Putting Workforce Development Goals into Action:  
Labor Market Data Access and Literacy  
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David Tanner, Associate Director, Carl Vinson Institute of Government, University of Georgia  
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SHEEO  
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Presenting Today

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Session Agenda

- USG and Institute of Government partnership
- In-demand jobs
- Data tools to inform program development
- Training campus leaders on labor market alignment
- Wage and labor market outcomes
- Utilizing data tools to inform economic development efforts in Georgia
USG & Institute of Government Partnership

- Governing Board
- 26 four-year institutions with varying analytic capacity
- Robust system longitudinal data
- Applied research expertise (workforce and economic development, labor market data, higher education)
- Data scientists and analysts
- Data visualization infrastructure
“Institutions must build more partnerships with both local officials as well as Georgia business and economic development leaders and seek their input about educational programs and what knowledge and skills students need to be successful [in order to] improve the alignment of our degree programs with industry demands and focus on our communities’ need for talent.”

USG 2024 Strategic Plan

Approved January 2020
Alignment is Based on Information

• For system office and institutions
  • What new programs should we offer? How aligned are my current programs?
• For local/state economic development and industry
  • Is the talent pipeline sufficient and diverse?
• For students
  • In what area should I pursue postsecondary education?
In-Demand Jobs Report
In-Demand Jobs Report Overview

Goals

● Put additional data tools into the hands of campus leaders
● Develop analytics and resources that can help students make informed decisions
● Create a common language for discussing in-demand jobs in Georgia

Major Components

● Supply and Demand Analysis (Gaps)
● In-Demand Jobs List
Supply and Demand Analysis Methodology

Supply (apportioned)
Average # of graduates from programs by CIP in the region over a three-year period. Demand weight applied to apportion the supply.

Employment Factor
% of graduates in a CIP who are working or working and reenrolled at USG according to Georgia Awards Data.

Demand
Number of average annual job openings projected from 2021 to 2030.

Estimated occupation gap or surplus

# State Gap Analysis Example Results

### Table 2. Detailed Statewide Gap Analysis (Top 30)

<table>
<thead>
<tr>
<th>SOC</th>
<th>Detailed Occupation</th>
<th>Supply</th>
<th>Avg. Annual Openings</th>
<th>Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-1198</td>
<td>Project Management Specialists and Business Operations Specialists, All Other</td>
<td>1,747</td>
<td>5,927</td>
<td>(4,179)</td>
</tr>
<tr>
<td>25-3097</td>
<td>Tutors and Teachers and Instructors, All Other</td>
<td>53</td>
<td>3,209</td>
<td>(3,156)</td>
</tr>
<tr>
<td>13-2011</td>
<td>Accountants and Auditors</td>
<td>874</td>
<td>3,612</td>
<td>(2,738)</td>
</tr>
<tr>
<td>15-1256</td>
<td>Software Developers and Software Quality Assurance Analysis and Testers</td>
<td>1,839</td>
<td>4,510</td>
<td>(2,672)</td>
</tr>
<tr>
<td>13-1071</td>
<td>Human Resources Specialists</td>
<td>501</td>
<td>2,024</td>
<td>(2,003)</td>
</tr>
<tr>
<td>25-2021</td>
<td>Elementary School Teachers, Except Special Education</td>
<td>1,327</td>
<td>3,290</td>
<td>(1,963)</td>
</tr>
<tr>
<td>25-2022</td>
<td>Middle School Teachers, Except Special and Career/Technical Education</td>
<td>434</td>
<td>2,203</td>
<td>(1,769)</td>
</tr>
<tr>
<td>13-1161</td>
<td>Market Research Analysts and Marketing Specialists</td>
<td>1,074</td>
<td>2,744</td>
<td>(1,670)</td>
</tr>
<tr>
<td>13-1111</td>
<td>Management Analyst</td>
<td>805</td>
<td>2,118</td>
<td>(1,313)</td>
</tr>
<tr>
<td>15-1211</td>
<td>Computer Systems Analysts</td>
<td>318</td>
<td>1,535</td>
<td>(1,217)</td>
</tr>
<tr>
<td>13-1151</td>
<td>Training and Development Specialists</td>
<td>29</td>
<td>1,240</td>
<td>(1,211)</td>
</tr>
<tr>
<td>13-1028</td>
<td>Buyers and Purchasing Agents</td>
<td>158</td>
<td>1,267</td>
<td>(1,108)</td>
</tr>
<tr>
<td>41-3031</td>
<td>Securities, Commodities, and Financial Services Sales Agents</td>
<td>–</td>
<td>1,089</td>
<td>(1,089)</td>
</tr>
</tbody>
</table>
In-Demand Jobs List Criteria

