

YOUR TALENT YOUR FUTURE

A Look at Georgia's Entry-Level
Talent Supply vs. Employer Demand

2019
ENTRY-LEVEL TALENT
ASSESSMENT FOR GEORGIA



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INTRODUCTION

With an ever-tightening labor market in Georgia and across the nation, developing a talented workforce with the right skills to meet the demands of business remains one of the top factors in building a thriving economy. Given the importance of this issue for employers and jobseekers alike, the Metro Atlanta Chamber (MAC) and Accenture partnered again in 2019 to update the Your Talent Your Future report. Like the two previous reports, this version examines Georgia's supply and demand for entry-level job seekers (0-2 years' experience), identifies specific talent and skill gaps, reviews the progress made and offers solutions to address the state's workforce needs. This report identifies and examines these gaps using data from Burning Glass and the National Center for Education Statistics (IPEDS).

Georgia job postings have grown 28% between 2014 and 2018, while national job postings have grown 41% over the same period. Georgia, like the rest of the nation, is challenged to keep up with the growing demand for talent. However, Georgia is home to the fourth-largest university system in the country, the Technical College System of Georgia and a number of private schools, in total 82 in-state colleges and universities. The number of degrees and certificates conferred has grown by 19% between 2014 and 2018. With these assets, the state is better positioned to meet demand than most states as evidenced by Georgia's ranking as the No. 1 state for business climate for the seventh year in a row and the No. 1 state for doing business for the sixth year in a row.¹

Georgia has taken proactive steps to bolster its talent pipeline through better alignment between education and employer demand. Over the last five years, the largest increases in degrees and certificates awarded/conferred are in the areas of highest demand: Health Professions, Business and Computer and Information Sciences. Computer and Information Sciences and Support Services jumped from the sixth most conferred program of study to the fourth between 2016-2017 and 2017-2018, a 70% increase over the last five years. Degrees and certificates in Health Professions and Business increased 18% and 17% respectively between the 2014-2015 and 2017-2018 academic years.

Despite the growth in degrees and certificates, Georgia is undersupplied at the certificate (below a bachelor's), associate and bachelor's degree levels. Between 2014 and 2018, job postings requiring a bachelor's degree increased more than Georgia's overall job posting growth of 28%, increasing 58%. Georgia must continue to grow its workforce, address systemic barriers that hamper growth, and increase the speed at which we prepare Georgia talent for jobs across the state, to maintain the top spot as the No. 1 place to do business.

¹ Site Selection Magazine, Nov. 2019, Area Development, Sept. 2019; Note: Access to talent is one of the top factors in ranking states.

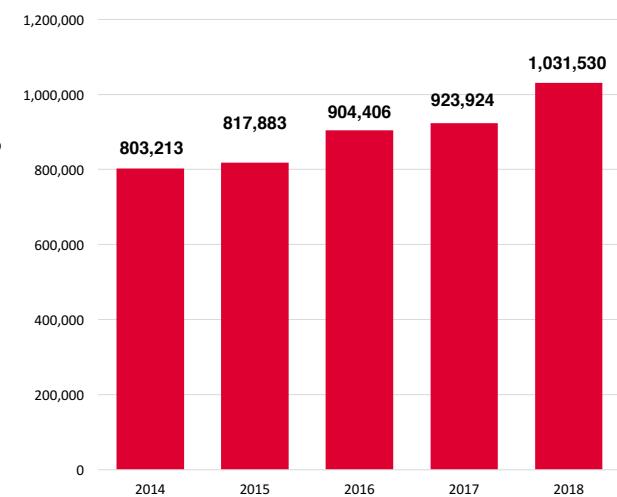
DEMAND OVERVIEW

Job postings in Georgia increased 28% between 2014 and 2018, compared to 41% across the nation. While the national job posting rate seems to be growing at a faster pace, the nation saw a 3% decline in job postings between 2016 and 2017. Georgia saw an increase of 2% over the same period.

