P20 Collaboration & Information Sharing

CACTA
February 5, 2014

Colorado Department of Education
&
Colorado Department of Higher Education
Agenda

• Colorado Culture of P-20W Collaboration
• K-12 – Postsecondary – Workforce
  • Policy, Data Sharing and Research
• Q & A
Colorado Dept. of Education

- Mission: To provide all of Colorado’s children equal access to quality, thorough, uniform, well-rounded educational opportunities in a safe and civil learning environment.

- Over 178 school districts serving over 860,000 students

Colorado K-12 Institutions
863,561 students

Districts
178

Schools
1,824
Colorado Dept. of Higher Education

- Mission: To improve the quality of, ensure the affordability of, and promote access to, post-secondary education for the people of Colorado

- Over 470 institutions serving over 400,000 students

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Colorado Higher Education Institutions

- **Public Funding**
  - 250,000 students
  - 28 institutions

- **Private Accredited & Religious Exempt**
  - 140,000 students
  - 100 institutions

- **Private Occupational**
  - 35,000 students
  - 335 schools

- **Area Technical**
  - 1,500 Students
  - 3 schools
P-20W Data Linkage

K-12 Student

College Student

Teacher

Employee
Lots and Lots of Data Sharing=
Improved Information and Practices

- Interagency monthly meetings:
  - K12, Higher Education, & Labor
- Federal programs: Gear Up, TRIO, CTE
- Research Universities: UC Davis, Vanderbilt, Harvard
- Non-Profits: Mile High United Way, Colorado Legacy Foundation, Denver Scholarship Foundation
- Educational Partners: ACT, NCHEMS, REL
Concurrent Enrollment

Michelle Camacho Liu, liu_m@cde.state.co.us
PWR Definition

“The knowledge, skills, and behaviors essential to high school graduates to be prepared to enter college and the workforce and compete in the global economy including content knowledge, learning and behavior skills”

Source: State Board of Education and the Commission on Higher Education’s joint adoption on June 30, 2009 of the description of Postsecondary and Workforce Readiness.
Concurrent Enrollment

• Provides high school students the opportunity to enroll in college courses.
  • 1 in 5 11th and 12th graders in Colorado public high schools participates in concurrent enrollment programs
Concurrent Enrollment Status

- 24,000 students participated in concurrent enrollment programs
  - 14,000 participated in Concurrent Enrollment or ASCENT
  - Increase of 50% from previous year

Source: Annual Report On Concurrent Enrollment, 2011-2012
Number of Students Participating in Concurrent Enrollment

- Key concurrent enrollment legislation passed in 2009
65% of Colorado high schools offer Concurrent Enrollment (2011-2012)

Purple = at least one participating high school
From the first year of ASCENT in 2010-11 to the 2012-13 academic year, ASCENT has had a 185% increase in student participation statewide.
Concurrent Enrollment Success

Concurrent Enrollment Program (CEP)
Student Success Rates (2011-2012)

- Passed All: 78%
- Passed Partial: 12%
- Did not pass: 10%

5.3
Average number of hours attempted by concurrent enrollment students (2011-2012)
Participation in Concurrent Enrollment by Race/Ethnicity

2009-2010

- Asian: 67%
- Black: 15%
- Hispanic: 9%
- Native American/Alaska Native: 4%
- Other: 3%
- Unknown/Did not answer: 1%

2011-2012

- Asian: 54%
- Black: 19%
- Hispanic: 4%
- Native American/Alaska Native: 4%
- Other: 3%
- Unknown/Did not answer: 1%
Career & Technical Education

Michelle Camacho Liu, liu_m@cde.state.co.us
Career and Technical Education (CTE)

Colorado Career Cluster Model

Management and Administration
- Administrative Services
- Business Information Technology
- Corporate/General Management
- Human Resource Management
- Operations Management

Marketing
- Marketing Communications
- Marketing Management
- Marketing Research
- Merchandising
- Professional Sales/Sales Management

Finance
- Accounting
- Banking Services
- Corporate Finance
- Insurance
- Securities & Investments

Government & Public Administration
- Foreign Service
- Governance
- Legal Services
- Planning
- Public Management & Administration
- Regulation
- Revenue & Taxation