Total of 152 occupations that require typical BA education and less than 5 years experience

Occupation must meet the following criteria:

1. **Wage**: Median wage of all occupations: $44,429

2. **Employment**: Minimum of 2,371 jobs
   - >0.05% of total 2021 employment
   - Total of over 4.7M jobs in Georgia

3. **Growth**: Positive rate projected 2021-2030
Regional In-Demand List Example

Table NG4. Regional Gap Analysis (Top 20)

<table>
<thead>
<tr>
<th>SOC</th>
<th>Description</th>
<th>Avg. Annual Openings</th>
<th>Supply Estimate</th>
<th>Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-1109</td>
<td>Project Management Specialists and Business Operations Specialists, All Other</td>
<td>4,246</td>
<td>985</td>
<td>3,260</td>
</tr>
<tr>
<td>15-1256</td>
<td>Software Developers and Software Quality Assurance Analysts and Testers</td>
<td>3,600</td>
<td>991</td>
<td>2,609</td>
</tr>
<tr>
<td>13-2011</td>
<td>Accountants and Auditors</td>
<td>2,003</td>
<td>495</td>
<td>1,508</td>
</tr>
<tr>
<td>25-3307</td>
<td>Tutors and Teachers and Instructors, All Other</td>
<td>2,005</td>
<td>8</td>
<td>2,003</td>
</tr>
<tr>
<td>13-1161</td>
<td>Market Research Analysts and Marketing Specialists</td>
<td>2,141</td>
<td>472</td>
<td>1,669</td>
</tr>
<tr>
<td>13-1071</td>
<td>Human Resources Specialists</td>
<td>1,019</td>
<td>283</td>
<td>736</td>
</tr>
<tr>
<td>26-2021</td>
<td>Elementary School Teachers, Except Special Education</td>
<td>2,167</td>
<td>647</td>
<td>1,521</td>
</tr>
<tr>
<td>28-1141</td>
<td>Registered Nurses</td>
<td>2,793</td>
<td>1,349</td>
<td>1,444</td>
</tr>
<tr>
<td>25-2522</td>
<td>Middle School Teachers, Except Special and Career/Technical Education</td>
<td>1,499</td>
<td>253</td>
<td>1,246</td>
</tr>
<tr>
<td>13-1111</td>
<td>Management Analysts</td>
<td>1,014</td>
<td>434</td>
<td>1,580</td>
</tr>
<tr>
<td>15-1211</td>
<td>Computer Systems Analysts</td>
<td>1,196</td>
<td>159</td>
<td>1,037</td>
</tr>
<tr>
<td>15-1209</td>
<td>Computer Occupations, All Other</td>
<td>1,106</td>
<td>197</td>
<td>0</td>
</tr>
<tr>
<td>41-3031</td>
<td>Securities, Commodities, and Financial Services Sales Agents</td>
<td>809</td>
<td>-</td>
<td>809</td>
</tr>
<tr>
<td>13-1151</td>
<td>Training and Development Specialists</td>
<td>853</td>
<td>5</td>
<td>-848</td>
</tr>
</tbody>
</table>
Degree Production in High Interest Career Areas
Aligning Talent Demand with Talent Development

The University System of Georgia (USG) and its 26 institutions have a $19.3 billion impact on the State of Georgia. One of the USG’s top priorities is to strengthen its partnership with Georgia-based businesses to address the critical need for talent throughout our state.

The USG’s top economic development priorities and activities include:

- Facilitating employer and university partnerships to develop professional learning, academic curriculum, experiential learning, and innovation-driven research opportunities for the existing and future workforce.
- Conducting analyses of high-demand career sectors and create talent-development insights and playbooks with recommendations and initiatives for talent development with USG institutions.
- Mobilizing system-level assets and all USG institutions to address talent demand in high-demand career industries.