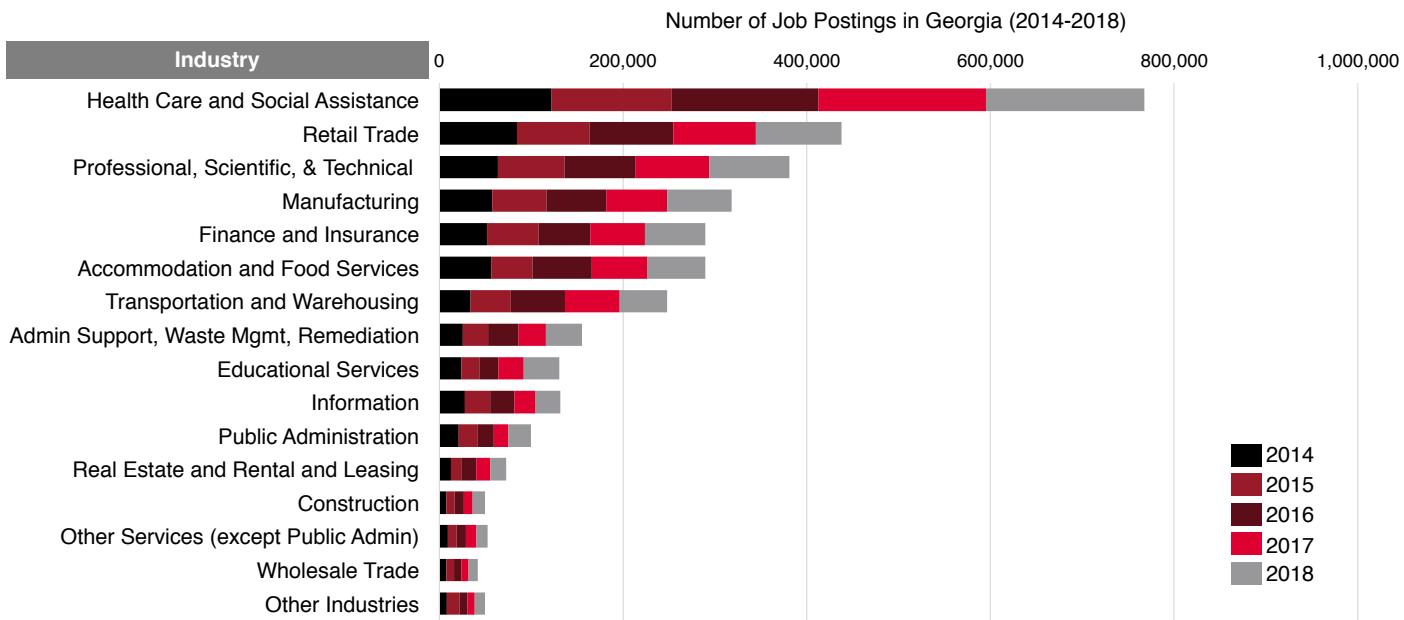
GEORGIA'S TOP INDUSTRIES

Health Care and Social Assistance continues to hold the spot as the top industry in Georgia based on job postings, followed by Retail Trade; Professional, Scientific and Technical Services; and Manufacturing. In 2018, Health Care and Social Services made up 17% of all job postings in the state, compared to just 9% for Retail Trade; 8% for Professional, Scientific and Technical Services; and 7% for Manufacturing. Georgia's fastest-growing industry, based on job postings, over the last five years is Construction, with job postings increasing 70% from 2014-2018, followed by Educational Services increasing 63%, Admin Support and Waste Management increasing 55% and Transportation and Warehousing increasing 51%. Job postings in the Information industry decreased 3% between 2014 and 2018.

Georgia Job Postings by Year (2014-2018)²



Georgia Job Postings by Industry (2014-2018)³



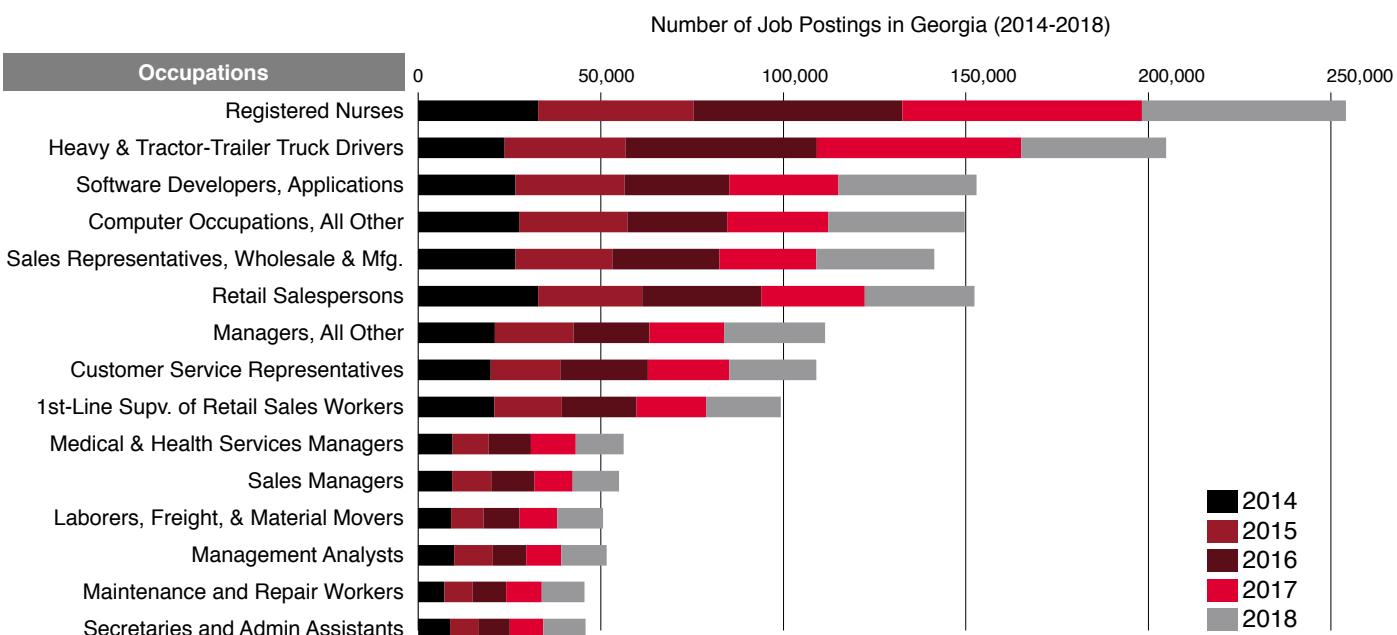
² Burning Glass, Nov. 2019

³ Burning Glass, Nov. 2019. Industry sectors are based on 2-digit NAICS codes. Admin Support, Waste Mgmt., Remediation is abbreviation of Administrative and Support and Waste Management and Remediation Services. Other Industries include Arts, Entertainment, and Recreation; Utilities; Mining, Quarrying, and Oil and Gas Extraction; Management of Companies and Enterprises; Agriculture, Forestry, Fishing and Hunting. Industry Not Specified represents the balance of job postings where the employer did not specify industry in the job posting.

GEORGIA'S TOP OCCUPATIONS

Since the last report, Registered Nurses remain the most in demand occupation as measured by job postings; Heavy and Tractor-Trailer Truck Drivers have moved into the number two spot, dropping Software Developers to third. Despite registered nurses and truck drivers being the top two most demanded occupations, both showed significant declines in job postings from 2017-2018 with decreases of 15% and 29% respectively. Between 2014 and 2018, Computer Occupations, Managers, and Management Analysts saw the largest growth in job postings. Computer Occupations increased 35%, Managers by 34% and Management Analysts by 30%. The remaining top 15 occupations also show increases in job postings.

Georgia Top 15 Occupations by Job Postings (2014-2018)⁴



EDUCATION AND EXPERIENCE TRENDS

Listing education requirements is becoming more common in Georgia job postings. **In 2018, 54% of job postings included an education requirement, a 10% increase since 2014.** Bachelor's degrees are still the most requested level of education in job postings. In 2018, 30% of all Georgia job postings listed bachelor's degrees as a requirement.

Between 2014 and 2018, job postings requiring a High School diploma or Vocational Training, associate degrees or bachelor's degrees increased more than Georgia's overall job posting growth of 28%, with increases of 63%, 71% and 58%, respectively. This increase in demand is outpacing the increase in supply for these three levels of education. While demand for master's degrees and doctoral degrees have increased 46% and 52% respectively between 2014 and 2018, the portion of total job postings requiring a master's degree or doctoral degree remained flat.

