The changing landscape of CTE in Nevada

A need to focus on middle-skill jobs through career pathways of promise to close the skills gap
Overview

• Nevada’s New Investment
• Nevada CTE Components
• Nevada CTE Credentials
• 2015 Assessment Results
• CTE College Credit
• What’s in Nevada’s Future
Nevada’s New Investment

What the 2015 State Legislature did…

• Prior biennial funding: $6,687,644
• Additional funding for FY16-17: $16.3 million

<table>
<thead>
<tr>
<th></th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$3,343,822</td>
<td>$10,443,822</td>
<td>$12,543,822</td>
</tr>
</tbody>
</table>

Nevada Department of Education
Office of Career Readiness, Adult Learning & Education Options

October, 2015
Total estimated state and federal grant funding for CTE in for the 2016-17 biennium:

$36.4 million

Basically $18.2 million per school year 2016 and 2017
New way of doing business

What is expected from this huge investment:

• Access to high quality CTE programs for students in schools lacking programs
• Program development aligned to the *highest priorities* for economic and workforce development
• Student CTE completion rates increased (11,000!)
• Students migrate through a secondary-postsecondary career pathway leading to postsecondary credentials
• Accountability, accountability, accountability
Establishing a foundation for success
... 4 years in the making

- Established program completion requirements (NAC 389.800)
- Established a state CTE Course Catalog
- Developed programs of study for all programs
- Developed state standards & curriculum frameworks
- Fully implemented employability skills instruction in all programs
- Developed a comprehensive assessment system for technical and employability skills attainment
- Established state credentials of value
- Aligned postsecondary credit to program completion
Elements for Success and Accountability

• Graduate from high school with academic proficiency
• Complete a CTE course sequence as part of a comprehensive program of study aligned to a career pathway of promise
• Successfully pass an End-of-Program Technical assessment
• Earn a credential validating employability skills
• Qualify for industry credentials while in high school
• Qualify for college credit while in high school to better prepare for and advance postsecondary education
## Nevada’s CTE Programs

### Overall CTE Programs and Course Counts:

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Number of Programs</th>
<th>Number of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources</td>
<td>11</td>
<td>32</td>
</tr>
<tr>
<td>Business and Marketing Education</td>
<td>6</td>
<td>43</td>
</tr>
<tr>
<td>Education, Hospitality, and Human Services</td>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td>Health Science and Public Safety</td>
<td>14</td>
<td>64</td>
</tr>
<tr>
<td>Information and Media Technologies</td>
<td>13</td>
<td>79</td>
</tr>
<tr>
<td>Skilled and Technical Sciences</td>
<td>23</td>
<td>113</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>75</strong></td>
<td><strong>375</strong></td>
</tr>
</tbody>
</table>
The catalog is organized by program area and career cluster. It provides course sequencing and course descriptions. Districts must follow course names to be recognized as CTE.

<table>
<thead>
<tr>
<th>COURSE TITLE</th>
<th>ABBREVIATED NAME</th>
<th>CREDITS</th>
<th>LEVEL</th>
<th>CIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Management I</td>
<td>BUS MGMT I</td>
<td>1</td>
<td>L2</td>
<td>52.0201</td>
</tr>
</tbody>
</table>

*Prerequisite: Principles of Business and Marketing*

This course is a continuation of the Business Management program. The course addresses several types of management, including customer relationship management, human resources management, information management, knowledge management, project management, quality management, risk management, and strategic management. Economics, finance, operations, and professional development are also emphasized throughout the course. The appropriate use of technology and industry-standard equipment is an integral part of this course.
**Recommended Program of Study for:**
**Drafting and Design**

### Career Cluster: Architecture & Construction
### Career Pathway: Design/Pre-Construction

<table>
<thead>
<tr>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
<th>Postsecondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>English I</td>
<td>English II</td>
<td>English III</td>
<td>English IV</td>
<td>College of Southern Nevada</td>
</tr>
<tr>
<td>Algebra I</td>
<td>Geometry I</td>
<td>Algebra II</td>
<td>Senior Level Math Course</td>
<td>Great Basin College</td>
</tr>
<tr>
<td>Biology</td>
<td>Chemistry or Geoscience</td>
<td>Junior Level Science Course</td>
<td>Elective 1</td>
<td>Nevada State College</td>
</tr>
<tr>
<td>Health / Computer Literacy</td>
<td>World History</td>
<td>US History</td>
<td>US Government</td>
<td>Truckee Meadows Community College</td>
</tr>
<tr>
<td>Physical Education</td>
<td>Physical Education</td>
<td>Foreign Language 2 or Elective 1</td>
<td>Foreign Language 2 or Elective 1</td>
<td>University of Nevada, Las Vegas</td>
</tr>
<tr>
<td>Drafting and Design I</td>
<td>Drafting and Design II</td>
<td>Drafting and Design III</td>
<td>Drafting and Design Advanced Studies</td>
<td>University of Nevada, Reno</td>
</tr>
</tbody>
</table>