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This interactive data visualization shows the number, race, gender, and degree level of graduates in USG academic programs for the past four years that map to high interest industry sectors in Georgia.

Completions in 2021

6,765

Change in Awards (2016-2021)

3,895

135.71%
Users can click on the visualizations to filter data by location, degree level, race/ethnicity, gender, and age.
New Academic Program Proposals to the Board of Regents

Enhanced Components
1. Labor Market data
2. Occupational Competencies
3. Higher education market analysis

It was critical to equip academic leaders with data tools and training to implement this new requirements.
## Georgia DOL Occupation Projections 2028

### Projections within State by SOC Occupation

Note: employment counts under 40 are suppressed by the GA DOL; totals from occupations will thus be less than totals from major groups and rates for combined LWDA 10 and 11 cannot be calculated; Employment projections are rounded to the nearest ten; percentages of growth are based on unrounded figures.

### Description of LWDA Areas

LWDA 3 is City of Atlanta limits; LWDA 6 is north and south Fulton

<table>
<thead>
<tr>
<th>LWDA 1</th>
<th>Included Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow, Catoosa, Chattooga, Dade, Fannin, Floyd, Gilmer, Gordon, Haralson, Murray, Paulding, Pickens, Polk, Walker, Whitfield</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LWDA 2</th>
<th>Included Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union, White</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LWDA 4</th>
<th>Included Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobb</td>
<td></td>
</tr>
</tbody>
</table>
IPEDS Degrees Awarded Data

Degrees Awarded Summaries

Total Degrees Awarded by Institutional Factor

- THE PENNSYLVANIA STATE UNIVERSITY: 17,462
- ARIZONA STATE UNIVERSITY CAMPUS IMMERSION: 14,854
- UNIVERSITY OF CENTRAL FLORIDA: 13,137
- FLORIDA INTERNATIONAL UNIVERSITY: 13,134
- TEXAS A & M UNIVERSITY: COLLEGE STATION: 13,134

Total Degrees Awarded by Degree Factor

- BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES: 253,865
- HEALTH PROFESSIONS AND RELATED PROGRAMS: 140,594
- SOCIAL SCIENCES: 165,832
- ENGINEERING: 184,381
- BIOLOGICAL AND BIOMEDICAL SCIENCES: 93,026

Degrees Awarded by Race/Ethnicity

- MALE: 56.3%
- FEMALE: 43.7%
USG Degrees Awarded by Program: Data Science Related CIPs

Map of Total Awards

Included Degrees
102

Excluded Degrees
0
Top 5 USG institutions producing degrees mapped to the SOC code for Data Scientist
# USG Degrees Awarded by Program

