening business and industry competitiveness, and supporting overall economic development. In addition, the following advantages for business, industry and community in partnering with education include:

- the enhancement of corporate image,
- greater visibility in the community for the organization,
- an opportunity for organizations to observe first hand how tax dollars prepare students for the future,
- expanded personal satisfaction from individual participants within an organization who are assisting in the development of productive citizens,
- the preparation of a future workforce; and
- highly skilled citizenship focused on positive community development.

Successful linkages between business and education facilitate an atmosphere of trust and understanding. These linkages also provide a number of practical advantages for education that include:

### ➤ **Relevancy**

The goal of career and technical education is to maintain programs that prepare and train students for meaningful employment, lifelong learning and community involvement. Partnerships with businesses help to ensure that CTE programs stay current with industry needs and increase awareness of the world of work.

### ➤ **Resources**

In order for CTE programs to appropriately prepare students for the future, the acquisition of expertise, technical assistance and technology becomes increasingly important. Assistance that stretches limited education dollars through donations of time, materials, equipment, or funds can be realized when

schools and businesses work together in partnerships. Mentors, tutors and role models who show a real interest, present students with opportunities to learn from those who do a job everyday using the latest technology. Through these strategies, increased access to the job market is also realized.

### ➤ **Skills Update**

It is important that CTE programs remain current in terms of aligning program improvement efforts with industry standards. New curriculum resources and ideas acquired from business and industry can expand educational opportunities for students. Business and industry activities that support professional development of teachers and staff also allow them to remain current with industry requirements, technology and trends; thereby incorporating into the classroom the appropriate standards students need to effectively participate in a contemporary job market.

Business and industry linkages with career and technical education include building partnerships through involvement with individuals, the community and the corporate sector. The Office of Career and Technical Education will work to strengthen business, industry and community linkages with education by:

- encouraging local technical skill committees,
- connecting business, education and community leaders in an active system of dialogue,
- involving partners in state and local education governance structures,
- promoting industry skill standards development and implementation for career and technical education programs,
- assuring alignment of program improvement efforts with industry needs,
- strengthening existing joint technical skills committees and developing new ones where appropriate,
- encouraging partners to get involved in local education systems to promote career and technical education programs,
- encouraging partners to provide work-based learning opportunities and employee-mentors for students; and
- striving to develop positive future citizens for local communities.

## **ASSESSMENT AND ACCOUNTABILITY**

A full system of standards and measures for Perkins accountability has been in place in Nevada since the 1991-92 school year. The data collection system was established and refined sufficiently to issue a summary of findings to each school district following the data collection/compilation process of the 1992-93 school year. A full report with back-up data has been written and disseminated annually since the 1994-95 school year. Since Nevada does not currently have an electronic, student database from which data can be extracted, each school district has been providing the Occupational Reporting Unit (ORU) with the information necessary for a full evaluation of performance measures at the school, district, and state levels. Currently the Occupational Reporting Unit is working towards a web-based data collection and sharing system that will provide more flexibility for local education agencies and a stronger base of data for evaluation.

Under *No Child Left Behind*, each state must measure every public school student's progress in reading and math in each of third grade through eighth grade and at least once during tenth grade through twelfth grade. By school year 2007-2008, assessments (or testing) in science will be underway. These assessments must be aligned with state academic content and achievement standards. They will provide parents with objective data on where their child stands academically. CTE in Nevada is currently aligning all skill standards with existing academic standards, and in some cases students receive academic credit. Based on proficiency scores, CTE students are evaluated for their academic performance. In addition, CTE students are also evaluated for their

career and technical competencies based on grade point and competency performance level. This information is reported by districts to the Occupational Reporting System (ORS) to provide accountability and assessment of performance. Exploration will be done regarding ORS resources and creating new sources of evaluation information, new ways to evaluate student achievement and program improvement and the relationship between academic performance and career and technical education.