#### Work-Based Learning
- Job Shadowing
- Internship / Work Experience
- Career Day / Fair
- Field Trips / Guest Speakers

#### -- Articulation --
- Drafting and Design I
- Drafting and Design II
- Drafting and Design III

#### Postsecondary
- Up to 9 credits at College of Southern Nevada
- Up to 8 credits at Truckee Meadows Community College

#### CTE Assessments
- End of Program Technical Assessment for Architectural Drafting and Design
- Employability Skills for Career Readiness Assessment

#### Available Industry Certifications

**Certification**
- Autodesk Certified User
- Certified Apprentice Drafter
- Certified Solidworks Associate

**Provider**
- AutoDesk
- American Design Drafting Associate
- Solidworks

#### High Wage - High Skill - High Demand Careers
- Architect
- Architectural & Civil Drafter
- Civil Engineer
- Cost Estimator
- Mechanical Engineer
- Designer
- Render
- Surveyor

This Program of Study is based upon the requirements needed for an Advanced Diploma. Academic course names may vary among school districts. All students must pass the high school proficiency exams to qualify for any high school diploma.

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1. Electives may include arts and humanities courses or other career and technical education courses that relate to the program of study.
2. Foreign Language courses are recommended if a student is planning on entering a university. (See individual university admission policies)
3. CTE Assessments will be administered during the completion level CTE course.
4. For extensive career information visit [http://www.nvcis.intocareers.org/](http://www.nvcis.intocareers.org/)

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State CTE Skill Standards

• Identifies content standards, performance standards, and measurable performance indicators

• Cross-walked to the Nevada Academic Content Standards to identify the performance indicators that support academic learning. (Based upon Common Core and Next Generation)

• Cross-walked to the Common Career Technical Core

• Identifies the body of knowledge to be assessed

• Drives curriculum development, course sequences, and curriculum frameworks

• Must be State School Board Approved
## Skill Standards

### CONTENT STANDARD 1.0: APPLY FUNDAMENTAL DRAFTING SKILLS

#### PERFORMANCE STANDARD 1.1: CREATE GEOMETRIC CONSTRUCTIONS

1. **1.1.1** Define geometric terms and recognize various geometric shapes by name
2. **1.1.2** Use lines, circles, and arcs to construct regular and irregular geometric shapes
3. **1.1.3** Construct angles, to include acute, obtuse, and right angles
4. **1.1.4** Divide lines and bisect angles and arcs
5. **1.1.5** Construct tangent, concentric, and perpendicular geometric relationships
6. **1.1.6** Calculate area, perimeter, and volume of geometric shapes to include circle, square, rectangle, and triangle

#### PERFORMANCE STANDARD 1.2: DEMONSTRATE MEASURING AND SCALING TECHNIQUES

1. **1.2.1** Justify the scaling of objects
2. **1.2.2** Determine appropriate engineering and metric scales
3. **1.2.3** Measure and calculate object size, area, and volume
4. **1.2.4** Construct drawings utilizing metric and customary (i.e., SAE, Imperial) measurement systems
5. **1.2.5** Transcribe drawings accurately using ratios and proportions
6. **1.2.6** Determine and apply the equivalence between fractions and decimals
7. **1.2.7** Convert between customary (i.e., SAE, Imperial) and metric systems
• Measurement of skill attainment directly aligned to state standards
  – completion level courses only
    • Levels = L2C, L3C, and L4C (found in the Nevada CTE Course Catalog)

• Validates quality of programs based on state standards

• Allows for the collection of accurate student skill attainment data
CTE Assessments

Strategies for success:

• Added the testing requirements to the NAC
• Created a Test Administrator Manual
• Created a Coordinator Manual
• Provide on-site training for E-SESS usage.
• Have one contact person for assessments (with a backup)
• High School Counselor Summit
New Program Completion Requirements
Nevada Administrative Code 389.800

• Defined course sequences
• Defined end-of-program assessment upon completion of the course sequence
• Defined employability skill standards and state assessment
• State Certificate of Skill Attainment replaces requirements for local competency certificates
• CTE endorsement on the diploma aligned to State Certificate
Student Credentials/Certifications

• Certificate of Skill Attainment
• Endorsement on diploma
• Certificate for passing the state assessment for employability skills
Nevada CTE Student Credentials/Certifications
Nevada Administrative Code 389.815

Completers who meet the following criteria will receive the diploma endorsement and Certificate of Skill Attainment:

• Complete the CTE course sequence (as per the CTE Catalog) with a 3.0 GPA or higher

• Pass the Workplace Readiness Skills Assessment

• Pass the End-of-Program Technical Assessment
Certificate of Skill Attainment

Accounting and Finance

This certifies that

COPY

has successfully completed the high school program of study according to state standards to support advancement to postsecondary education and job training in a related career field.