## Awards by Fiscal Year (Original 407b Report)

### Excluded Degrees setting...
Exclude Degrees with greater than a 3-yr Average of

- 2,203

- 0

## Included Degrees

**Totals**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Institution</th>
<th>Degree Name</th>
<th>Degree Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Universities</td>
<td>Georgia State University</td>
<td>Associate</td>
<td>ASCC</td>
</tr>
<tr>
<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Masters</td>
<td>MSCS</td>
</tr>
<tr>
<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Bachelor's</td>
<td>BSCS</td>
</tr>
<tr>
<td>Research Universities</td>
<td>University of Georgia</td>
<td>Bachelor's</td>
<td>BBA</td>
</tr>
<tr>
<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Bachelor's</td>
<td>BSME</td>
</tr>
<tr>
<td>State Colleges</td>
<td>Georgia Highlands College</td>
<td>Associate</td>
<td>ASCC</td>
</tr>
<tr>
<td>Research Universities</td>
<td>University of Georgia</td>
<td>Bachelor's</td>
<td>BS</td>
</tr>
<tr>
<td>Research Universities</td>
<td>University of Georgia</td>
<td>Bachelor's</td>
<td>BS</td>
</tr>
<tr>
<td>State Colleges</td>
<td>University of North Georgia</td>
<td>Associate</td>
<td>AACC</td>
</tr>
<tr>
<td>Comprehensive Universities</td>
<td>Kennesaw State University</td>
<td>Bachelor's</td>
<td>BS</td>
</tr>
<tr>
<td>State Universities</td>
<td>University of North Georgia</td>
<td>Associate</td>
<td>ASCC</td>
</tr>
<tr>
<td>State Colleges</td>
<td>Georgia Gwinnett College</td>
<td>Bachelor's</td>
<td>BBA</td>
</tr>
<tr>
<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Bachelor's</td>
<td>BSBA</td>
</tr>
<tr>
<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Masters</td>
<td>MSANLT</td>
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<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Bachelor's</td>
<td>BSIE</td>
</tr>
<tr>
<td>Research Universities</td>
<td>Georgia Institute of Technology</td>
<td>Masters</td>
<td>MSCE</td>
</tr>
<tr>
<td>Research Universities</td>
<td>University of Georgia</td>
<td>Bachelor's</td>
<td>BBA</td>
</tr>
<tr>
<td>Comprehensive Universities</td>
<td>Kennesaw State University</td>
<td>Bachelor's</td>
<td>BS</td>
</tr>
</tbody>
</table>

**CIP Code (2019, 6 Digit)**

- 59,131
- 62,268
- 66,146
- 66,947
- 78,163

**PY16 Awards**

- 5,544
- 5,529
- 5,582
- 1,843
- 1,969

**PY17 Awards**

- 490
- 940
- 1,114
- 1,688

**PY18 Awards**

- 617
- 597
- 706
- 606

**PY19 Awards**

- 614
- 567
- 614
- 606

**PY20 Awards**

- 7

**Awards Thresholds**
3 Year Averages below this threshold will be highlighted in red.
Labor Market Data and Other Technical Assistance
Labor Market Information for Higher Education
Course Overview

Day 1
● Orientation to labor market data organization
● Common labor market data source overview (QCEW, OnTheMap, Employment Projections)
● Case studies

Day 2
● Common labor market data sources overview cont. (O*Net, Longitudinal Data System, Demographic Data
● CIP-SOC Crosswalk
● USG tools
● JobsEQ report overview
● Section C
Common Data Tools Employed for Institutional Planning
Graduate Outcomes: Wage and Industry Information
Developing Needs

• Governor’s Office of Student Achievement, which administers GA•AWARDS SLDS, provides dashboard on earnings for 4-digit CIP
• Need for more granular academic program data plus industry outcomes to
  • Underpin academic program proposals and assessment
  • Advise students
• Joined Census Bureau Post-Secondary Employment Outcomes
• Published new Graduate Outcomes tool in USG Data Viz Portal
Data Viz Portal: Industry Destinations of Graduates - High Level

Distinct Count of Graduates: 3,111

Distinct Count of Graduates Employed in State: 2,552

Sector or Institution:
Exclude Part-Time Work: No Exclusions

CIP Code:
2-Digit CIP Description

Cohort:
Degree Level:
Years Post Graduation: 1, 3, 5

Count or Percent To...:
Count: % Percent

2 Digit CIP:
BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES: 100.0%

NAICS Code:
Others: 46.0%
Professional, Scientific, and Technical Services: 24.4%
Finance and insurance:...
Administrative and Support and Waste Management and Remediation Services:...
Retail Trade:...
Data Viz Portal: Industry Destinations of Graduates - Granular Data

Top Degree Programs and NAICS Codes

Distinct Count of Graduates
3,111

Distinct Count of Graduates Employed in State
1,800

Years Post Graduation
Exclude Part-Time Work
No Exclusions

Sector or Institution View
System View

Cohort

Degree

Industry

OFFICES OF CERTIFIED PUBLIC AC...
Data Viz Portal: Earnings of Graduates-Broad Academic Areas

Salary Percentiles and Average

Sector or Institution View
- System View
- View by Sector
- View by Institution

Degree Level

Cohort
- 2010-2012
- 2007-2009

Average Salary
- 25th Percentile
- Median Salary
- 75th Percentile

Salary
- Median Salary

2-Digit CIP Description
- BUSINESS, MANAGEMENT, MARKETING, A...