*No Child Left Behind* requires states and school districts to give parents easy-to-read, detailed report cards on schools and districts, telling them which ones are succeeding and why. Included in the report cards are student achievement data broken out by race, ethnicity, gender, English language proficiency, migrant status, disability status and low-income status; as well as important information about the professional qualifications of teachers. With these provisions, *No Child Left Behind* ensures that parents have important, timely information about the schools their children attend, and whether they are performing well or not. The ORU currently prepares a report describing teacher demographics, which includes: ethnic, gender, special populations and licensure qualification. In addition, the ORU prepares a *CTE Fact Card* which provides information on the demographics and performance of CTE students, programs, and districts at the secondary and postsecondary level. Parents will be included in the local and state CTE programs through skills and advisory committees in program direction and evaluation.

In this new era of education, program improvement based on hard research and evaluation will chart the path for Career and Technical Education success. Teachers, administrators, parents, students and business and industry will evaluate local data and research and share in the decision-making process of vital program improvement decisions.

## **SECONDARY/POSTSECONDARY TRANSITIONS**

Today's jobs demand more knowledge and higher levels of skills than ever before. They require people who have solid academics, technical proficiency, productive work habits, problem-solving skills, communication skills, the ability to think logically, and work in teams. The majority of these jobs require education beyond high school with enrollment and completion of programs in community colleges, internships and/or apprenticeships. An important transition strategy, helping all students make the connection between school and employment, is Tech Prep.

Tech Prep education is a 2+2 planned sequence of study in a technical field beginning in the eleventh grade. The sequence extends through two years of postsecondary CTE, or an apprenticeship program of at least two years following secondary instruction, and culminates in an associate degree or certificate.

The Nevada Tech Prep system plays a vital role in addressing the four pillars of the *No Child Left Behind Act*. Tech Prep programs have strong accountability measures which include meeting standards and measures for student academic attainment, technical skill attainment, and high school completion. Tech Prep believes in focusing on what works in planning programs and high-quality professional development opportunities for educators and students. Federal funds are allocated to four regional consortiums that in turn make resources available to local schools through professional development and curriculum resources. Each consortium has the flexibility to determine how the funds are allocated. The Tech Prep mission is to provide options for students and parents.

Tech Prep begins in high school and requires at least two years of additional education in a postsecondary occupational program. High schools enter into agreements with postsecondary institutions to develop articulated courses, which can provide a smooth transition from high school to postsecondary institutions without duplication of coursework. These agreements are formed after the instructors at both levels determine

that the high school curriculum is equivalent in content and rigor to the postsecondary institution's introductory coursework.

Tech Prep first introduces students to various careers, offering them options based on their goals, abilities and commitment. It then provides a planned sequence of rigorous academic and technical courses from secondary through postsecondary education, often including the opportunity for work-based learning, to help them become qualified for their chosen careers. In addition, through the articulation process, Nevada academic standards in English language arts, math, science, social studies, computer and technology, are infused into the courses. Students who complete an articulated program at the high school level gain knowledge and skills necessary for successful transition to the postsecondary institution.

Tech Prep programs encourage strong, comprehensive links between secondary and postsecondary institutions by:

1. Participating in statewide Tech Prep Steering Committee meetings; and
2. Utilizing technical assistance, including, but not limited to:
  - a) articulation agreement processes between high schools and Community Colleges,
  - b) promotion of school district flexibility in providing articulated courses,
  - c) articulation agreement processes between Community Colleges and Universities
  - d) recruitment and retention of Tech Prep students in postsecondary education,
  - e) development of Tech Prep programs for both secondary and postsecondary, which address the economic needs of the consortia regions,
  - f) supporting consortia consultations with business, industry, institutions of higher education, and labor unions,
  - g) promotion of parental awareness of Tech Prep, including, articulated courses and support services available to students; and
  - h) professional development of secondary and postsecondary instructors.

