Deputy Sector Navigators: Updates on Five Key Industries

Santa Barbara Career Symposium
Westmont College
May 15, 2015
SYSTEM OPERATIONS

• Board of Governors
• Chancellor Brice Harris
  • 72 Districts
  • 112 Community Colleges
• Eight Divisions
  • Academic Affairs
  • Student Services
  • Workforce & Economic Development (WEDD)
  • Technology & Research
  • Finance & Operations
  • Governmental Relations
  • Institutional Effectiveness
  • Campus Security
GOALS

1. Supply in-demand skills for employers

2. Create relevant career pathways and stackable credentials

3. Promote student success

4. Get Californians into open jobs
| DWM Roles |

Community College Chancellor’s Office Staff

Sector Navigators

Deputy Sector Navigations

Regional Consortia Chair/Vice Chairs

Technical Assistance Providers
| DWM Roles

Sector Navigators (multi-regions) = 10

- Advanced Manufacturing
- Advanced Transportation & Renewables
- Agriculture, Water & Environmental Tech
- Energy (Efficiency) & Utilities
- Global Trade & Logistics
- Health
- Life Sciences/Biotechnology
- Retail, Hospitality & Tourism
- Small Business
- Information & Comm. Tech (ICT)/Digital Media
Deputy Sector Navigations (in-region) = 60+
Regional Consortia Chair/Vice Chairs (in-region) = 7+
DWM Roles

System Level

Multi Region Level

In-Region Level

IN-REGION LEVEL PRIORITY & EMERGENCY SECTORS
• **Phase 1: Doing What MATTERS for Jobs & Economy Framework**
  — Targeted, incentive investment (EWD-SB1402, SB1070/858, Perkins 1B)
    • Sector
    • Region
    • Technical Assistance
  — Strategic, complementary RFAs
  — Common accountability metrics

• **Phase 2: Moving the Needle**

• **Phase 3: Scaling Excellence**
DSNs help support regional sector growth, workforce development, and economic vitality.
Fostering career pathway development

- Curriculum development
  - Faculty collaboratives
  - HS-CC-University articulation
  - Instructional resources
- Professional development
- Industry partnerships
- HS/ROCP/Adult School partnerships
- Work-based learning opportunities
- Career awareness & program promotion
Supporting local and regional employers

• Incumbent worker training
  • Reskilling
  • Upskilling
  • Customized training
• Technical assistance
• Emerging trends and gap analysis
DSN, Advanced Manufacturing
Director, Center for Applied Competitive Technologies

Conducting core education and training to support advanced manufacturing and the deployment of new technologies: CNC Machining, Computer Aided Design, Computer Aided Manufacturing, Project and Inventory Management, Geometric Dimensioning & Tolerances. Credit and not-for-credit / workforce development & industry-recognized credentials.

Providing leadership and support for manufacturing related career pathway development - from middle school to high school to college level programs - region-wide.

Demonstrating emerging technologies, such as additive manufacturing and new energy management systems.

Putting unemployed people back to work.
DSN, Advanced Manufacturing

Director, Center for Applied Competitive Technologies

Core Competencies

• CNC Machining, Mill and Lathe
• Inspection techniques & Precision Measurement
• Geometric Dimensioning & Tolerancing
• Statistical Process Control
• Production Skills (foundation and advanced)
• Manufacturing Mathematics with Shop Trigonometry
• Management Skills (foundation and advanced)
• Lean Manufacturing and Six Sigma
• Instrumentation & Controls
## South Central Coast Region – Manufacturing Sector

Top 5 Occupations by Growth in the Next Years in Manufacturing Industries

<table>
<thead>
<tr>
<th>Area</th>
<th>SOC</th>
<th>Description</th>
<th>Jobs in Industry 2014</th>
<th>Total Openings through 2019</th>
<th>Median Hourly Earnings</th>
<th>Median Annual Earnings</th>
<th>Typical Entry Level Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region</td>
<td>51-4041</td>
<td>Machinists</td>
<td>2,065</td>
<td>369</td>
<td>$18.39</td>
<td>$38,249</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Region</td>
<td>51-2092</td>
<td>Team Assemblers</td>
<td>3,470</td>
<td>310</td>
<td>$12.92</td>
<td>$26,878</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Region</td>
<td>51-9061</td>
<td>Inspectors, Testers, Sorters, Samplers, and Weighers</td>
<td>2,037</td>
<td>257</td>
<td>$17.13</td>
<td>$35,625</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Region</td>
<td>53-7062</td>
<td>Laborers and Freight, Stock, and Material Movers, Hand</td>
<td>1,243</td>
<td>200</td>
<td>$11.12</td>
<td>$23,128</td>
<td>Less than high school</td>
</tr>
<tr>
<td>Region</td>
<td>51-9111</td>
<td>Packaging and Filling Machine Operators and Tenders</td>
<td>1,213</td>
<td>178</td>
<td>$10.26</td>
<td>$21,339</td>
<td>High school diploma or equivalent</td>
</tr>
</tbody>
</table>
### Santa Barbara: Top 5 Manufacturing Industries by No. of Employers – AKA Sector with Most Businesses