Agriculture, Food & Natural Resources
- Animal Science*
- Agribusiness Systems
- Food Products & Processing Systems*
- Natural Resource & Environmental Systems*
- Plant Science*
- Power, Structural & Technical Systems*

Energy
- Electromechanical Generation & Maintenance*
- Electrical Energy Transmission & Distribution*
- Energy Efficiency & Environmental Technology*
- Fossil Energy Extraction, Processing & Distribution*
- Renewable Energy Production*

* STEM affiliated pathway

Business, Marketing & Public Administration

Hospitality, Human Services & Education
- Lodging
- Recreation, Amusements & Attractions
- Restaurants & Food & Beverage Services
- Travel & Tourism

Human Services
- Consumer Services
- Counseling & Mental Health Services
- Early Childhood Development
- Family & Community Services
- Personal Care Services

Education & Training
- Administration and Administrative Support
- Professional Support Services
- Teaching & Training

Health Science, Criminal Justice & Public Safety
- Biotechnology Research & Development*
- Diagnostic Services*
- Health Informatics
- Supportive Services
- Therapeutic Services*

Law, Public Safety, Corrections & Security
- Correction Services
- Emergency & Fire Management Services*
- Law Enforcement Service
- Security & Protective Services

* STEM affiliated pathway

Architecture & Construction
- Construction
- Design & Pre-construction*
- Maintenance & Operations

Manufacturing
- Health, Safety & Environmental Assurance
- Logistics & Inventory Control*
- Manufacturing Production
- Maintenance, Installation & Repair
- Production/Process Technology*
- Quality Assurance

* STEM affiliated pathway

Transportation, Distribution & Logistics
- Facility & Mobile Equipment Maintenance
- Health, Safety & Environmental Management
- Logistics, Planning & Management Services
- Planning, Management & Regulation
- Sales & Service
- Transportation Operations
- Transportation/Systems Infrastructure
- Warehousing & Distribution Center Operations

Arts, A/V Technology & Communication
- Audio/Video Technology & Film
- Journalism & Broadcasting
- Performing Arts
- Printing/Publishing
- Visual & Design Arts

Information Technology
- Information Support and Services
- Interactive Media
- Network Systems & Telecommunications*
- Programming & Software Engineering*

Revised February 9, 2010 - www.ccds.edu
CTE: Statewide Overview

- 1,247 high school and 94 middle school CTE programs in 159 public school districts.
- 30% of CTE students identified as economically disadvantaged; 12% as disabled; 38% as minority.
- 37% of 9th-12th grade students in Colorado enrolled in at least one CTE course.
- 52,301 total CTE program completions (45,824 total individual CTE students).
CTE: Statewide Overview

- 95% percent of CTE concentrators and CTE program completers who graduated with a high school diploma met the partially proficient, proficient or advanced levels on the 10th grade Reading/Language Arts CSAP.
- 71% met the partially proficient, proficient or advanced levels on the statewide 10th grade Mathematics CSAP.
- 82% of previous year CTE completers who were seeking employment had obtained jobs within a year following program completion.
CTE: Map
Postsecondary Progress & Success of Colorado High School Students

Brenda Bautsch, brenda.bautsch@dhe.state.co.us
Why higher education?

- 74% of jobs in Colorado will require some postsecondary education by 2020
- College graduates:
  - Earn higher salaries
  - Rely less on social services
  - Live longer and healthier lives
  - Engage more in civic and charitable activities
  - Are more recession-proof

Source: Georgetown University, *Job Growth and Education Requirements*, 2013
Postsecondary Progress and Success Report

- Data
  - SASID-linked data between Colorado Department of Education and Colorado Department of Higher Education
- Cohorts: 2009, 2010 and 2011 high school graduating classes
- Allows us to answer questions about college enrollment and progress
Who enrolls?

Enrollment Rates by Gender, Race/Ethnicity and Income

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female</th>
<th>Male</th>
<th>American Indian or Alaskan Native</th>
<th>Asian</th>
<th>African-American</th>
<th>Hispanic</th>
<th>White</th>
<th>Free &amp; Reduced Price Lunch</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td>61.0%</td>
<td>53.7%</td>
<td>41.8%</td>
<td>69.3%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td>54.3%</td>
<td>41.5%</td>
<td>41.5%</td>
<td>63.4%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td>41.5%</td>
<td>41.5%</td>
<td>41.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011 Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(57.4%)</td>
</tr>
</tbody>
</table>

*Percentages for 2011 shown
College Enrollment, by Race/Ethnicity and Institution Type (2011)

Where do they go?