## CALENDAR OF RELATED ACTIVITIES

August 2003	Present CTE Skills for Employment and Lifelong Learning Initiative to CTE Steering Committee
September 2003	Present Animal Science/Veterinary Medicine and Agriculture Business System skill standards to State Board of Education/State Board for Occupational Education for Approval Present CTE Skills for Employment and Lifelong Learning Initiative to State Board of Education/State Board for Occupational Education for Approval Conduct review process for Culinary Arts Standards, Health Occupation Standards, Business Standards, Construction Trades Standards
October 2003	Conduct high-quality professional development activities for CTE program areas, an ongoing activity
November 2003	Conduct Statewide CTE Administrators meeting Conduct Tech Prep Steering Committee Seek nominations for Standards Writing Team and Curriculum Guide Development Team
December 2003	Present Culinary Arts Standards, Health Occupation Standards, Business Standards, Construction Trades Standards to State Board of Education/State Board for Occupational Education for Approval Select and notify members who will serve on the Skill Standards Writing Team and the Curriculum Guide Development Team
January 2004	Present CTE Consolidated Annual Report to State Board of Education/State Board for Occupational Education Conduct Skill Standards Writing Team and Curriculum Guide Development Team sessions Conduct CTE Steering Committee meeting
January-June 2004	Conduct writing team and development team sessions
February 2004	Conduct activities for Career and Technical Education Awareness Week
March-April 2004	Conduct Career and Technical Education Student Organization Leadership Meetings
April 2004	Conduct Statewide CTE Administrators Meeting
May 2004	Present Draft Skill Standards and Curriculum Guides at Superintendents' Meeting
June-July 2004	Carl D. Perkins Grant review and close out

## **PROGRAM QUALITY CRITERIA**

The purpose of quality criteria program standards for Career and Technical Education (CTE) in Nevada is to provide general guidelines to initiate and direct the development and improvement of local Career and Technical Education Programs so that a rigorous system is developed. The Career and Technical Education program plan is intended to help create more consistency in our education programs from school district-to-school district. The quality criteria program standards have been aligned with the concepts of the four pillars of *No Child Left Behind* (NCLB): accountability and assessment, teacher quality, parental choice, and district flexibility.

### **Accountability and Assessment**

All programs must integrate state academic standards and engage in specific activities designed to enhance academic skills in math, science, and English Language Arts. Where appropriate, career and technical education programs are articulated with postsecondary programs to encourage students to continue their education beyond high school.

Through the Occupational Reporting System, data is collected to assess the progress of programs. Currently, we assess academic and career and technical education skill attainment, as well as postsecondary placement. Additionally, research-based instructional strategies are utilized to assist students in gaining academic and technical knowledge and skills.

### **Teacher Quality**

All CTE instructors will have a valid Nevada teaching credential for the assigned area(s) in which they teach. In addition, CTE instructors will have the appropriate proficiency and work experience and/or professional preparation in their area(s) of instruction. All CTE instructors will participate in organized high-quality professional development (as defined in NCLB) designed to enhance and expand their knowledge in instructional strategies, effective teaching techniques and the integration of academics with career and technical education.

### **Parental Choice**

All CTE programs will have a subject-area advisory committee comprised of individuals who represent the community, business, industry, students, parents, district staff, postsecondary agencies, and labor. Parents will have the opportunity to be active in their children's education by supporting leadership activities and providing information to advisory committees.

### **District Flexibility**

This document is a blueprint in which districts can initiate and direct the development and improvement for high-quality career and technical education programs based on each district's needs.

At this stage, the Program Quality Criteria standards are written in a relatively broad spectrum that represents all career and technical education programs. Definitions and levels of performance will be developed in each of the program areas for all the Nevada CTE clusters.

The development of state program quality criteria standards will play a very important role in improving CTE programs in Nevada. The ultimate goal is to ensure our students, once completing a CTE program will possess the skills necessary to enter the workforce and/or a higher level training program at the postsecondary level. Standards-based programs will help ensure that all students who complete CTE programs will attain skills in a consistent manner across the State. Those students will be able to demonstrate their proficiency by virtue of statewide-recognized skill certificates and/or appropriate, relevant assessments.

# PROGRAM QUALITY CRITERIA

## 1. STANDARDS AND INSTRUCTION

### Quality Criteria

- 1.0 The CTE 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/or 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 CTE Program has been assessed against and, where necessary, modified to satisfy the approved State Skill 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 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 CTE education courses/programs engage in specific activities designed to enhance academic skills in math, science, English Language Arts, 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 CTE courses are sequenced to support the career clusters.
- 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 CTE program to assist students with career path objectives.

- 1.12 The CTE 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 validates course/program articulation and sequencing with postsecondary education.
- 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.