4-Digit CIP Description

5-Year Post Graduation
- 2 Year Post Graduation
- 3 Years Post Graduation
- 5 Years Post Graduation

CIP Code
- No Adjustment
- Adjusted for Inflation
- Exclude Part-Time Work
- No Exclusions

Measures
- 1 Year Post Graduation
- 3 Years Post Graduation
- 5 Years Post Graduation
Data Viz Portal: Earnings of Graduates-Specific Programs

Salary Percentiles and Average

Sector or Institution View
- System View
- View by Sector
- View by Institution

Degree Level

Cohort
- 2010-2012
- 2007-2009

Degree Program
- BUSINESS, MANAGEMENT, MARKETING, A...
- AGRICULTURAL/ANIMAL/PLANT/VETERIN...
- ARCHITECTURE AND RELATED SERVICES
- AREA, ETHNIC, CULTURAL, GENDER, AND ...
Georgia Degrees Pay

All the information you need about degree attainment, student success, costs and affordability at the University System of Georgia's 26 public colleges and universities.

Compare:

- Cost of Attendance
- Your Future Earnings
- Student Success
Tools to Compare Institutions

Your Future Earnings
Search online for every degree program at every USG institution to see the average earnings one, five and 10 years after graduation.

Compare

Student Success by Institution
See student success rates and enrollment for every USG institution.

Compare
Earnings Tool for Transparent Economic Returns

Compare Your Future Earnings

Find out what you’re likely to earn with a degree from academic programs across the University System of Georgia’s 26 public colleges and universities.

You can also compare:

- Cost of Attendance
- Student Success
- Return to Georgia Degrees Pay
Earnings After Graduation
View earnings ranges for different academic programs at a select institution 1, 5 or 10 years after graduation.

Compare Between Majors
Compare earnings ranges across several academic programs at selected institution and degree level.

Compare Between Schools
Compare earnings ranges across USG colleges and universities for selected degree level and academic program.

Range of Earnings by Academic Area
Earnings range associated with broad academic areas 1, 5 or 10 years after graduation at selected institution and degree level.

Use this tool  Use this tool  Use this tool  Use this tool
Your Future Earnings

Use the dropdown menus below to select the majors, program level, institution, and years after graduation to see the range of salaries associated with graduates of those majors 1.5, or 10 years after graduation. The reset button near the bottom resets the selections to the default values of all USG institutions, bachelor level programs, all majors and accounting, and 1 year after graduation. If there are fewer than 10 graduates represented at the institution for the selected program level and major, no results will appear.

Select Major(s)
Multiple selections

Select a Program Level
Bachelor

Select an Institution
All USG Institutions

Range of Earnings by Academic Area

Select Year(s) Post Graduation
1 year after graduation

Salary Range Comparison Between Majors for Graduates Working in Georgia

Note: Chart shows 25th percentile (low), 50th percentile (median) and 75th percentile (high) gross (before tax) earnings for graduates found working full-time.
This chart displays the low, median, and high range of salaries for graduates from all USG Institutions at the Bachelor program level for the selected academic areas 1 year after graduation. The bar begins at the low range salary, changes color at the median, and ends at the high range of salaries. All values can be displayed by hovering over any bar.

**Salary Range by Academic Area for Graduates Working in Georgia**

- **Business, Management, Marketing, ...**
  - Low: $30,679
  - Median: $56,330
  - High: $76,365

- **Computer And Information Sciences...**
  - Low: $39,178
  - Median: $72,965

- **Education**
  - Low: $27,962
  - Median: $39,110

- **Engineering**
  - Low: $48,494
  - Median: $75,412

- **Health Professions And Related Pro...**
  - Low: $38,776
  - Median: $66,402

- **Social Sciences**
  - Low: $22,064
  - Median: $42,228

Note: Chart shows 25th percentile (low), 50th percentile (median) and 75th percentile (high) gross (before tax) earnings for graduates found working full-time.
Application for Economic Developers
Economic Development is All About the Talent Pipeline

- System office as one point of contact for local and state government economic development offices and businesses
- Efficiency and standardization in system efforts
- Self-service data for campus economic development offices
Questions and Contact

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