Similar to education requirements, experience requirements are also becoming more common in Georgia job postings. In 2018, experience requirements were included in 50% of job postings, compared to 41% in 2014. **The largest increases in experience were at 0-2 years (Entry-Level) and 3-5 years, with 0-2 years' experience being required in 19% of total job postings in 2014, compared to 25% in 2018.**

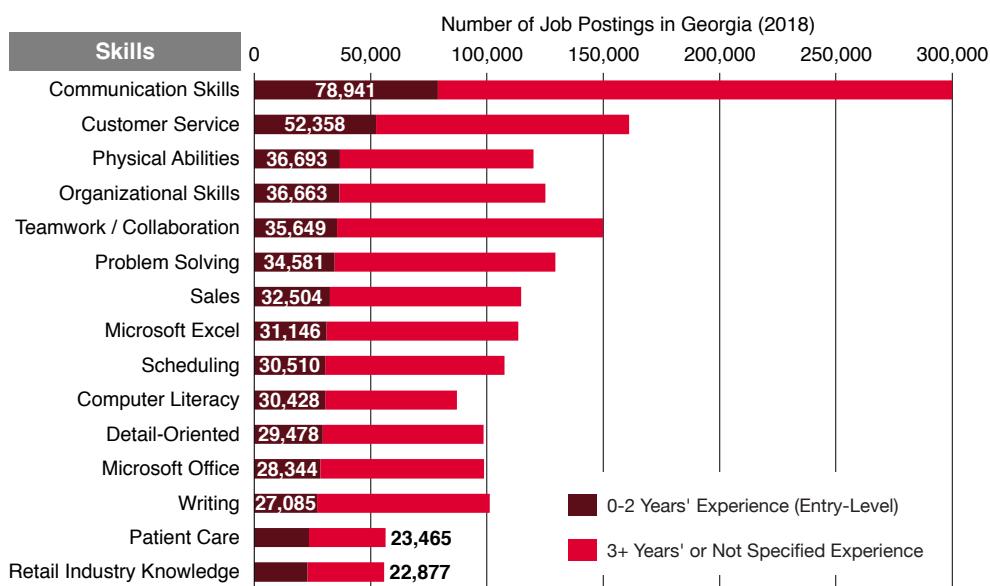
⁴ Burning Glass, Nov. 2019. Occupations referenced align with the Bureau of Labor Statistics' 2010 6-digit Standard Occupational Classification (SOC) system. Computer Occupations, All Other represent computer occupations not included in other detailed 6-digit SOC codes. Managers, All Other represent management occupations not included in other detailed 6-digit SOC codes. Abbreviations include: Sales Representatives, Wholesale and Mfg. is Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; 1st-Line Supv. of Retail Sales is First-Line Supervisors of Retail Sales Workers; Secretaries and Admin Assistants is Secretaries and Administrative Assistants, Except Legal, Medical and Executive.

SKILLS IN DEMAND

The most in demand skills requested in Georgia job postings, regardless of experience, are Communication Skills, Customer Service, Teamwork/Collaboration and Problem Solving. **Twenty-nine percent of all job postings in 2018 included Communication Skills as a requirement**, compared to 27% in 2014. The top 15 skills for 2018 are very similar to the top skills for 2014. Research inched up into the top 15 in 2018, but was 16th in 2014.

Retail Industry Knowledge was 13th in 2014, but dropped to 27th in 2018. For entry-level job postings, the most in demand skill is still Communication, followed by Customer Service and Physical Abilities. Teamwork and Physical Abilities both moved up the list in demand, while Sales dropped from third to eighth. Retail Industry Knowledge is 15th for entry-level skills in demand.

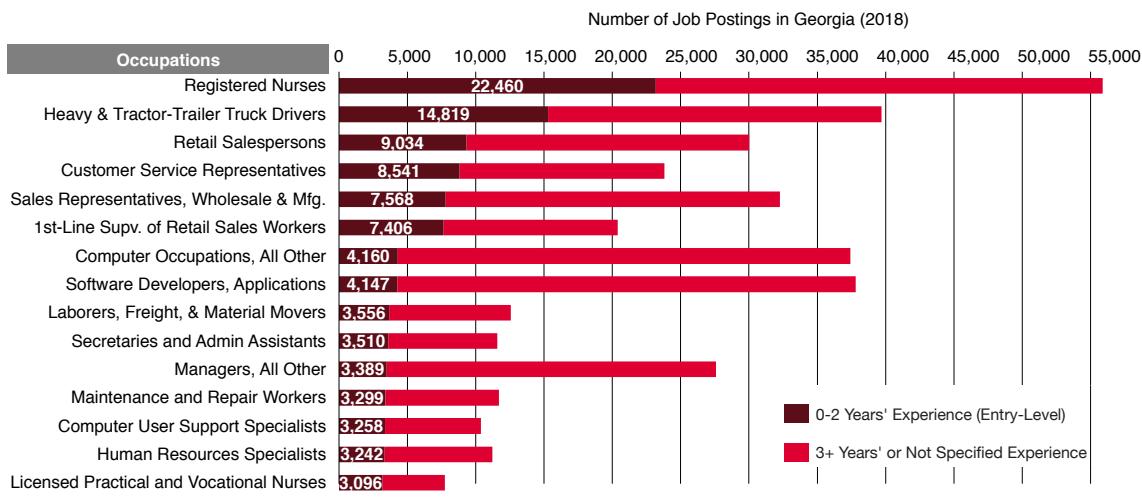
Georgia Top 15 Skills by Entry-Level Job Postings (2018)⁵



ENTRY-LEVEL DEMAND

Occupations with the highest percentage of job postings requesting entry-level talent (0-2 years' experience) are Registered Nurses and Licensed Practical and Vocational Nurses, both with 41%. Heavy and Tractor-Trailer Truck Drivers, with 39%, Customer Service Representatives and First-Line Supervisors of Retail Sales, both with 37%, round out the top four occupations requesting 0-2 years' experience. Considering that Software Developers, Applications is the third most demanded occupation in Georgia, only 11% of job postings are entry-level, making it the sixth most in demand occupation for entry-level talent.