Enrollment In State and Out of State (2011)
- In State: 79%
- Out of State: 21%

Enrollment 2 and 4 Year Institutions (2011)
- 4 Year: 71%
- 2 Year: 29%
What type of degree are they pursuing?

2011

**Degree Legend**
- Bachelor’s Degree = Includes all types of Bachelor’s Degrees
- AA or AS = Associate of Arts or Associate of Science
- AGS = Associate of General Studies
- AAS = Associate of Applied Science
- Certificate = Certificates can range from less than 1 year to less than 2 years

- Bachelor’s Degree: 63%
- AA or AS: 15%
- AAS: 7%
- AGS: 5%
- Other: 10%
- No Information: 5%
- Certificate: 2%
- Non-Degree Seeking: 3%
- Other: 10%
How do they perform in their first year?

- Average number of credits: **28.3 credits**
- Average cumulative grade point average (GPA): **2.68**

Do they persist?

- First-year retention rate was **80.7%** overall for 2010 high school grads
Remedial Education Report

• 40% of 2011 high school graduates attending college in-state needed remediation

• 66% of students enrolled in a community college
• 24% of students at a four-year institution
Remedial Education

- About 1 in 3 students need math remediation at the lowest level

Remedial Courses Taken by Subject

- Math, 51%
- English, 31%
- Reading, 18%
What does remediation cost?

FY 11-12 Estimated Cost

- **State Share Cost**: $19.1
- **Student Share Cost**: $39.4
- **Total Cost**: $58.4 Million
District at a Glance

http://highered.colorado.gov/Data/DistrictHSSummary.aspx

District At A Glance

Back to K-12 Data and Research

This report summarizes district-level and school-level information on the postsecondary progress and success of the high school graduating classes of 2009, 2010 and 2011. Data disaggregated by race/ethnicity, gender and free and reduced price lunch are available by clicking on the “Detailed Report” button. Data for this report are collected using the SURDS database, which includes information from all public colleges and universities in the state and the University of Denver, Regis University and Colorado Christian University. The National Student Clearinghouse database is used to collect information on enrollment and retention rates for Colorado high school graduates who attend out-of-state institutions or private institutions currently not included in SURDS.

For more information about the District At A Glance project, please click here.

Email your questions to Brenda.Bautsch@dhe.state.co.us

Filter Data:

- by High School Graduation Year
- by District
- by High School
FAFSA

- FAFSA completion is leading indicator of college attendance
- Districts can track students' FAFSA completion
  - **Colorado results**
    - 2011-12 HS senior FAFSA completion rate: 44%
    - 2012-13 HS senior FAFSA completion rate: 50%
  - **National completion rate**: 55%
# 2013-2014 FAFSA Completion Report by High School

<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th># Senior</th>
<th># FAFSA</th>
<th>% Completed FAFSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMY 20</td>
<td>Academy Online High School</td>
<td>12</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>Air Academy High School</td>
<td>351</td>
<td>219</td>
<td>61</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>Aspen Valley High School</td>
<td>39</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>Discovery Canyon Campus School</td>
<td>214</td>
<td>137</td>
<td>64</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>Liberty High School</td>
<td>360</td>
<td>222</td>
<td>61</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>Pine Creek High School</td>
<td>383</td>
<td>195</td>
<td>53</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>Rampart High School</td>
<td>417</td>
<td>257</td>
<td>61</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>TCACollege Pathways</td>
<td>88</td>
<td>46</td>
<td>52</td>
</tr>
<tr>
<td>ACADEMY 20</td>
<td>The Classical Academy High School</td>
<td>119</td>
<td>88</td>
<td>73</td>
</tr>
<tr>
<td>ADAMS 12 FIVE STAR SCHOOLS</td>
<td>Academy of Charter Schools</td>
<td>112</td>
<td>62</td>
<td>55</td>
</tr>
</tbody>
</table>