<table>
<thead>
<tr>
<th>Area</th>
<th>NAICS</th>
<th>Description</th>
<th>2014 Firms</th>
<th>2014 Jobs</th>
<th>2019 Jobs</th>
<th>5-yr Change</th>
<th>5-yr % Change</th>
<th>Location Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Bar</td>
<td>312</td>
<td>Beverage and Tobacco Product Mfg</td>
<td>89</td>
<td>1,525</td>
<td>1,648</td>
<td>123</td>
<td>8%</td>
<td>5.12</td>
</tr>
<tr>
<td>S Bar</td>
<td>334</td>
<td>Computer and Electronic Product Mfg</td>
<td>71</td>
<td>3,397</td>
<td>3,450</td>
<td>53</td>
<td>2%</td>
<td>2.23</td>
</tr>
<tr>
<td>S Bar</td>
<td>332</td>
<td>Fabricated Metal Product Mfg</td>
<td>57</td>
<td>854</td>
<td>834</td>
<td>(20)</td>
<td>(2%)</td>
<td>0.41</td>
</tr>
<tr>
<td>S Bar</td>
<td>339</td>
<td>Miscellaneous Mfg</td>
<td>45</td>
<td>1,623</td>
<td>1,622</td>
<td>(1)</td>
<td>(0%)</td>
<td>1.83</td>
</tr>
<tr>
<td>S Bar</td>
<td>311</td>
<td>Food Mfg</td>
<td>35</td>
<td>652</td>
<td>495</td>
<td>(157)</td>
<td>(24%)</td>
<td>0.31</td>
</tr>
</tbody>
</table>
### Santa Barbara: Top 5 Manufacturing Industries by Growth the Next 5 Years – AKA Most New Jobs Projected

<table>
<thead>
<tr>
<th>Area</th>
<th>NAICS</th>
<th>Description</th>
<th>2014 Firms</th>
<th>2014 Jobs</th>
<th>2019 Jobs</th>
<th>5-yr Change</th>
<th>5-yr % Change</th>
<th>Location Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Bar</td>
<td>325</td>
<td>Chemical Mfg</td>
<td>16</td>
<td>778</td>
<td>1,039</td>
<td>261</td>
<td>34%</td>
<td>0.67</td>
</tr>
<tr>
<td>S Bar</td>
<td>312</td>
<td>Beverage and Tobacco Product Mfg</td>
<td>89</td>
<td>1,525</td>
<td>1,648</td>
<td>123</td>
<td>8%</td>
<td>5.12</td>
</tr>
<tr>
<td>S Bar</td>
<td>334</td>
<td>Computer and Electronic Product Mfg</td>
<td>71</td>
<td>3,397</td>
<td>3,450</td>
<td>53</td>
<td>2%</td>
<td>2.23</td>
</tr>
<tr>
<td>S Bar</td>
<td>333</td>
<td>Machinery Mfg</td>
<td>22</td>
<td>611</td>
<td>661</td>
<td>50</td>
<td>8%</td>
<td>0.37</td>
</tr>
<tr>
<td>S Bar</td>
<td>331</td>
<td>Primary Metal Mfg</td>
<td>4</td>
<td>169</td>
<td>195</td>
<td>26</td>
<td>15%</td>
<td>0.29</td>
</tr>
</tbody>
</table>
UPCOMING ACTIVITIES

- Conducting a region-wide industry assessment and mapping study.
- *Getting-to-know* meetings with faculty of sector-related programs.
- Coordinating sector program development work with district initiatives such as Ventura Innovates, CPT grant.
- Developing *Fast Track CNC Machining* and *Instrumentation & Controls* curricula for transfer to other colleges.
- Developing Energy Efficiency in Manufacturing technical assistance and training initiative.
- Creating a mini-grant program for 3D Printing and Robotics in Manufacturing to be available for middle school and high school programs.
Agriculture

Water

Environmental Technology
Challenges of Modern Agriculture
# Occupation Projections (as of 2014)

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Current # of Jobs</th>
<th>3-Year Job Growth</th>
<th>% Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pest Control Advisor</td>
<td>65</td>
<td>29</td>
<td>45%</td>
</tr>
<tr>
<td>Irrigation Technician</td>
<td>351</td>
<td>169</td>
<td>48%</td>
</tr>
<tr>
<td>Irrigation Specialist</td>
<td>182</td>
<td>91</td>
<td>50%</td>
</tr>
<tr>
<td>Food Safety/Quality Specialist</td>
<td>39</td>
<td>75</td>
<td>192%</td>
</tr>
<tr>
<td>Food Safety/Quality Manager</td>
<td>27</td>
<td>87</td>
<td>322%</td>
</tr>
<tr>
<td>Totals</td>
<td>664</td>
<td>451</td>
<td>68%</td>
</tr>
</tbody>
</table>
# Statewide Agriculture