This certificate issued in the year two thousand and fourteen.

[Signatures]

Nevada Department of Education
Office of Career Readiness, Adult Learning & Education Options
Accounting and Finance

To qualify for this certificate, the student must (1) earn a 3.0 GPA or higher in the career and technical education (CTE) course sequence; (2) pass the state CTE assessment for Accounting and Finance; and (3) pass the state CTE assessment for Employability Skills for Career Readiness.

PROGRAM DESCRIPTION:
This program provides students with a foundation in accounting, financial information, and financial business decision making. Areas of study include laws and regulations, evaluating financial information, banking, investment, economics, and risk management concepts. The appropriate use of technology and industry-standard equipment is an integral part of the program. The course content includes instruction in the state standards for the Employability Skills for Career Readiness.

EMPLOYABILITY SKILLS:
The Employability Skills for Career Readiness include the "soft skills" needed for success in all careers. Students must demonstrate proficiency in three primary areas: (1) Personal Qualities and People Skills; (2) Professional Knowledge and Skills; and (3) Technology Knowledge and Skills.

TECHNICAL SKILLS:

ACCOUNTING
- Accounting Cycles, Journalizing, Reports, Bank Reconciliation, Financial Statements, Cash Controls, Inventory Records, Payroll

BUSINESS LAW
- Regulations, Contracts, Ethics

FINANCIAL INFORMATION
- Accounting Software, Financial Analysis, Present and Future Value

BANKING, INVESTMENTS, AND FINANCIAL MARKETS
- Financial Markets, Capital, Banking Processes

RISK MANAGEMENT
- Insurance, Protecting Data, Ethics

ECONOMICS
- Economic Systems, Trade Barriers, Supply and Demand, Free Enterprise

CAREER EXPLORATION
- Controllers, Treasurers, Financial Managers, Bankers
# 2015 Assessment Results

## 2014 - 2015

<table>
<thead>
<tr>
<th>End-of-Program</th>
<th>Workplace Readiness Skills</th>
<th>Certificate Earners</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Participation Rate: 94.96%</td>
<td>State Participation Rate: 94.2%</td>
<td>State Certificate Award Rate: <strong>39.5%</strong></td>
</tr>
<tr>
<td>State Pass Rate: 55.43%</td>
<td>State Pass Rate: 83.63%</td>
<td></td>
</tr>
</tbody>
</table>

## 2013—2014

<table>
<thead>
<tr>
<th>End-of-Program</th>
<th>Workplace Readiness Skills</th>
<th>Certificate Earners</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Participation Rate: 87.4%</td>
<td>State Participation Rate: 90%</td>
<td>State Certificate Award Rate: <strong>39.9%</strong></td>
</tr>
<tr>
<td>State Pass Rate: 56.7%</td>
<td>State Pass Rate: 83.1%</td>
<td></td>
</tr>
</tbody>
</table>
Retake Policy

• A Retake Policy has been implemented for any student that does not pass a CTE assessment on their first attempt.

• No less than 14 calendar days from the close of the live testing window.

• Candidates can only participate in the retake window if he or she has participated in the initial testing window for that school year.

• A student will be permitted to retake an assessment during the following school year as long as they are enrolled in a secondary school and have reached CTE completer status in the approved course of study aligned with the assessment during the previous school year.
End of Program
Technical Assessments

• Year 1, 2011-12: 7 program assessments
  – 7 new assessments implemented (642 students)

• Year 2, 2012-13: 32 program assessments
  – 25 new assessments implemented (2,557 students)

• Year 3, 2013-14: 55 program assessments
  – 23 new assessments implemented (5136 students)

➢ Year 3, 2014-15: 69 program assessments
  – 12 new assessments implemented (5,800 students)

➢ Year 4, 2015-16: 68 program assessments
  – 9 new assessments implemented (7,000 students)
FY16 New Assessments

- Architectural Mechanics Technology
- Architectural Design
- Energy Technologies
- Foods & Nutrition
- Forensic Science
- Human Development
- Food Science Technology
- Emergency Telecommunications
- Environmental Engineering
CTE College Credit

• Statewide articulation agreements with our community colleges, with each having their own Memorandum of Understanding
  • MOU’s authorize the implantation of policies and procedures to support the provisions of the statewide policy.

• Articulated credit is aligned with the Certificate of Skill Attainment

• Articulated credit leads to a post-secondary credential, nationally-recognized or industry credential, further education, training, military service or employment.
Program Quality Standards and Program Review

• Began revising/updating Quality Program Criteria to become new Program Quality Standards.

• Will develop a Program Review process to provide professional development opportunities for schools to establish a baseline for program improvement.