Georgia Top 15 Occupations by Entry-Level Job Postings (2018)⁶



⁵ Burning Glass, Nov. 2019

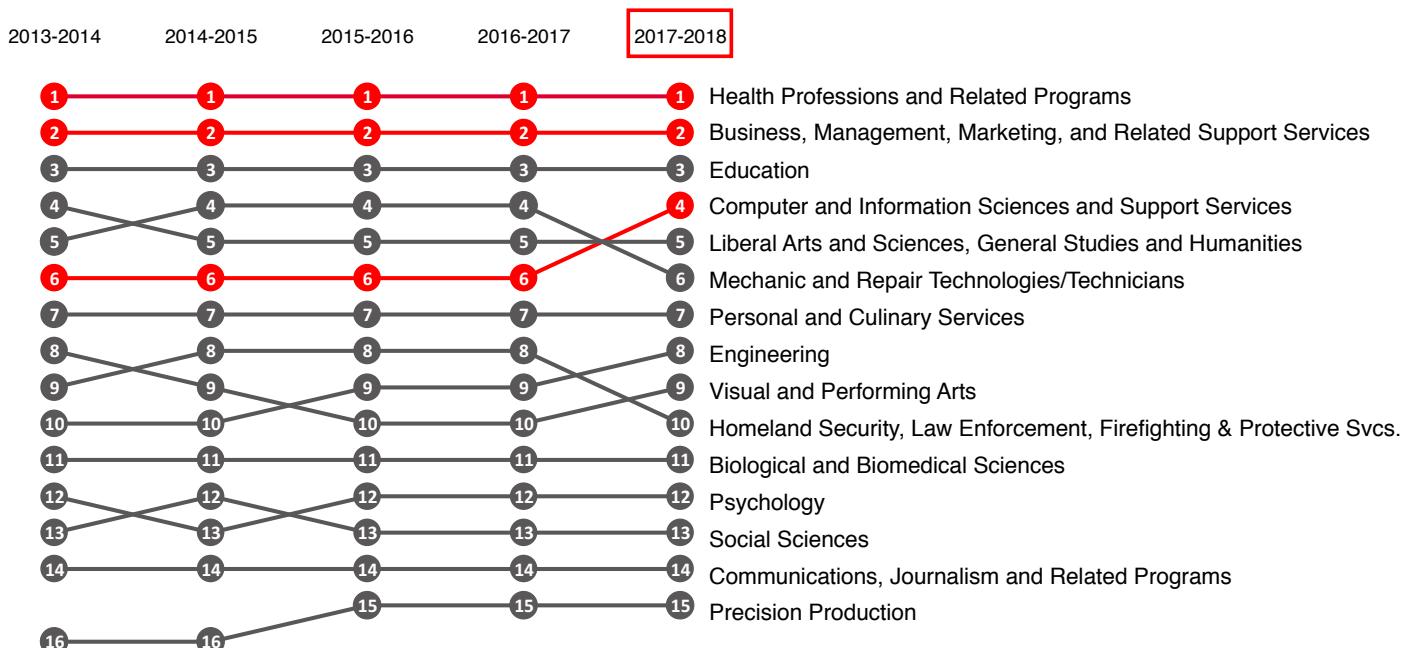
⁶ Burning Glass, Nov. 2019. Occupations referenced align with the Bureau of Labor Statistics' 2010 6-digit Standard Occupational Classification (SOC) system. Computer Occupations, All Other represent computer occupations not included in other detailed 6-digit SOC codes. Managers, All Other represent management occupations not included in other detailed 6-digit SOC codes. Abbreviations include: Sales Representatives, Wholesale and Mfg. is Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; 1st-Line Supv. of Retail Sales is First-Line Supervisors of Retail Sales Workers; Secretaries and Admin Assistants is Secretaries and Administrative Assistants, Except Legal, Medical and Executive.

SUPPLY OVERVIEW

In the 2017-2018 academic year, 146,021 degrees and certificates were conferred in Georgia — 36% were bachelor's degrees, 32% were certificates (below a bachelor's), and 13% were associates degrees.⁷ The total number of degrees and certificates conferred has increased 19.5% between academic years ending 2013-2014 and 2017-2018, with only a slight decrease from 2016-2017 to 2017-2018. Between 2013-2014 and 2017-2018, master's degrees had the highest percentage increase of 24%, followed by certificates (below a bachelor's) which were up 20%. Bachelor's degrees were up 19%, associate degrees up 15%, and doctoral degrees up 8%. Bachelor's degrees had the highest increase overall with nearly 8,500 more degrees conferred in 2017-2018 than 2013-2014.

The order of the top three most conferred programs of study - Health Professions and Related Programs; Business, Management, Marketing and Related Support Services; and Education – have remained the same between academic years 2013-2014 and 2017-2018. **Computer and Information Sciences and Support Services jumped from the sixth most conferred program of study to the fourth between 2016-2017 and 2017-2018, with an 8% increase in one year and a 70% increase over the last five years.** This is a significant improvement given the growing demand in this area.

Georgia Top 15 Most Conferred Programs of Study as of 2017-2018⁸



TALENT GAPS

While Georgia's labor market is open to the import of talent from other states, the entry-level talent gaps highlight the overproduction or underproduction of entry-level talent in a closed market, with supply being limited to recent graduates in Georgia and demand being limited to related entry-level job postings available in Georgia. The talent gap compares the number of awards conferred (by program of study and education level) at colleges and universities in Georgia for academic year 2017-2018 to the number of entry-level job postings (by program of study and education level) in Georgia in 2018. The number of degrees conferred includes those awarded by the University

⁷Remaining 19% consists of certificates above a bachelor's degree, master's degrees and doctoral degrees.

⁸National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) as of 10/2019. The above rankings of programs of study are based on the number of awards conferred annually, which is the total of certificates below bachelor's, associate, bachelor's, master's and doctoral degrees. Homeland Security, Law Enforcement, Firefighting and Related Protective Svcs. is abbreviation for Homeland Security, Law Enforcement, Firefighting and Related Protective Services.

System of Georgia, the Technical College System of Georgia and private colleges and universities across the state.