# **PROGRAM QUALITY CRITERIA**

## **2. LEADERSHIP AND CITIZENSHIP DEVELOPMENT**

### **Quality Criteria**

- 2.0 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 Career and Technical Student Organizations (FFA, FBLA, DECA, FCCLA, SkillsUSA-VICA).**
- 2.1 All CTE students have full access to Career and Technical Student Organizations (CTSOs).
- 2.2 The CTSO Activities are integral to instruction, are conducted by the appropriate CTE 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 Skill Standards, is clearly identified in courses and activities throughout the program.

## **PROGRAM QUALITY CRITERIA**

### **3. PRACTICAL APPLICATION OF OCCUPATIONAL SKILLS**

#### **Quality Criteria**

- 3.0 Practical application of occupational skills is accomplished through classroom simulation and/or work-based learning experiences. These experiences are directly related to, and coordinated and evaluated with, regular classroom instruction through involvement in a supervised work-based learning experience.**
- 3.1 The CTE 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.

# **PROGRAM QUALITY CRITERIA**

## **4. QUALIFIED AND COMPETENT PERSONNEL**

### **Quality Criteria**

- 4.0 All CTE 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 CTE education courses.
- 4.2 Each CTE instructor has the appropriate occupational proficiency and work experience and/or professional preparation in their area(s) of instruction.
- 4.3 Each CTE 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 CTE instructors annually participate in high-quality professional development activities that are designed to enhance or expand their knowledge of their specialty area, technology, instructional strategies, effective teaching techniques or integration of academic and specialty area of 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 CTE programs.
- 4.6 Each CTE instructor is actively involved in an annual professional development activity related to his/her area of instruction and endorsed by the Nevada Department of Education
- 4.7 Where appropriate, the CTE subject matter instructor has been designated chairperson/manager of the program area.

# **PROGRAM QUALITY CRITERIA**

## **5. FACILITIES, EQUIPMENT, AND MATERIALS**

### **Quality Criteria**

- 5.0 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, technical skills committee and/or program standards.
- 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.

# **PROGRAM QUALITY CRITERIA**

## **6. COMMUNITY, BUSINESS, AND INDUSTRY INVOLVEMENT**

### **Quality Criteria**

- 6.0 Individuals, who represent the community, business, industry, students, parents, districts, staff, postsecondary agencies, and labor, serve on a subject-area advisory committee or technical skills 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 or technical skills committee membership includes, but is not limited to, representatives from the community, special populations, business, industry, students, parents, community agencies, staff, postsecondary agencies, labor, and other individuals having skills in and knowledge of the occupation(s) for which instruction is provided.
- 6.2 The advisory committee or technical skills 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 or technical skills 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 CTE experience, career and technical student organization, proficiency standards, new technology, and current industry practices.
- 6.4 CTE staff actively participates in the advisory committee or technical skills committee meetings.
- 6.5 The advisory committee or technical skills committee meets a minimum of three times a year.
- 6.6 The advisory committee or technical skills committee provides input on program decisions affecting special populations.
- 6.7 A record of recommendations and/or actions taken during advisory committee or technical skills committee meetings is maintained and is provided to school or district administrators.

# PROGRAM QUALITY CRITERIA

## 7. CAREER GUIDANCE

### Quality Criteria

- 7.0 Career and technical education staff, guidance counselors, and other resource personnel provide career guidance services to ensure that students enroll in CTE 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 9<sup>th</sup> grade for all students, including special populations.
- 7.2 CTE 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.
  - 7.2.4 Nontraditional recruitment and retention activities are provided.
- 7.3 CTE 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 postsecondary 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 CTE instructor, CTE students annually review their career development plan, and refine their occupational choice.

# **PROGRAM QUALITY CRITERIA**

## **8. PROGRAM PROMOTION**

### **Quality Criteria**

- 8.0 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 CTE 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 members about the achievements of CTE students and merits of CTE programs.
- 8.3 Promotional materials such as a descriptive program brochure have been developed to publicize the CTE program's organization, sequence, and benefits.
- 8.4 Equal access to CTE 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.

# **PROGRAM QUALITY CRITERIA**

## **9. PROGRAM ACCOUNTABILITY AND PLANNING**

### **Quality Criteria**

- 9.0 There is a systematic program assessment using input from instructors, administrators, students, other staff, and advisory committee or technical skills 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 CTE 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 a systematic program assessment, including review of the Program Improvement Plan, using input from instructors, administrators, students, other staff, and advisory committee members based upon the Program Quality Criteria.
- 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 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 System (ORS), CTE Student Follow-up, 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.