## Average Wages (as of 2014)

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Entry-Level Wages</th>
<th>Average Hourly Wages</th>
<th>Top Hourly Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pest Control Advisor</td>
<td>$16.83</td>
<td>$18.33</td>
<td>$20.50</td>
</tr>
<tr>
<td>Irrigation Technician</td>
<td>$20.90</td>
<td>$22.00</td>
<td>$23.30</td>
</tr>
<tr>
<td>Irrigation Specialist</td>
<td>$16.13</td>
<td>$18.63</td>
<td>$21.25</td>
</tr>
<tr>
<td>Food Safety/Quality Specialist</td>
<td>$19.50</td>
<td>$20.50</td>
<td>$22.01</td>
</tr>
<tr>
<td>Food Safety/Quality Manager</td>
<td>$25.50</td>
<td>$26.50</td>
<td>$28.00</td>
</tr>
</tbody>
</table>
Opportunities

Water Management is a career field that applies the principles of science, math, technology, engineering, communication, economics, management, and law to ensure water quality and to sustainably manage water as a resource to protect public health and the environment.

Water Operations
- Chief Operator
- Collection System Operator
- Industrial Pretreatment Operator
- Instrumentation Technician
- Plant Operator (treatment, biosolids, new construction)
- Pretreatment Coordinator
- Process Control Operator

Wastewater Operations
- Cross-Connection Control Specialist
- Distribution Operator/Foreman
- Heavy Equipment Operator
- Industrial Water Systems Operator
- Instrumentation Technician
- Leak Detection Technician
- Meter Reader/Installer
- Meter Taster/Mechanic
- PLC/SCADA Programmer
- Treatment Plant Mechanic
- Utility Locator ("Dig Safe")
- Water Treatment Operator

What is a Water Professional?
A water professional applies knowledge, skills, and abilities to perform scientific, technical, managerial, regulatory, and communication tasks and responsibilities.

Watershed and Runoff Control
- Agricultural Water Specialist
- Aquatic Habitat Restoration Technician
- Dredge Operator
- Forestry Technician
- Ground Water Remediation Technician
- Hydrogeology Technician
- Hydrology Technician
- Modeling Technician
- Residential Water Purification Technician
- Siltic Tank Maintenance Technician
- Source Water GIS Technician
- Stormwater/MS4 Technician
- Surface Water Monitoring Technician
- Sustained Landscape
- Water Conservation Technician
- Well Driller
- Well/Drill Delivery Specialist

What is the Water Management Field?
- Environmental Sampling/monitoring Technician
- Instrumentation Technician
- Lab Analysis Technician
- Laboratory Health and Safety Supervisor
- Quality Assurance/Quality Control (QA/QC) Technician
- Construction Inspector
- Construction Supervisor
- Corrosion Control Specialist
- Geographic Information Systems (GIS) Specialist
- Hydraulic Specialist
- Hydrology Technician
- Surveyor
- Environmental Sampling Monitoring Technician
- Plant Maintenance Supervisor
- Plant Maintenance Technician
- High Voltage Electrician
- Low Voltage Electrician
- Laboratory Health and Safety Supervisor
- Quality Assurance/Quality Control (QA/QC) Technician
Career Pathway

**CAREER PATHWAY**

**Water Distribution**

- Salaries: $40,824 - $73,403
- Salaries: $60,600 - $81,282
- Salaries: $61,672 - $156,858
- Salaries: $76,752 - $176,746

**Careers**
- Water Systems Operator II
- Water Utility Worker II
- Valve Maintenance Worker
- Water Quality Specialist
- Water Dist. Supervisor
- Water Systems Operator III
- Operations Manager
- Water Systems Operator III
- Bachelor’s Degree required
- Associate’s Degree required
  - Complete 3 additional courses from WWTR 112, 270, 280, 282, 284, 290
  - EHSM 100, 110, 210 / Complete general education requirements / Complete a minimum of 60 units

**Certification Exam**
- Complete WWTR 101, 102, 130
- Plus: 1 yr D2 experience 2 yrs total
- Plus: 1 yr D3 experience 4 yrs total
- Plus: 2 yrs D4 experience on a D4 or D5 system 5 yrs total

**GRADE D1**
- certificate

**GRADE D2**
- certificate

**GRADE D3**
- certificate

**GRADE D4**
- certificate

**GRADE D5**
- certificate
Stackable Credentials

Core 6 Classes

1. Introduction to Environmental Hazardous Materials Technology
2. Health Effects of Hazardous Materials
3. Hazardous Waste Generation, Reduction, Treatment
4. Hazardous Materials Management Applications
5. Safety and Emergency Response