At a very high level, comparing the number of recent certificates/degrees conferred by education level to related entry-level job postings, Georgia is undersupplied at the certificate (below a bachelor's), associate and bachelor's degree levels. In other words, the amount of recent in-state graduates with these education levels is significantly lower than the amount of related entry-level job postings available. Georgia is oversupplied at the master's degree level, meaning there are more recent in-state graduates with a master's degree than there are related job postings for a master's degree. Georgia is appropriately supplied at the doctoral degree level as there are about the same number of recent in-state doctoral graduates as there are entry-level job postings for a doctoral degree. Certificates and associate degrees have the greatest shortage, with supply only covering 48% of demand. Gaps become even more significant when looking at supply and demand by program for each education level.

The following table details the number of recent certificates/degrees conferred by education level compared to the number of related entry-level job postings.⁹

Education Level	Certificate (< Bachelor's)	Associate Degree	Bachelor's Degree	Master's Degree	Doctoral Degree
2018 Awards Conferred	46,987	19,152	52,665	19,926	4,985
2018 Related Entry-Level Job Postings	86,388	35,574	70,193	13,741	4,632
Ratio of 2018 Related Entry-Level Job Postings to 2018 Awards Conferred	1.84	1.86	1.34	.69	.93

To determine the entry-level talent gap by program of study and level of education, the Accenture/MAC team first identified the 10 programs of study with the most awards conferred (by education level) in Georgia for academic year 2017-2018, according to the most recent completions data available from the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS). The completions data is used as a proxy for the supply of entry-level talent. Related entry-level jobs postings (by program of study and education level) are identified using job postings data in Burning Glass. Filters included: experience requirement (0-2 years for entry-level) and education requirement (certificates below bachelor's, associate, bachelor's, master's and doctoral; programs of study). The jobs postings data is used as a proxy for demand of entry-level talent.

To identify the related entry-level jobs postings by program of study, the team used two crosswalks – Core Demand and Expanded Demand.

I CORE DEMAND: Uses a narrower CIP (Classification of Instructional Programs) to SOC (Standard Occupational Classification) crosswalk developed by Accenture/MAC in 2017 and refined in 2019 to pull the number of related entry-level job postings in Georgia in 2018. This adapted crosswalk maps programs of study at the 2-digit CIP level to the core, or principally related, 6-digit SOC level of occupations for a **“one-to-one” relationship and avoids overstating demand by not duplicating demand across multiple programs.**

I EXPANDED DEMAND: Uses the federal 2010 CIP to SOC crosswalk developed by the National Center for Education Statistics and Bureau of Labor Statistics to pull the number of related entry-level job postings in Georgia in 2018. The guidelines for using this crosswalk state: “A CIP-SOC relationship indicates that programs [of study] classified in the CIP category prepare individuals directly for jobs classified in the SOC category.” **“Relationships between CIP and SOC may be one-to-one, one-to-many, many-to-one, or many-to-many.”** “Since SOC codes tend to be more specific than CIP codes, it is likely that one CIP code will map to multiple SOC codes.”¹⁰

⁹ National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS), 2019 is the source for certificates/degrees conferred in Georgia, academic year 2017-2018; used as a proxy for entry-level talent supply. Burning Glass, Nov. 2019 is the source for job postings in Georgia in 2018; used as a proxy for entry-level talent demand; filters include experience requirement (0-2 years for entry-level) and education requirement. Analysis assumes a closed talent market-migration of talent is unaccounted for.

¹⁰ National Center for Education Statistics and Bureau of Labor Statistics

Using the expanded demand approach, there were three occupations - Software Developers, Applications; Computer Occupations, All Other; Managers, All Other – that showed up under multiple programs of study and thereby the number of related job postings were included in more than one program of study. Managers, All Other appeared in seven different CIP to SOC crosswalks, while Software Developers, Applications appeared in three and Computer Occupations, All Other appeared in four. For some programs of study, these occupations can account for 99% of expanded demand.