# **PROGRAM QUALITY CRITERIA**

## **10. STUDENT-TEACHER RATIO**

### **Quality Criteria**

**10.0 High quality instruction in CTE is dependent upon maintaining a student-teacher ratio that ensures effective instruction and safe working conditions. CTE courses are action-oriented, applied-learning activities. Under these conditions, appropriate class size must be maintained.**

10.1 Minimum Compliance Criteria:

10.1.1 Maximum enrollment per teacher in the classroom is 30 students per class except where appropriate to increase class size without negatively impacting the learning environment for the student.

10.1.2 Maximum enrollment per teacher in a shop or laboratory class where safety is a significant consideration is 20 students per class.

10.1.3 Maximum number of individual students per full-time equivalent for instruction and supervised work-based learning experience programs and students actively engaged in CTSO leadership activities is 60 students.

**No Child Left Behind / CTE State Plan**

**Crosswalk**

<b>Program Quality Criteria</b>	<b>Accountability and Assessment</b>	<b>Teacher Quality</b>	<b>Parental Choice</b>	<b>District Flexibility</b>
1.0 Standards Instruction	1.5, 1.6, 1.7	1.2, 1.10, 1.11, 1.14		1.1, 1.8, 1.9, 1.11, 1.12, 1.13, 1.14
2.0 Leadership Citizenship Development		2.1, 1.2, 2.3	2.1, 2.2, 2.3	2.1, 2.2, 2.3
3.0 Practical Application of Occupational Skills		3.1		
4.0 Qualified & Competent Personnel		4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7		
5.0 Facilities, Equipment & Materials				5.1, 5.2, 5.3, 5.4, 5.5
6.0 Community, Business & Industry Involvement		6.1, 6.2, 6.3, 6.4, 6.6	6.1, 6.2, 6.3, 6.6	6.1, 6.2, 6.3, 6.4, 6.6, 6.7
7.0 Career Guidance	7.1, 7.2, 7.3	7.1, 7.2, 7.3, 7.4, 7.5		
8.0 Program Promotion			8.2	8.2
9.0 Program Accountability & Planning	9.1, 9.2, 9.3, 9.4, 9.5			
10.0 Student Teacher Ratio				10.1

## **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, postsecondary 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 the theoretical knowledge to the workplace application.

### **Career and Technical Student Organization**

Are those organizations for students enrolled in career and technical education programs and engage in student 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.

### **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 a 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.

**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.

**Curriculum Guide**

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

**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.

**High-Quality Professional Development**

A rigorous and relevant content, strategies, and organizational supports that ensure the preparation and career-long development of teachers and others whose competence, expectations and actions influence the teaching and learning environment. Both pre- and in-service professional development require partnerships among schools, higher education institutions and other appropriate entities to promote inclusive learning communities of everyone who impacts students and their learning. Those within and outside schools need to work together to bring to bear the ideas, commitment and other resources that will be necessary to address important and complex educational issues in a variety of settings and for a diverse student body.

**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.

**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.

**Nontraditional Training and Employment**

Occupations or fields of work, including careers in computer science, technology, and other emerging high-skill occupations, for which individuals from one gender comprise less than 25 percent of the individuals employed in each such occupation or field of work.

**Portfolio**

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

**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.

**State Skill Standards**

State Skill Standards are comprised of content standards that provide a broad description to assist individuals in understanding the content of the area. This standard is designed to provide a general description and overall direction. The performance standard is directly related to the body of knowledge, skills and practices of an area. The verbs for performance standard are written in an action form. The performance indicator further defines the knowledge, skills and practices of the performance standard and provides the basis for measurement criteria. They are composed of action verbs and the contents that should be acted upon.

**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 postsecondary education.

**Special Population**

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

**Tech Prep**

A combined secondary and postsecondary program that (1) leads to an associate's 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.

**Technical Skills Committee**

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

Effective September 1, 1992, Nevada implemented guidelines for the establishment of technical skills committees. (NAC 389.810) As such, any agency funded from this Act must be in compliance with this statute.

**Work-Based Learning**

Work-based learning experiences are activities at the high school level that involve actual work experience or connect classroom learning to work.