Stackable Credentials

- High School ROP Environmental Technology Program
- Community College Environmental Technology Consortium
- 24 Hour First Responder Operations Emergency Response
- Hazmat Tech 200 Hours Hazmat Technician
- Incident Command Training Incident Commander
- 40 Hour Hazardous Waste Operations Entry Level Cleanup
- Associate Degree Environmental Technology Supervisory Level Jobs
- Environmental Health & Safety Technician Entry Level Management
- Bachelor/Masters/Doctorate Degree Management
<table>
<thead>
<tr>
<th>SOC</th>
<th>Description</th>
<th>2013 Jobs</th>
<th>2016 Jobs</th>
<th>Replacements</th>
<th>Openings through 2016</th>
<th>Median Hourly</th>
<th>Median Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-4011</td>
<td>Agricultural and Food Science Technicians</td>
<td>207</td>
<td>219</td>
<td>24</td>
<td>36</td>
<td>$14.74</td>
<td>$30,659</td>
</tr>
<tr>
<td>45-2091</td>
<td>Agricultural Equipment Operators</td>
<td>1,833</td>
<td>2,002</td>
<td>182</td>
<td>351</td>
<td>$13.48</td>
<td>$28,038</td>
</tr>
<tr>
<td>45-2011</td>
<td>Agricultural Inspectors</td>
<td>157</td>
<td>162</td>
<td>15</td>
<td>20</td>
<td>$24.64</td>
<td>$51,251</td>
</tr>
<tr>
<td>13-1041</td>
<td>Compliance Officers</td>
<td>1,193</td>
<td>1,215</td>
<td>77</td>
<td>99</td>
<td>$33.06</td>
<td>$68,765</td>
</tr>
<tr>
<td>51-4011</td>
<td>Computer-Controlled Machine Tool Operators, Metal and Plastic</td>
<td>676</td>
<td>721</td>
<td>65</td>
<td>110</td>
<td>$16.30</td>
<td>$33,904</td>
</tr>
<tr>
<td>19-1031</td>
<td>Conservation Scientists</td>
<td>104</td>
<td>104</td>
<td>12</td>
<td>12</td>
<td>$31.08</td>
<td>$64,646</td>
</tr>
<tr>
<td>49-9012</td>
<td>Control and Valve Installers and Repairers, Except Mechanical</td>
<td>297</td>
<td>285</td>
<td>38</td>
<td>38</td>
<td>$30.53</td>
<td>$63,502</td>
</tr>
<tr>
<td>17-3023</td>
<td>Electrical and Electronics Engineering Technicians</td>
<td>1,160</td>
<td>1,145</td>
<td>96</td>
<td>96</td>
<td>$31.90</td>
<td>$66,352</td>
</tr>
<tr>
<td>17-3024</td>
<td>Electro-Mechanical Technicians</td>
<td>150</td>
<td>146</td>
<td>13</td>
<td>13</td>
<td>$22.32</td>
<td>$46,426</td>
</tr>
<tr>
<td>17-3025</td>
<td>Environmental Engineering Technicians</td>
<td>198</td>
<td>209</td>
<td>14</td>
<td>25</td>
<td>$25.01</td>
<td>$52,021</td>
</tr>
<tr>
<td>17-2081</td>
<td>Environmental Engineers</td>
<td>310</td>
<td>333</td>
<td>26</td>
<td>49</td>
<td>$46.97</td>
<td>$97,698</td>
</tr>
<tr>
<td>19-4091</td>
<td>Environmental Science and Protection Technicians, Including Health</td>
<td>156</td>
<td>171</td>
<td>21</td>
<td>36</td>
<td>$29.24</td>
<td>$60,819</td>
</tr>
<tr>
<td>19-2041</td>
<td>Environmental Scientists and Specialists, Including Health</td>
<td>770</td>
<td>817</td>
<td>73</td>
<td>120</td>
<td>$35.30</td>
<td>$73,424</td>
</tr>
<tr>
<td>49-3041</td>
<td>Farm Equipment Mechanics and Service Technicians</td>
<td>350</td>
<td>366</td>
<td>37</td>
<td>53</td>
<td>$18.62</td>
<td>$38,730</td>
</tr>
<tr>
<td>11-9013</td>
<td>Farmers, Ranchers, and Other Agricultural Managers</td>
<td>5,023</td>
<td>4,995</td>
<td>418</td>
<td>418</td>
<td>$19.76</td>
<td>$41,101</td>
</tr>
<tr>
<td>49-1011</td>
<td>First-Line Supervisors of Mechanics, Installers, and Repairers</td>
<td>2,019</td>
<td>2,082</td>
<td>174</td>
<td>237</td>
<td>$34.19</td>
<td>$71,115</td>
</tr>
<tr>
<td>19-4093</td>
<td>Forest and Conservation Technicians</td>
<td>493</td>
<td>481</td>
<td>61</td>
<td>61</td>
<td>$17.39</td>
<td>$36,171</td>
</tr>
<tr>
<td>19-4041</td>
<td>Geological and Petroleum Technicians</td>
<td>74</td>
<td>78</td>
<td>10</td>
<td>14</td>
<td>$30.21</td>
<td>$62,837</td>
</tr>
<tr>
<td>49-9021</td>
<td>Heating, Air Conditioning, and Refrigeration Mechanics and Inst</td>
<td>1,234</td>
<td>1,293</td>
<td>111</td>
<td>170</td>
<td>$20.30</td>
<td>$42,224</td>
</tr>
<tr>
<td>49-9041</td>
<td>Industrial Machinery Mechanics</td>
<td>857</td>
<td>935</td>
<td>86</td>
<td>164</td>
<td>$24.59</td>
<td>$51,147</td>
</tr>
<tr>
<td>49-3042</td>
<td>Mobile Heavy Equipment Mechanics, Except Engines</td>
<td>719</td>
<td>749</td>
<td>74</td>
<td>104</td>
<td>$24.98</td>
<td>$51,958</td>
</tr>
<tr>
<td>37-2021</td>
<td>Pest Control Workers</td>
<td>710</td>
<td>767</td>
<td>66</td>
<td>123</td>
<td>$15.75</td>
<td>$32,760</td>
</tr>
<tr>
<td>29-2056</td>
<td>Veterinary Technologists and Technicians</td>
<td>755</td>
<td>800</td>
<td>45</td>
<td>90</td>
<td>$16.76</td>
<td>$34,861</td>
</tr>
<tr>
<td>51-8031</td>
<td>Water and Wastewater Treatment Plant and System Operators</td>
<td>770</td>
<td>778</td>
<td>93</td>
<td>101</td>
<td>$28.94</td>
<td>$60,195</td>
</tr>
</tbody>
</table>
GLOBAL Trade & Logistics