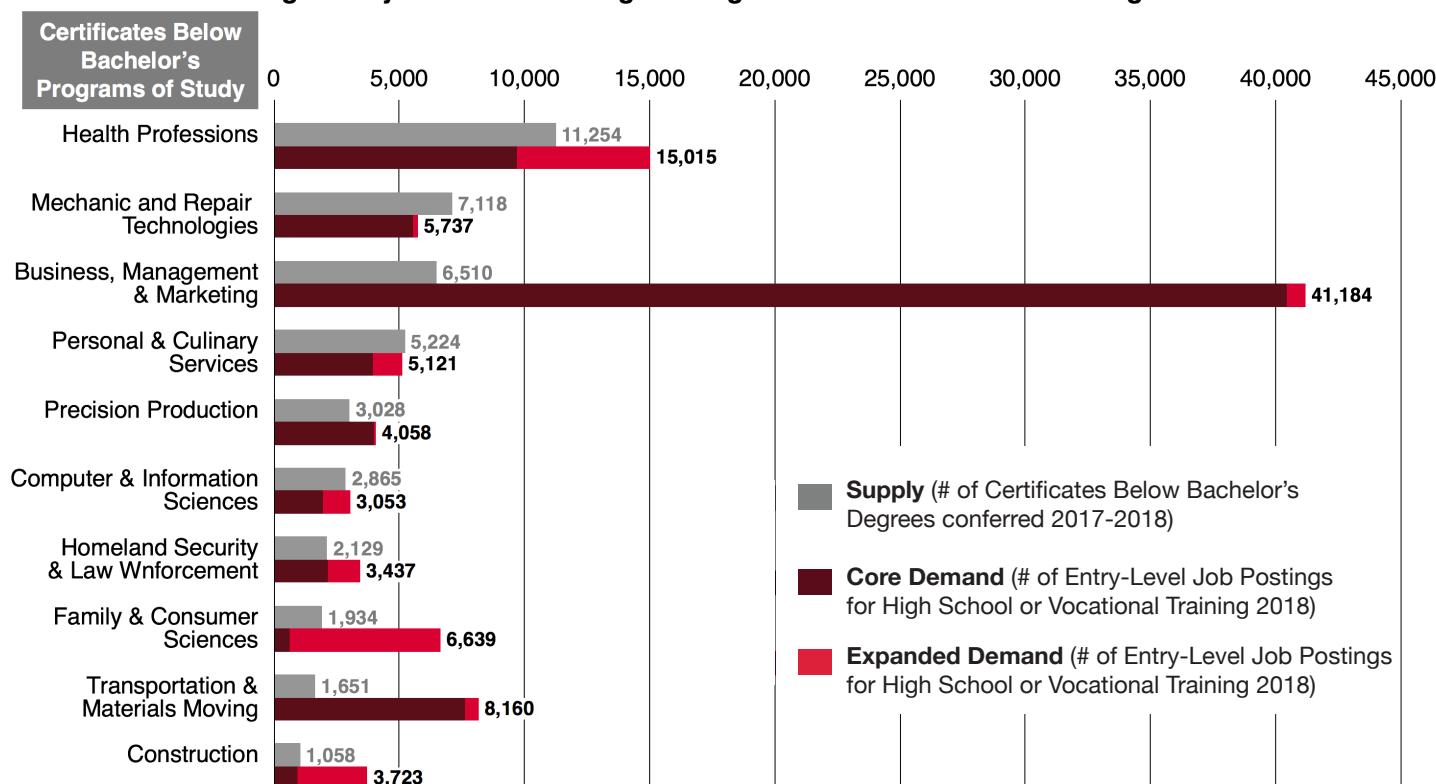
HIGH SCHOOL / VOCATIONAL CERTIFICATE

The 10 most conferred certificates (below a bachelor's degree) by program of study in Georgia for academic year 2017-2018 are:

- | | |
|---------------------------------------|--|
| 1. Health Professions | 6. Computer and Information Sciences |
| 2. Mechanic and Repair Technologies | 7. Homeland Security and Law Enforcement |
| 3. Business, Management and Marketing | 8. Family and Consumer Sciences |
| 4. Personal and Culinary Services | 9. Transportation and Materials Moving |
| 5. Precision Production | 10. Construction |

Between academic years 2015-2016 and 2017-2018, the number of certificates conferred in Health Professions, Personal and Culinary Services and Transportation and Materials Moving remained flat; Precision Production and Computer and Information Sciences increased nearly 8% and 6%, respectively, while the remaining programs experienced declines.

Georgia 10 Most Conferred Certificates Below Bachelor's Programs of Study 2017-2018 vs. Georgia Entry-Level Job Postings for High School or Vocational Training 2018¹¹



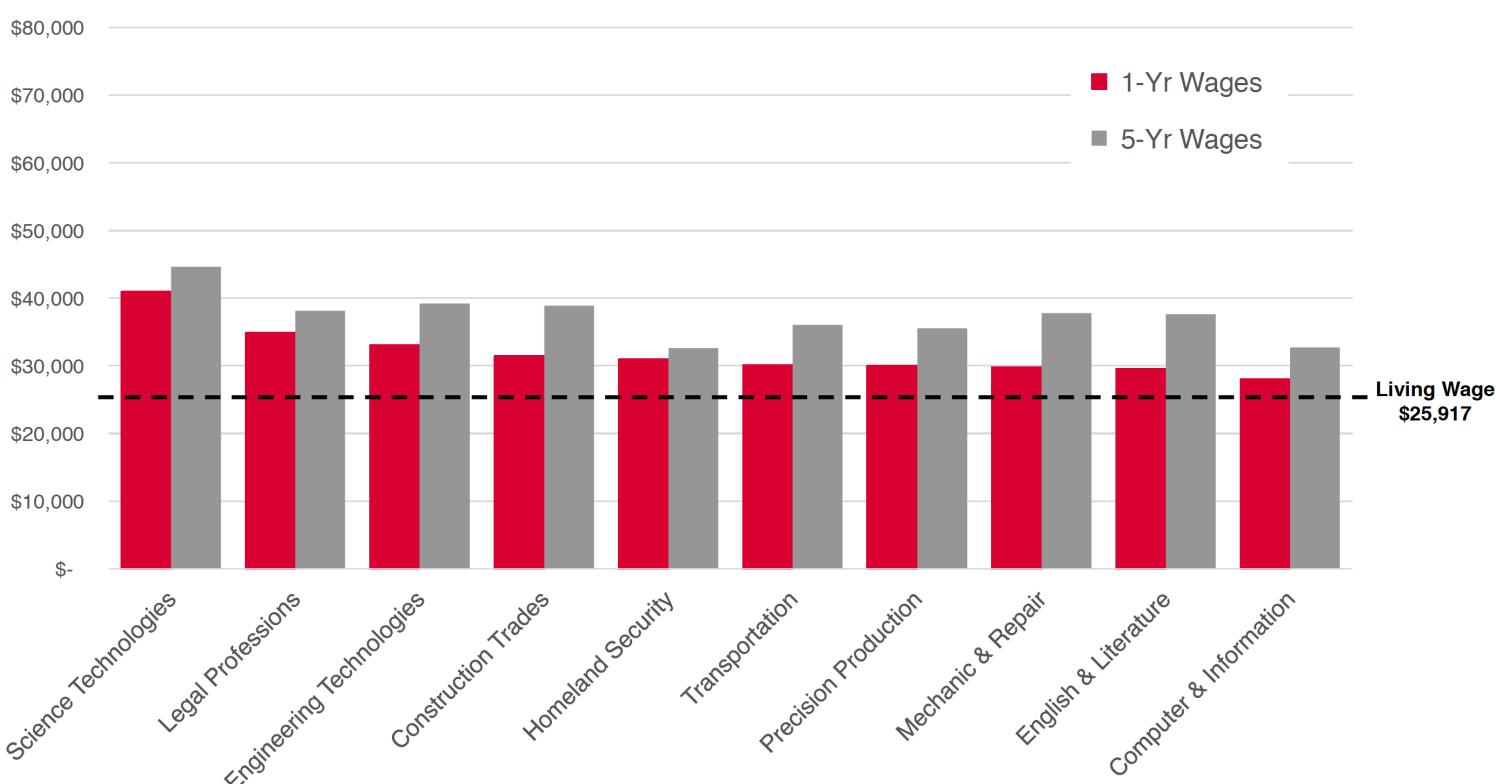
¹¹ National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS), 2019 is the source for certificates below bachelor's degrees conferred in Georgia, academic year 2017-2018; used as a proxy for entry-level talent supply. Burning Glass, Nov. 2019 is the source for job postings in Georgia in 2018; used as a proxy for entry-level talent demand; filters include experience requirement (0-2 years for entry-level) and education requirement (high school or vocational training). Number of entry-level job postings (core demand) is based on the CIP-SOC crosswalk developed by Accenture/MAC in 2017/2019; Number of entry-level job postings (expanded demand) is based on the 2010 CIP-SOC crosswalk developed by the NCES/BLS; Analysis assumes a closed talent market-migration of talent is unaccounted for.