Disclaimer: Data in this table is compiled from U.S. Department of Education and other sources. Various matching techniques have been applied to maximize identification of eligible students. This information is dynamic and changes occur on a regular basis. As a result, representations may be slightly higher or lower than that shown in an earlier reporting period. Department of Higher Education offers a free service to districts and schools, through College In Colorado which offers greater precision to the level of an individual student. Please contact maggie.yang@the.state.co.us for additional information. This information is used by district counselors to help reach students who might otherwise not complete an application. Additionally, enrollment data was collected using the SURDS (Student Unit Record Data System) and the National Student Clearinghouse databases. Data updated weekly. Last update - 11/13/2013.
Colorado’s Workforce Supply & Demand

Lauren Victor, lauren.victor@dhe.state.co.us
Job Skills Report

- Report analyzes high demand occupations and potential gaps in credential completions
- The state unemployment rate is considerably lower for people who have a postsecondary credential than for those who have a high school degree or less
- Colorado will likely need to increase postsecondary credential production by about 2%, or 1,000 additional credentials, annually to meet workforce demand
Highlights

- CO is likely meeting demand for healthcare support and practitioners overall at the mid- and bachelor’s level required occupations, but is at risk of an undersupply of professional level practitioners (i.e., physicians).
- Need to increase completions for mid-level and bachelor’s level computer science credentials.
- For skilled trades, manufacturing and production occupation groups, there are likely too few completions for certain occupations.
### Top 30 Occupations with Highest Projected Openings with More than Half of Workers with Postsecondary Experience