What the heck is that?
GLOBAL Trade & Logistics

It's about making connections and moving things.

- Money
- Products
- People
- Information
95% of America’s consumers are OUTSIDE of the U.S.

1% of America’s 30 million companies export

97% of all exporters are small businesses
In California...

20% of all U.S. international trade passes through CA

12% of all U.S. exports originate in CA

25% of CA commerce involves international trade
"In 2013, exports reached a record 2.3 trillion, supporting over 11 million jobs in the U.S.

1 in 7 jobs in California are directly related to global trade. Any increase in trade by 1 million dollars equates to 11 new jobs.

- ITA"
Global trends are converging to create opportunities for growth in global trade over the next 15 years.

Shipments of containers are poised to double over the next 15 and triple over the next 20 years.

- CCBTHA & CalEPA
Globalize Most Any Career

Almost every type of transaction
Globalize Most Any Career
Four Primary Domains

1. Global Business Management
2. Global Marketing
3. Supply Chain Management
4. Trade Finance
## Student Accessible Global Trade Jobs

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Description</th>
<th>Average Entry – Level to Manager Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics Specialists/Coordinators</td>
<td>Coordinate the shipping, receiving and transfer of products and materials internationally.</td>
<td>$15 - $19/hour</td>
</tr>
<tr>
<td>Regulatory/Compliance Specialists (Entry-level)</td>
<td>Responsible for ensuring that the imports and exports of a company are in compliance with various federal and international regulatory laws.</td>
<td>$15 - $19/hour</td>
</tr>
<tr>
<td>Global Sourcing or Procurement Specialists/Coordinators</td>
<td>Assist procurement manager in seeking out sources of raw materials, products and services globally that the company requires for its operations.</td>
<td>$18 - $23/hour</td>
</tr>
<tr>
<td>Customer Service Representatives</td>
<td>Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.</td>
<td>$14 - $18/hour</td>
</tr>
<tr>
<td>International Sales Representatives/Associates</td>
<td>Sell goods or services to clients outside of his/her own country.</td>
<td>$19 - $25/hour</td>
</tr>
<tr>
<td>International Marketing Coordinators</td>
<td>Assist with the international marketing efforts for a particular brand, product or service.</td>
<td>$19 - $25/hour</td>
</tr>
</tbody>
</table>
Twelve (12) occupations were selected for study:

- Certified Nursing Assistants (CNA)
- Home Health Aides (HHA)
- Licensed Vocational Nurses (LVN)
- Medical Assistants (MA)
- Registered Nurses (RN)
- Clinical Laboratory Scientists (CLS)
- Coders (CDR)
- Medical Laboratory Technicians (MLT)
- Occupational Therapy Assistants (OTA)
- Physician Assistants (PA)
- Respiratory Therapists (RT)
- Healthcare Social Worker (HSW)
## Healthcare Statewide Employer Survey – September 2014

