Using Labor Market Information
STEM Regional Collaboratives

February 24, 2014
Credentials that Work gives decision makers the information to do the practical analysis to better align education and training investments with the needs of regional economies.

Working with community colleges CTW:

- Creates a framework to help design and offer courses of study that meet the needs of employers.
- Demonstrates how both traditional and real-time labor market data are needed to evaluate programs.
- Trains users on how to best analyze the data and integrate it into ongoing decision-making processes.
WHAT IS REAL-TIME LMI?

• Real-time LMI is made up of job postings by occupation obtained from Internet job boards, company websites, and newspapers using spidering technology
• It is valuable to users because it is:
  – collected with regular frequency and de-duplicated
  – parsed to produce information on hiring requirements including education, experience, skills, and certifications
• Provides indications of current trends, emerging occupations, and current and emerging skill requirements
DATA DRIVEN AND RESPONSIVE DECISION MAKING

Demand Driven Programming

• **OUTCOMES:** Match program offerings to economic demand; revise outdated offerings; see emerging trends
• **SOURCE:** Long Term Occupational Projections, Job Vacancy Studies, Real Time LMI, Regional Economic Analysis, Employer Input

Curriculum Content

• **OUTCOMES:** Align learning outcomes to identified skill and qualification requirements
• **SOURCE:** Real Time LMI, Traditional LMI (O*NET), Employer Input, Postsecondary Program Review

Employer Engagement

• **OUTCOMES:** Enhance employer conversation; create opportunities for student/instructor interactions
• **SOURCE:** Real Time LMI, Traditional LMI (O*NET), Employer Input

Student Career Guidance

• **OUTCOMES:** Better matching for student employment
• **SOURCE:** Occupational Employment Statistics and Projections, Real Time LMI, Employer Input, Postsecondary Program Review

*Also adds significant value to overall strategic and administrative planning*
LMI is a very high priority for community colleges
Most decision-makers think their colleges are not very effective at using LMI
Almost a third (30%) of decision-makers think their colleges analyze LMI too infrequently
Problems finding effective, quality labor market data is a top challenge for colleges
Other top challenges include:
  • Lack of funding for purchasing LMI services and for creating new offerings as a consequence of LMI
  • Faculty, staff, and advisory committee issues, including resistance to change
  • Problems acquiring and maintaining needed resources – including time - /facilities/equipment

Source: Survey of 100 community colleges conducted in Fall 2013
• Most (88%) community college decision-makers consider aligning their programs/curriculum to local job markets to be a very high priority
• Only 41% of decision-makers think their colleges are very effective at aligning programs/curricula with local labor market needs
• Most (96%) access free, traditional LMI resources such as Bureau of Labor Statistics data or state LMI websites
• About half (52%) use proprietary LMI software, such as EMSI
• Slightly less than half (45%) use real-time jobs postings software, such as Burning Glass or Help Wanted Online
• The larger the college enrollment, the more likely it is to use proprietary LMI software (69% for colleges with 15,000 or more students enrolled)

Source: Survey of 100 community colleges conducted in Fall 2013
SAMPLE ANALYSIS

Traditional LMI Source: EMSI
Real-Time LMI Source: Burning Glass Labor Insight
Geography: Connecticut
Time Period: January 1, 2013- December 31, 2013
Using traditional and real-time labor market data to develop an initial picture of demand: a look at top occupations in Connecticut