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service Representative</td>
<td>2,606</td>
<td>45,514</td>
<td>54,568</td>
<td>9,054</td>
<td>20%</td>
<td>20,846</td>
<td>-a</td>
<td>Mid-level</td>
<td>Yes</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>2,209</td>
<td>42,688</td>
<td>53,092</td>
<td>10,404</td>
<td>24%</td>
<td>17,673</td>
<td>3,106</td>
<td>Mid-level</td>
<td>Yes</td>
</tr>
<tr>
<td>Secretaries and Administrative Assistants, Except Legal and Medical</td>
<td>1,735</td>
<td>82,702</td>
<td>86,501</td>
<td>3,799</td>
<td>5%</td>
<td>13,881</td>
<td>95a</td>
<td>Mid-level</td>
<td>Unknown</td>
</tr>
<tr>
<td>Office Clerks, General</td>
<td>1,565</td>
<td>34,860</td>
<td>41,706</td>
<td>6,846</td>
<td>20%</td>
<td>12,519</td>
<td>1,414</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Accountants and Auditors</td>
<td>1,311</td>
<td>33,659</td>
<td>37,654</td>
<td>3,995</td>
<td>12%</td>
<td>10,487</td>
<td>-a</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products</td>
<td>1,208</td>
<td>32,884</td>
<td>38,689</td>
<td>5,805</td>
<td>8%</td>
<td>9,665</td>
<td>147a</td>
<td>Mid-level</td>
<td>Yes</td>
</tr>
<tr>
<td>Business Operations Specialists, All Other</td>
<td>1,181</td>
<td>39,192</td>
<td>42,147</td>
<td>2,955</td>
<td>8%</td>
<td>9,446</td>
<td>-a</td>
<td>Unknown</td>
<td>Yes</td>
</tr>
<tr>
<td>Elementary School Teachers, Except Special Education</td>
<td>1,180</td>
<td>23,757</td>
<td>28,431</td>
<td>4,674</td>
<td>20%</td>
<td>9,440</td>
<td>940b</td>
<td>Bachelor’s</td>
<td>No</td>
</tr>
<tr>
<td>Postsecondary Teachers</td>
<td>1,099</td>
<td>26,134</td>
<td>30,681</td>
<td>4,547</td>
<td>17%</td>
<td>8,791</td>
<td>1,912</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>General and Operations Managers</td>
<td>1,037</td>
<td>40,700</td>
<td>42,509</td>
<td>1,809</td>
<td>4%</td>
<td>8,300</td>
<td>10,561c</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>First-line Supervisors of Office and Administrative Support Workers</td>
<td>953</td>
<td>19,576</td>
<td>22,570</td>
<td>2,994</td>
<td>15%</td>
<td>7,626</td>
<td>270a</td>
<td>Mid-level</td>
<td>Unknown</td>
</tr>
<tr>
<td>Bookkeeping, Accounting, and Auditing Clerks</td>
<td>895</td>
<td>36,063</td>
<td>39,708</td>
<td>3,645</td>
<td>10%</td>
<td>7,163</td>
<td>363</td>
<td>Mid-level</td>
<td>No</td>
</tr>
<tr>
<td>Teacher Assistants</td>
<td>893</td>
<td>19,652</td>
<td>22,841</td>
<td>3,189</td>
<td>16%</td>
<td>7,124</td>
<td>4a</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Sales Representatives, Services, All Other</td>
<td>818</td>
<td>16,697</td>
<td>18,859</td>
<td>2,162</td>
<td>13%</td>
<td>6,544</td>
<td>-a</td>
<td>Bachelor’s</td>
<td>Unknown</td>
</tr>
<tr>
<td>Secondary School Teachers, Except Special and Career/Technical Education</td>
<td>745</td>
<td>16,100</td>
<td>18,183</td>
<td>2,083</td>
<td>13%</td>
<td>5,962</td>
<td>752b</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Nursing Assistants</td>
<td>725</td>
<td>17,825</td>
<td>21,476</td>
<td>3,651</td>
<td>20%</td>
<td>5,796</td>
<td>1,973</td>
<td>Mid-level</td>
<td>No</td>
</tr>
<tr>
<td>Electricians</td>
<td>668</td>
<td>13,725</td>
<td>15,497</td>
<td>1,772</td>
<td>13%</td>
<td>5,343</td>
<td>255</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Market Research Analysts and Marketing Specialists</td>
<td>651</td>
<td>9,340</td>
<td>12,199</td>
<td>2,859</td>
<td>31%</td>
<td>5,205</td>
<td>329</td>
<td>Bachelor’s</td>
<td>No</td>
</tr>
<tr>
<td>Computer User Support Specialists</td>
<td>621</td>
<td>14,067</td>
<td>15,829</td>
<td>1,762</td>
<td>13%</td>
<td>4,964</td>
<td>1,024</td>
<td>Mid-level</td>
<td>Unknown</td>
</tr>
<tr>
<td>Middle School Teachers, Except Special Education and CTE</td>
<td>612</td>
<td>12,734</td>
<td>15,099</td>
<td>2,365</td>
<td>19%</td>
<td>4,898</td>
<td>768b</td>
<td>Bachelor’s</td>
<td>Unknown</td>
</tr>
<tr>
<td>Software Developers, Applications</td>
<td>594</td>
<td>20,561</td>
<td>23,333</td>
<td>2,772</td>
<td>13%</td>
<td>4,753</td>
<td>970c</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Insurance Sales Agents</td>
<td>554</td>
<td>13,786</td>
<td>15,153</td>
<td>1,367</td>
<td>10%</td>
<td>4,432</td>
<td>-a</td>
<td>Mid-level</td>
<td>Yes</td>
</tr>
<tr>
<td>Lawyers</td>
<td>525</td>
<td>14,809</td>
<td>16,284</td>
<td>1,475</td>
<td>10%</td>
<td>4,201</td>
<td>646</td>
<td>Graduate</td>
<td>Yes</td>
</tr>
<tr>
<td>Management Analysts</td>
<td>511</td>
<td>12,392</td>
<td>14,621</td>
<td>2,229</td>
<td>18%</td>
<td>4,086</td>
<td>10,283c</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Medical Secretaries</td>
<td>472</td>
<td>7,763</td>
<td>10,521</td>
<td>2,758</td>
<td>36%</td>
<td>3,775</td>
<td>2,123</td>
<td>Mid-level</td>
<td>No</td>
</tr>
<tr>
<td>Police and Sheriff’s Patrol Officers</td>
<td>462</td>
<td>9,751</td>
<td>10,939</td>
<td>1,188</td>
<td>12%</td>
<td>3,696</td>
<td>301</td>
<td>Unknown</td>
<td>Yes</td>
</tr>
<tr>
<td>Computer Systems Analysts</td>
<td>460</td>
<td>11,215</td>
<td>13,014</td>
<td>1,799</td>
<td>16%</td>
<td>3,683</td>
<td>1,460d</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>453</td>
<td>8,633</td>
<td>10,957</td>
<td>2,324</td>
<td>27%</td>
<td>3,624</td>
<td>2,787</td>
<td>Mid-level</td>
<td>Yes</td>
</tr>
<tr>
<td>Hairdressers, Hairstylists, and Cosmetologists</td>
<td>452</td>
<td>10,867</td>
<td>12,539</td>
<td>1,672</td>
<td>15%</td>
<td>3,612</td>
<td>1,533</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>444</td>
<td>6,567</td>
<td>8,454</td>
<td>1,887</td>
<td>29%</td>
<td>3,550</td>
<td>280</td>
<td>Mid-level</td>
<td>No</td>
</tr>
<tr>
<td>Civil Engineers</td>
<td>383</td>
<td>7,243</td>
<td>8,880</td>
<td>1,637</td>
<td>23%</td>
<td>3,067</td>
<td>429</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>288</td>
<td>5,080</td>
<td>5,923</td>
<td>843</td>
<td>17%</td>
<td>2,305</td>
<td>505</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Petroleum Engineers</td>
<td>156</td>
<td>1,363</td>
<td>2,269</td>
<td>906</td>
<td>66%</td>
<td>1,246</td>
<td>133</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Environmental Scientists and Specialists</td>
<td>150</td>
<td>2,748</td>
<td>3,222</td>
<td>474</td>
<td>17%</td>
<td>1,204</td>
<td>468</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Aerospace Engineers</td>
<td>83</td>
<td>2,427</td>
<td>2,561</td>
<td>134</td>
<td>6%</td>
<td>666</td>
<td>250</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
<tr>
<td>Atmospheric and Space Scientists</td>
<td>37</td>
<td>1,521</td>
<td>1,646</td>
<td>125</td>
<td>8%</td>
<td>292</td>
<td>63</td>
<td>Bachelor’s</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 2: Openings and Completions for High Demand Healthcare Practitioners and Support Occupations