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Current Employment</th>
<th>12-month Outlook</th>
<th>% Growth</th>
<th>Replacements (last 12 months)</th>
<th>% Replacements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certified Nursing Assistants</td>
<td>6,560</td>
<td>1,207</td>
<td>18.0%</td>
<td>1,726</td>
<td>26.3%</td>
</tr>
<tr>
<td>Home Health Aides</td>
<td>3,475</td>
<td>1,126</td>
<td>32.4%</td>
<td>1,102</td>
<td>31.7%</td>
</tr>
<tr>
<td>Licensed Vocational Nurses</td>
<td>2,716</td>
<td>468</td>
<td>17.2%</td>
<td>772</td>
<td>28.4%</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>2,325</td>
<td>222</td>
<td>9.5%</td>
<td>366</td>
<td>15.7%</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>2,405</td>
<td>380</td>
<td>15.85%</td>
<td>493</td>
<td>20.5%</td>
</tr>
<tr>
<td>Clinical Laboratory Scientists</td>
<td>696</td>
<td>--</td>
<td>--</td>
<td>88</td>
<td>12.6%</td>
</tr>
<tr>
<td>Coders</td>
<td>1,232</td>
<td>94</td>
<td>7.6%</td>
<td>168</td>
<td>13.6%</td>
</tr>
<tr>
<td>Medical Laboratory Technicians</td>
<td>607</td>
<td>31</td>
<td>5.1%</td>
<td>98</td>
<td>16.1%</td>
</tr>
<tr>
<td>Occupational Therapy Assistants</td>
<td>351</td>
<td>42</td>
<td>11.9%</td>
<td>64</td>
<td>18.2%</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>749</td>
<td>129</td>
<td>17.2%</td>
<td>90</td>
<td>12.0%</td>
</tr>
<tr>
<td>Respiratory Therapists</td>
<td>763</td>
<td>33</td>
<td>4.3%</td>
<td>84</td>
<td>11.0%</td>
</tr>
<tr>
<td>Healthcare Social Workers</td>
<td>1,051</td>
<td>95</td>
<td>9.0%</td>
<td>160</td>
<td>15.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22,930</strong></td>
<td><strong>3,827</strong></td>
<td><strong>16.7%</strong></td>
<td><strong>5,211</strong></td>
<td><strong>22.7%</strong></td>
</tr>
</tbody>
</table>
### Difficulty Finding Entry-Level Applicants – Ambulatory Care Services

<table>
<thead>
<tr>
<th>Role</th>
<th>Great Difficulty</th>
<th>Some Difficulty</th>
<th>No Difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLS</td>
<td>28%</td>
<td>40%</td>
<td>32%</td>
</tr>
<tr>
<td>OTA</td>
<td>22%</td>
<td>43%</td>
<td>35%</td>
</tr>
<tr>
<td>RN</td>
<td>14%</td>
<td>47%</td>
<td>39%</td>
</tr>
<tr>
<td>PA</td>
<td>18%</td>
<td>42%</td>
<td>40%</td>
</tr>
<tr>
<td>HSW</td>
<td>17%</td>
<td>41%</td>
<td>42%</td>
</tr>
<tr>
<td>Coders</td>
<td>15%</td>
<td>43%</td>
<td>43%</td>
</tr>
<tr>
<td>HHA</td>
<td>12%</td>
<td>44%</td>
<td>44%</td>
</tr>
<tr>
<td>MLT</td>
<td>16%</td>
<td>37%</td>
<td>47%</td>
</tr>
<tr>
<td>CNA</td>
<td>9%</td>
<td>41%</td>
<td>50%</td>
</tr>
<tr>
<td>MA</td>
<td>9%</td>
<td>39%</td>
<td>52%</td>
</tr>
<tr>
<td>LVN</td>
<td>10%</td>
<td>37%</td>
<td>53%</td>
</tr>
<tr>
<td>RT</td>
<td>11%</td>
<td>30%</td>
<td>60%</td>
</tr>
</tbody>
</table>
Difficulty Finding Entry-Level Applicants – Residential & Nursing Care Services

- **RN**
  - Great Difficulty: 13%
  - Some Difficulty: 50%
  - No Difficulty: 37%

- **HSW**
  - Great Difficulty: 11%
  - Some Difficulty: 42%
  - No Difficulty: 46%

- **OTA**
  - Great Difficulty: 17%
  - Some Difficulty: 35%
  - No Difficulty: 48%

- **Coders**
  - Great Difficulty: 13%
  - Some Difficulty: 37%
  - No Difficulty: 50%

- **HHA**
  - Great Difficulty: 10%
  - Some Difficulty: 40%
  - No Difficulty: 50%

- **LVN**
  - Great Difficulty: 8%
  - Some Difficulty: 40%
  - No Difficulty: 52%

- **CNA**
  - Great Difficulty: 11%
  - Some Difficulty: 35%
  - No Difficulty: 54%

- **MA**
  - Great Difficulty: 2%
  - Some Difficulty: 41%
  - No Difficulty: 56%

- **PA**
  - Great Difficulty: 8%
  - Some Difficulty: 29%
  - No Difficulty: 63%

- **RT**
  - Great Difficulty: 13%
  - Some Difficulty: 21%
  - No Difficulty: 66%
HEALTH
Pathway Guide

Is a health career right for you?

- The healthcare profession is one of the fastest growing economic industry sectors.
- Health careers range from entry level to management including both patient care and administrative jobs.
- Students commonly need a science and math background for health careers.
- Compassion, commitment, and a caring attitude contribute to the delivery of safe and effective health care.
- Students can "Earn while they Learn" as they move through the multiple levels of education.

3 Main Points

1. California community colleges offer the best options for affordable, transferable health pathway education.
2. There are multiple entry and exit points (lots of choices).
3. Wide range of career opportunities.