<table>
<thead>
<tr>
<th>Description</th>
<th>2013 Jobs</th>
<th>10 Years % Change</th>
<th>Real Time Job Posting - 2013</th>
<th>Projected Annual Openings</th>
<th>Median Hourly Earnings</th>
<th>Education Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Administrators</td>
<td>1,504</td>
<td>1,552</td>
<td>21%</td>
<td>63</td>
<td>$38.95</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>7,024</td>
<td>600</td>
<td>20%</td>
<td>287</td>
<td>$16.27</td>
<td>Moderate-term on-the-job training</td>
</tr>
<tr>
<td>Software Developers, Applications</td>
<td>7,043</td>
<td>6,830</td>
<td>18%</td>
<td>233</td>
<td>$42.64</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>3,761</td>
<td>1,299</td>
<td>17%</td>
<td>121</td>
<td>$38.93</td>
<td>First professional degree</td>
</tr>
<tr>
<td>Network and Computer Systems Administrators</td>
<td>3,913</td>
<td>1,218</td>
<td>17%</td>
<td>151</td>
<td>$38.94</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>35,851</td>
<td>7,553</td>
<td>17%</td>
<td>1,377</td>
<td>$35.73</td>
<td>Associate's degree</td>
</tr>
<tr>
<td>Logicians</td>
<td>1,363</td>
<td>224</td>
<td>15%</td>
<td>51</td>
<td>$34.42</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>8,910</td>
<td>810</td>
<td>13%</td>
<td>388</td>
<td>$26.09</td>
<td>Postsecondary non-degree award</td>
</tr>
<tr>
<td>Computer User Support Specialists</td>
<td>9,379</td>
<td>2,908</td>
<td>12%</td>
<td>383</td>
<td>$26.60</td>
<td>Associate's degree</td>
</tr>
<tr>
<td>Biological Technicians</td>
<td>1,068</td>
<td>83</td>
<td>7%</td>
<td>46</td>
<td>$22.75</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Civil Engineers</td>
<td>3,381</td>
<td>1,032</td>
<td>4%</td>
<td>90</td>
<td>$36.88</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Microbiologists</td>
<td>280</td>
<td>20</td>
<td>1%</td>
<td>7</td>
<td>$31.61</td>
<td>Bachelor's degree</td>
</tr>
</tbody>
</table>

SOURCES: Burning Glass Labor Insight EMSI
INFORMATION TECHNOLOGY (IT) PROJECTED GROWTH

- **Connecticut**
  - 2013 Jobs: 69,340
  - 2022 Jobs: 78,229
  - % Change: 12.8%

- **Nation**
  - 2013 Jobs: 5,920,037
  - 2022 Jobs: 6,822,093
  - % Change: 15.2%

SOURCE: EMSI
OVERVIEW OF IT OCCUPATIONS

Job Distribution

Overview

Annual Openings Estimate (2013) 2,348
Related Completions (2012) 1,725
Current Job Postings N/A for Multiple Codes

- Gender
  - Male 70%
  - Female 30%

- Age
  - 14-18 0%
  - 19-24 5%
  - 25-44 51%
  - 45-64 42%
  - 65+ 3%

Source: EMSI
IT Demand by Job Title, Connecticut
Jan 2013- December 2013

Source: Burning Glass Labor Insight
Period: 01/01/2013 - 12/31/2013
Total Postings:29,397
IT Demand by Industry, Connecticut
Jan 2013- December 2013

<table>
<thead>
<tr>
<th>Industry</th>
<th>Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance Carriers And Related Activities</td>
<td>3,556</td>
</tr>
<tr>
<td>Professional, Scientific, And Technical Services</td>
<td>2,652</td>
</tr>
<tr>
<td>Transportation Equipment Manufacturing</td>
<td>840</td>
</tr>
<tr>
<td>Administrative And Support Services</td>
<td>764</td>
</tr>
<tr>
<td>Educational Services</td>
<td>612</td>
</tr>
<tr>
<td>Credit Intermediation And Related Activities</td>
<td>604</td>
</tr>
<tr>
<td>Electrical Equipment, Appliance, And Component Manufacturing</td>
<td>555</td>
</tr>
<tr>
<td>Hospitals</td>
<td>463</td>
</tr>
<tr>
<td>Securities, Commodity Contracts, And Other Financial Investments And Related Activities</td>
<td>450</td>
</tr>
<tr>
<td>Machinery Manufacturing</td>
<td>364</td>
</tr>
</tbody>
</table>

Source: Burning Glass Labor Insight
Period: 01/01/2013 - 12/31/2013
Total Postings:29,397
In this economy, employers can be more selective and post higher educational requirements in job ads.

44% of records are excluded because a degree level is not specified. As a result, the chart may not be representative of the full sample.