<table>
<thead>
<tr>
<th>Registered Nurses - SOC: 29-1141</th>
<th>Medical Assistant - SOC: 31-9092</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,209</td>
<td>453</td>
</tr>
<tr>
<td><strong>Annual Completions (2012)</strong></td>
<td><strong>Annual Completions (2012)</strong></td>
</tr>
<tr>
<td>3,106</td>
<td>2,787</td>
</tr>
<tr>
<td><strong>Mid-level Completions</strong></td>
<td><strong>Mid-level Completions</strong></td>
</tr>
<tr>
<td>1,326</td>
<td>2,787</td>
</tr>
<tr>
<td><strong>Bachelor’s Level Completions</strong></td>
<td></td>
</tr>
<tr>
<td>1,595</td>
<td></td>
</tr>
<tr>
<td><strong>Graduate Level Completions</strong></td>
<td></td>
</tr>
<tr>
<td>185</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nursing Assistant - SOC: 31-1014</th>
<th>Licensed Practical/Vocational Nurse – SOC: 29-2061</th>
</tr>
</thead>
<tbody>
<tr>
<td>725</td>
<td>444</td>
</tr>
<tr>
<td><strong>Annual Completions (2012)</strong></td>
<td><strong>Annual Completions (2012)</strong></td>
</tr>
<tr>
<td>1,973</td>
<td>280</td>
</tr>
<tr>
<td><strong>Mid-level Completions</strong></td>
<td><strong>Mid-level Completions</strong></td>
</tr>
<tr>
<td>1,973</td>
<td>280</td>
</tr>
</tbody>
</table>

Table 3: 2012 Openings and Completions for Computer-related Occupations

<table>
<thead>
<tr>
<th>Computer Occupations - SOC 15-1100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Openings (2012-2020)</strong></td>
</tr>
<tr>
<td>3,399</td>
</tr>
<tr>
<td><strong>Related Completions (2012)</strong></td>
</tr>
<tr>
<td>2,930</td>
</tr>
<tr>
<td><strong>Mid-level Completions</strong></td>
</tr>
<tr>
<td>908</td>
</tr>
<tr>
<td><strong>Bachelor’s Level Completions</strong></td>
</tr>
<tr>
<td>1,058</td>
</tr>
<tr>
<td><strong>Graduate Level Completions</strong></td>
</tr>
<tr>
<td>964</td>
</tr>
</tbody>
</table>