Printable

Health Workforce Initiative Brochures are great for getting a current snapshot of the Health industry. Download these easy-to-print brochures.
LIFE SCIENCES / BIOTECHNOLOGY
Pathway Guide

Is a career in Life Sciences/Biotechnology right for you?

- The majority of jobs are centered around three regions, Bay Area, Los Angeles/Orange County and San Diego Regions.
- The Life Sciences/Biotechnology Industry is recession proof, it grew during the most recent recession and continues to grow.
- California Community Colleges prepare students for entry-level lab positions. There are plenty of jobs for those with a certificate or an associate degree, and for those with a bachelor’s degree.

Basic Skills required for work in Life Sciences/Biotech:
- Critical thinking
- Problem solving
- Communication skills
- Time management & workflow planning
- Adaptability/flexibility
- Dedication

Three Main Points

1. Biotechnologists heal the world, feed the world and fuel the world through a diverse set of industries.

2. Life Sciences/Biotechnology careers suit people who like to follow directions, measure and look for results. This makes the day to day activities like cooking with the added benefit they are part of finding solutions to heal, fuel and feed the world.

3. Biotechnology focused programs prepare students for career and transfer to 4 year schools and both lab bench and non-bench careers.
LIFE SCIENCES / BIOTECH
Pathway Guide

Videos

**Biotechnology Industry**
Path2Careers produced this video about the Biotechnology Industry. Current information (data from 2014) about employment in the industry is included in this helpful short video.

**Biomanufacturing Process Technician**
Path2Careers produced this video about a career as a Biomanufacturing Process Technician. Salary and job growth information is included.

Resources

**Biotechnology Industry Organization**
What is Biotechnology? At its simplest, biotechnology is technology based on biology - biotechnology harnesses cellular and biomolecular processes to develop technologies and products that help improve our lives and the health of our planet. We have used the biological processes of microorganisms for more than 6,000 years to make useful food products, such as bread and cheese, and to preserve dairy products.

**Careers in Biotechnology**
This is a "Counselor's Guide to the Best Jobs in the United States" by the California Community Colleges Economic Workforce Development California Applied Biotechnology Centers Statewide Initiative and Hubs.

**Cal Biotech Careers**
To learn about the California Biotechnology Careers initiative and find regional colleges with biotech programs in California.
Unexpected Employers in the Healthcare Industry

Independent laboratories and community clinics are the largest employers for healthcare with nursing, medical lab technicians, and ancillary jobs in health and information technology.
Information and Communication Technologies (ICT) and Digital Media

ICT is an umbrella term used to encompass all rapidly emerging, evolving and converging computer, software, networking, telecommunications, Internet, programming and information systems technologies. ICT is not limited to ICT industries. ICT is pervasive, an integral and growing part of all industries.
Objectives
2015-2016

Agriculture #1
• Partner with DSN Agriculture, Water & Environmental Technologies to provide professional development in ICT for Agriculture.

Healthcare Information Technology #2
• Provide healthcare incumbent worker with ICT skills. Specifically business intelligence/report generating abilities.

Career Pathways #3
• Continue to support Career pathways in ICT/DM throughout the region. Currently focusing on computer networking, security, UI and STEM related initiatives. Emphasis on Dual Enrollment.
Pairing Progression with a Training Roadmap

**Computer Support Specialists ($21.39)**
- Skills to Add
  - Network Administration
  - Domain Name System
  - Firewalls
  - PERL
  - Solaris

**Network / Systems Support Specialists ($29.21)**
- Skills to Add
  - Solaris
  - Apache Webserver

**Computer Programmers ($34.94)**
- Skills to Add
  - System/Network Configuration
  - Network Administration
  - Domain Name System
  - Firewalls
  - PERL

**Webmaster / Administrator ($33.43)**
- Skills to Add
  - Network Administration
  - Domain Name System
  - Cisco
  - Installation and Configuration
  - TCP/IP

**Network Administrators ($35.42)**
- Additional Skill Requirements
  - Systems Administration
  - Windows Server
  - Microsoft SharePoint

- Additional Certification Requirements
  - Microsoft Certified Systems Engineer (MCSE)
  - Cisco Certified Network Associate
  - Security+
  - Network+
  - Microsoft Certified Systems Administrator

**Legend**
- Occupational Demand
  - Very High: >90,000 Annual Postings
  - High: 30,000-90,000 Postings
  - Medium: 2,000-30,000 Postings
  - Low: <2,000 Postings

Thicker lines represent more common transitions.
Sample Career Ladder for Machining

In 2014, there were 4,529 job postings for machining roles in California.