Source: Burning Glass Labor Insight
Period: 01/01/2013 - 12/31/2013
Total Postings: 16,225
IT Certification Demand, Connecticut
Jan 2013- December 2013

<table>
<thead>
<tr>
<th>Certification</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT MANAGEMENT CERTIFICATION (E.G. PMP)</td>
<td>523</td>
</tr>
<tr>
<td>CERTIFIED PUBLIC ACCOUNTANT</td>
<td>428</td>
</tr>
<tr>
<td>CERTIFIED INFORMATION SYSTEMS SECURITY PROFESSIONAL</td>
<td>271</td>
</tr>
<tr>
<td>CERTIFIED INFORMATION SYSTEMS AUDITOR (CISA)</td>
<td>257</td>
</tr>
<tr>
<td>CISCO CERTIFIED NETWORK ASSOCIATE</td>
<td>247</td>
</tr>
<tr>
<td>MICROSOFT CERTIFIED SYSTEMS ENGINEER (MCSE)</td>
<td>201</td>
</tr>
<tr>
<td>CISCO CERTIFIED NETWORK PROFESSIONAL (CCNP)</td>
<td>164</td>
</tr>
<tr>
<td>CERTIFIED INFORMATION SECURITY MANAGER (CISM)</td>
<td>144</td>
</tr>
<tr>
<td>CERTIFIED A+ TECHNICIAN</td>
<td>135</td>
</tr>
<tr>
<td>MICROSOFT CERTIFIED IT PROFESSIONAL (MCITP)</td>
<td>126</td>
</tr>
</tbody>
</table>

Note: 88% of records have been excluded because they do not include a certification. As a result, the chart may not be representative of the full sample.

Source: Burning Glass Labor Insight
Period: 01/01/2013 - 12/31/2013
Total Postings:25,039
IT Specialized Skills, Connecticut
Jan 2013 - December 2013

- SQL: 5,795
- Oracle: 3,867
- JAVA: 3,630
- JavaScript: 2,330
- Microsoft C#: 2,252
- Business Process: 2,230
- SQL Server: 2,187
- .NET Programming: 2,123
- LINUX: 2,073
- UNIX: 2,059

Source: Burning Glass Labor Insight
Period: 01/01/2013 - 12/31/2013
Total Postings: 25,039
## IT Baseline Skills, Connecticut
### Jan 2013 - December 2013

<table>
<thead>
<tr>
<th>Skill</th>
<th>Total Postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Skills</td>
<td>9,882</td>
</tr>
<tr>
<td>Organizational Skills</td>
<td>6,383</td>
</tr>
<tr>
<td>Writing</td>
<td>6,097</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>5,928</td>
</tr>
<tr>
<td>Leadership</td>
<td>5,437</td>
</tr>
<tr>
<td>Project Management</td>
<td>5,162</td>
</tr>
<tr>
<td>Planning</td>
<td>4,481</td>
</tr>
<tr>
<td>Microsoft Excel</td>
<td>4,091</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>3,979</td>
</tr>
<tr>
<td>Management</td>
<td>3,770</td>
</tr>
</tbody>
</table>

Source: Burning Glass Labor Insight  
Period: 01/01/2013 - 12/31/2013  
Total Postings: 25,039
Basic Skills Across Sectors and Regions

- Communication Skills
- Leadership
- Organizational Skills
- Problem Solving
- Project Management
- Planning
- Writing
- Microsoft Office/Computer Skills
- Quality Assurance and Control
- Detail-Oriented

Advanced Manufacturing in OH
Psychiatric Tech in FL
Computer Science in CT
EMPLOYERS SEEKING TO FILL IT JOBS

IT Demand by Employer, Connecticut
Jan 2013 - December 2013

- UnitedHealth Group: 1,019
- Travelers Insurance: 720
- United Technologies Corporation: 642
- General Electric Company: 543
- Cigna Corporation: 459
- Deloitte Development LLC: 363
- The Hartford Financial Group: 333
- Pitney Bowes: 259
- Yale University: 241
- ESPN: 183

Source: Burning Glass Labor Insight
Period: 01/01/2013 - 12/31/2013
Total Postings: 16,825