Table 4: 2012 Openings and Completions for Educator Endorsements

<table>
<thead>
<tr>
<th>K-12 - All Educators Except Special Education</th>
<th>Educators - Special Education Endorsement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,537</td>
<td>503</td>
</tr>
<tr>
<td><strong>Completions (2012)</strong></td>
<td><strong>Completions (2012)</strong></td>
</tr>
<tr>
<td>2,460</td>
<td>217</td>
</tr>
</tbody>
</table>
Analyzing demand by credential level

By education requirements assigned to occupations as typically categorized by the Bureau of Labor Statistics (BLS), which are described as *entry education levels*.

<table>
<thead>
<tr>
<th>Occupation Title</th>
<th>SOC</th>
<th>Less than high school diploma</th>
<th>High school diploma or equivalent</th>
<th>Some college, no degree</th>
<th>Associate’s degree</th>
<th>Bachelor’s degree</th>
<th>Master’s degree</th>
<th>Doctoral or professional degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service Representatives</td>
<td>43-4051</td>
<td>4.3</td>
<td>30.2</td>
<td>32.9</td>
<td>10.6</td>
<td>18.9</td>
<td>2.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>29-1141</td>
<td>0.1</td>
<td>5.5</td>
<td>10.6</td>
<td>18.9</td>
<td>2.7</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Janitors and Cleaners, Except Maids and Housekeeping Cleaners</td>
<td>37-2011</td>
<td>29.2</td>
<td>16.6</td>
<td>31.7</td>
<td>10.7</td>
<td>18.9</td>
<td>2.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Business Operations Specialists, All Other</td>
<td>13-1199</td>
<td>2.1</td>
<td>15.6</td>
<td>33.5</td>
<td>10.9</td>
<td>18.9</td>
<td>2.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Office Clerks, General</td>
<td>43-9061</td>
<td>4.1</td>
<td>33.6</td>
<td>33.6</td>
<td>10.9</td>
<td>18.9</td>
<td>2.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Bookkeeping, Accounting, and Auditing Clerks</td>
<td>43-3031</td>
<td>3.2</td>
<td>32.8</td>
<td>39.4</td>
<td>9.6</td>
<td>12.7</td>
<td>2.0</td>
<td>0.3</td>
</tr>
</tbody>
</table>

By the actual education attainment percentage rates of people employed in these occupations, per ACS data. This, in a sense, shows the *competitive level* of education currently experienced in each occupation.
Completions for Occupational Categories Not Meeting Projected Annual Demand 2012-2020

Mid-level

- Skilled Trades, Manufacturing, Production:
  - 2012 Completers: 3,667
  - Entry Demand: 2,496
  - Competitive Demand: 6,548

- Computer-related Occupations:
  - 2012 Completers: 908
  - Entry Demand: 838
  - Competitive Demand: 1,078

- Education, Training and Library:
  - 2012 Completers: 460
  - Entry Demand: 480
  - Competitive Demand: 856

Bachelor’s Level

- Education, Training and Library:
  - 2012 Completers: 2,538
  - Entry Demand: 1,913
  - Competitive Demand: 3,713

- Computer-related Occupations:
  - 2012 Completers: 1,058
  - Entry Demand: 1,522
  - Competitive Demand: 2,646

- Financial Specialists:
  - 2012 Completers: 997
  - Entry Demand: 977
  - Competitive Demand: 2,091

- Community & Social Services:
  - 2012 Completers: 589
  - Entry Demand: 684
  - Competitive Demand: 516

Graduate Level

- Healthcare Practitioners and Technical:
  - 2012 Completers: 1,382
  - Entry Demand: 1,711
  - Competitive Demand: 2,383

- Community and Social Services:
  - 2012 Completers: 966
  - Entry Demand: 862
  - Competitive Demand: 1,220
Questions?
Thank you!

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Lauren Victor, lauren.victor@dhe.state.co.us