**Programmer**
- Programs computer-controlled manufacturing equipment according to precise specifications
- **California**
  - Average Salary: $26.95
  - % Entry-Level Jobs: 16%

**Machinist**
- Operates, tests, and troubleshoots manufacturing machines, tools, and related equipment
- **California**
  - Average Salary: $18.72
  - % Entry-Level Jobs: 26%

**Operator**
- Loads and operates manufacturing machines using specifications from Machinists and Programmers
- **California**
  - Average Salary: $17.83
  - % Entry-Level Jobs: 46%

**Programming Skills to Add**
- G Code (CNC Programming Language)
- Computer-Aided Drafting
- Computer-Aided Manufacturing

**Machining Skills to Add**
- Grinders
- Drill Presses
- Milling Cutters
- Welding
Business Information Worker coursework is current, providing knowledge and skills demanded in today’s workplace. Skills include:

- Keyboarding Proficiency
- Microsoft Windows
- Microsoft Word
- Microsoft Excel
- Microsoft Outlook
- Information Systems - Basics
- Business Communications
- Human Relations/Customer Service

With a solid foundation in Microsoft Windows and Office as well as strong digital and web literacy skills, the Business Information Worker brings efficiency and productivity to the workplace.

Completion of the Business Information Worker pathway also brings indispensable critical thinking, problem solving, and interpersonal skills to the workplace, essential components of the curriculum.

Get Hired

“Employers can confidently look at the California Community College’s Business Information Worker Readiness Certificate/Pathway as a tool to identify qualified potential job candidates. This program provides the “hiring for attitude and training for skills” foundations for entry-level jobs.”

~ Phil Blair
Executive Officer - Manpower San Diego
Author of “Job Won” (job-won.com)
CALIFORNIA COMMUNITY COLLEGES
Doing What MATTERS™
FOR JOBS AND THE ECONOMY

The Information and Communication Technologies & Digital Media Sector Navigation Team
CALIFORNIA COMMUNITY COLLEGES

College of the Canyons
25055 Rockwell Canyon Road
Santa Clarita, CA 91330
www.ict-dm.net/dmec

DIGITAL MEDIA Educators Conference
REGISTER NOW OPEN AT: www.ict-dm.net/dmec

CONFERECE TRACKS
Our conference tracks focus on Career Pathways for digital media occupations, entrepreneurship and jobs where digital skills combine with other skills for gainful employment.

WHY YOU SHOULD ATTEND
Digital media is woven into the fabric of the modern workplace thus driving the need for digital literacy for every entry level job, even those once considered to be strictly vocational. That places you, the Digital Media and ICT Faculty, in the center of career learning paths throughout the California Community College system.

THIS IS FOR YOU
This is a special event for Information and Communication Technologies and Digital Media Faculty in the California Community College system.

WHEN & WHERE
Thursday & Friday
June 11-12, 2015
On the vibrant campus of the College of The Canyons located in beautiful Santa Clarita California.

*Limited travel stipends, including hotel reservations, are available for qualified attendees. Please see our website for details.

INTERNET IDENTITY MANAGEMENT
Front/Back, Creative/Social Production, Project Management, Social Media Evangelist

DIGITAL MEDIA COMMUNICATION
Digital Video, News Packages, Digital Work Flow, Ad trends, Sound Recording, Games, Digital Asset Management

INTERFACE & USABILITY DESIGN
Graphic/Art Animation, Digital Photography, Digital Branding, User Experience Design

DIGITAL MEDIA IN INDUSTRY
Telecommunications, Science Marketing, Manufacturing, Agriculture, General Comedy Entertainment

The growing digitalization of business such as virtualization, the cloud, media production, mobile devices, service management and a focus on information management and collaboration have forced businesses small, medium and large, into a dead sprint to keep up.

REGISTRATION & PRESENTATIONS

THERE IS NO ADMISSION COST FOR QUALIFIED CCC FACULTY.

VISIT THE CONFERENCE SITE
www.ict-dm.net/dmec
Registration Opens - February 2, 2015

SOCIAL MEDIA - JOIN THE CONVERSATION
@CCCDMEC @CCCDMEC

QUESTIONS?
paula.hodge@canyons.edu
California Career Café

• Inspiring, easy to navigate resource

• Helps students discover a career path that motivates them to graduate

• Complete set of employment tools via CALJOBS to help students find jobs

• Connections to Professional Association Database

• Soft skill lessons
Salary Surfer

- Hosted by CCCCO
- Uses aggregated earnings of community college graduates from a five-year period
- Provides an estimate of potential wages to be earned two years and five years after receiving a certificate or degree in selected disciplines
- Does not provide wage information earned by CC students who transfer to 4-year institution
- Provides information on what colleges offer programs in specific disciplines
Path2Careers

- Career Counseling Tools
  - Career Fact Sheets
  - Jobs of the Future
  - YouTube Career Videos

- Program Development Tools
  - Industry Snapshots
  - Industries of the Future
  - Environmental Scans

- eNews Publications
Career Pathway Student Internship Program

- FCCC helps community college and university students secure paid positions in their field of study.

- For employers, simplifies process of creating student internship positions.

- Recruits & hires students, maintains employment records, tracks student outcomes, and

- Handles “back office” administrative tasks.
Toolkit

LaunchBoard 1.0
Data-Backed Decisions

- Statewide Data System
- Supported by CCCCO
- Hosted by Cal-PASS Plus
- Provides data to CCs and HSs on effectiveness of CTE programs
Thank You

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