Business, Management and Marketing (Business) had the most entry-level job postings (41,184) for high school or vocational training. This included job postings for Customer Service Representatives, First-Line Supervisors of Retail Sales Workers, Sales Representatives and Secretaries and Admin Assistants, with a 6.2 ratio of job postings to certificates. With the number of Business certificates conferred decreasing and job postings increasing between 2016 and 2018, the gap in Business increased 17%.

Health Professions had the second-highest number of entry-level job postings for high school or vocational training. Certificates conferred slightly exceeded core demand job postings; however, when compared to expanded demand there were 1.3 job postings to certificates conferred. Core and expanded demand for Health Professions increased 14% and 30% between 2016 and 2018.

Transportation and Materials Moving had the third-highest number of entry-level postings for high school or vocational training. Between 2016 and 2018, job postings increased 43%, making it harder to fill positions. In 2018, there were 4.6 job postings per certificate conferred.

Median Annual Wages | Georgia Certificates Below Bachelor's Programs of Study 2007-2016 One-Year and 5-Years Post-Graduation¹²



Median annual wages in Georgia for certificates (below a bachelor's degree) one year post-graduation is \$26,374. The highest earning certificates are in Science Technologies, with median annual earnings of \$40,974 and \$44,664 one year and five years post-graduation. Of the 10 most conferred certificates (below a bachelor's), Construction has the highest median annual wages one year post-graduation, followed by Homeland Security and Related Protective Services, Transportation and Materials Moving, and Precision Production. Five years post-graduation, Construction is the third-highest earning certificate with median annual wages of \$38,861. Three of the most conferred certificates make below a living wage in Georgia (\$12.46/hour or \$25,917 annually)¹³ one year post-graduation – Business, Family and Consumer Sciences, and Personal and Culinary Services. Family and Consumer Sciences and Personal and Culinary Services have median annual wages well below a living wage even five years post-graduation.¹²

¹² GAAWARDS Dec. 2019. Data are provided by GAAWARDS for the years 2007-2016. Wage data are limited to graduates who work in Georgia for employers that provide wage data to the Georgia Department of Labor. This excludes wages earned in out-of-state jobs, while self-employed, or as a federal or military employee. For students with multiple degrees, the most recent degree may reflect earnings attributable to the most recent degree as well as previous degrees. For example, students may obtain a certificate after obtaining a bachelor's, which might inflate wages for that certificate. Statewide totals include all graduates from 2007-2015 in GAAWARDS. Programs of study are presented using 2-digit CIP codes. Data last updated 04/19/2018.

¹³ Living Wage Calculator Dec. 2019, www.livingwage.mit.edu

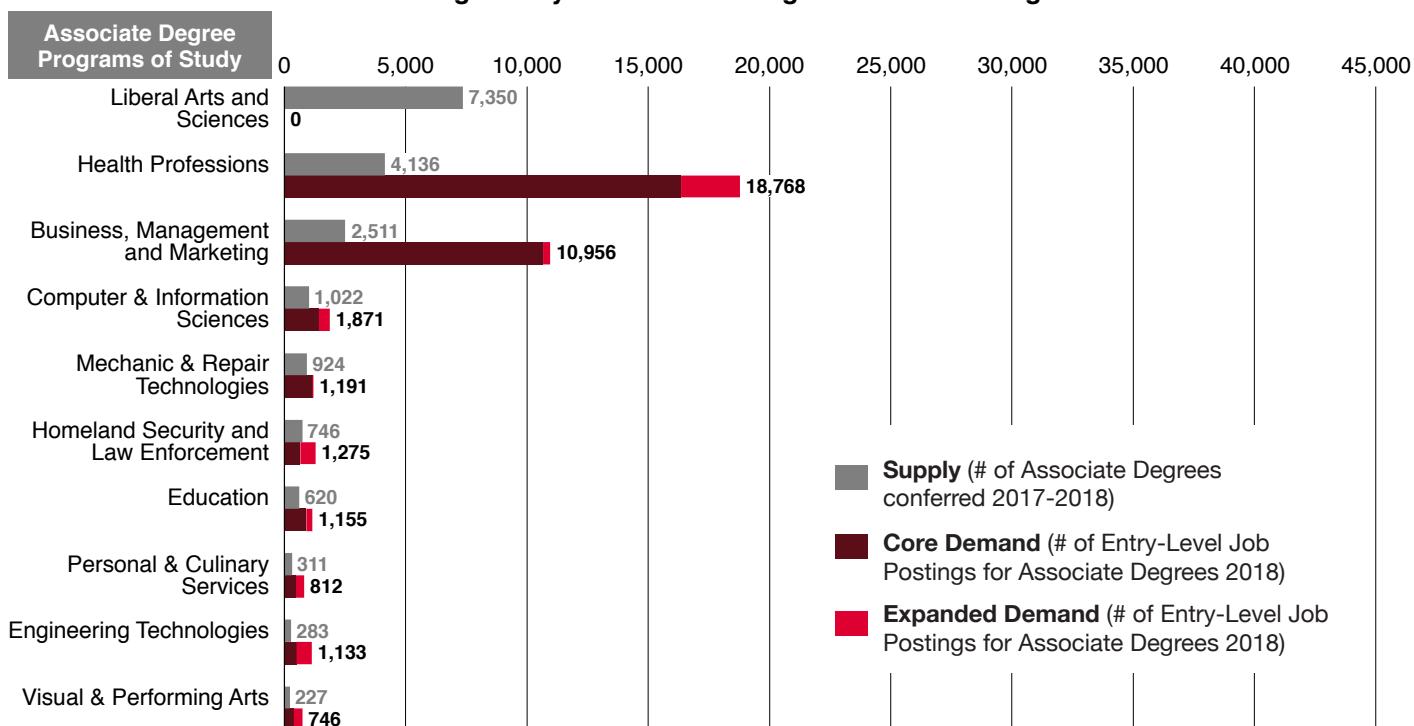
ASSOCIATE DEGREES

The 10 most conferred associate degrees by program of study in Georgia for academic year 2017-2018 are:

- | | |
|---------------------------------------|--|
| 1. Liberal Arts and Sciences | 6. Homeland Security and Law Enforcement |
| 2. Health Professions | 7. Education |
| 3. Business, Management and Marketing | 8. Personal and Culinary Services |
| 4. Computer and Information Sciences | 9. Engineering Technologies |
| 5. Mechanic and Repair Technologies | 10. Visual and Performing Art |

Between academic years 2015-2016 and 2017-2018, Mechanic and Repair Technologies jumped in rank among the 10 most conferred associate degrees from No. 6 to No. 5, ahead of Homeland Security and Law Enforcement; Visual and Performing Arts climbed up one spot to No. 10; and Legal and Professional Services fell to No. 13. Associate degrees conferred in Business, Computer and Information Sciences, and Education stayed flat. Liberal Arts and Sciences had 552 more degrees conferred in 2017-2018 than 2015-2016; Mechanic and Repair Technologies, Engineering Technologies and Visual and Performing Arts also increased, while Health Professions, Homeland Security and Law Enforcement, and Personal and Culinary Services all declined.

**Georgia 10 Most Conferred Associate Degree Programs of Study 2017-2018
vs. Georgia Entry-Level Job Postings for Associate Degree 2018¹⁴**

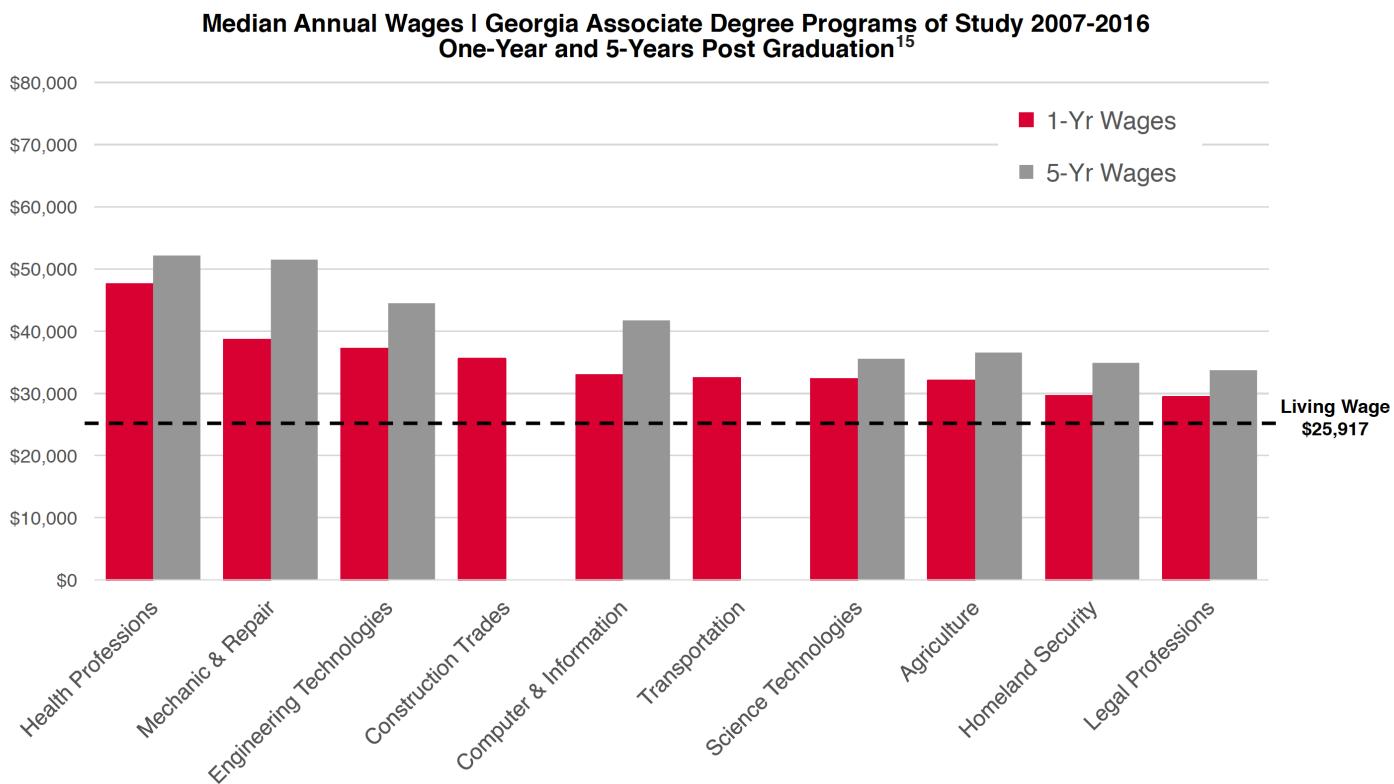


Health Professions had the most entry-level job postings (18,768) at the associate degree level, with the bulk of those job postings (14,044) being for Registered Nurses. Demand for Health Professions fluctuated significantly between 2016 and 2018, with core demand increasing 42% from 2016 to 2017 and falling 29% from 2017 to 2018. The net change between 2016 and 2018 is a 1% increase. Health Professions associate degrees conferred decreased 5.8% between academic years 2016-2017 and 2017-2018. Even with the 2017 to 2018 decrease in job postings, there were 3.9 job postings for every Health Profession associate degree conferred.

¹⁴ National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS), 2019 is source for associate degrees conferred in Georgia, academic year 2017-2018; is proxy for entry-level talent supply. Burning Glass, Nov. 2019 is source for job postings in Georgia in 2018; is proxy for entry-level talent demand; filters include experience requirement (0-2 years for entry-level) and education requirement (associate degree). Number of entry-level job postings (core demand) is based on the CIP-SOC crosswalk developed by Accenture/MAC in 2017/2019; Number of entry-level job postings (expanded demand) is based on the 2010 CIP-SOC crosswalk developed by the NCES/BLS; Analysis assumes a closed talent market-migration of talent is unaccounted for.

Business had the second most entry-level demand with 10,956 job postings, with 4.2 job postings for every degree conferred. Of the top 10 programs of study, all are undersupplied except for Liberal Arts and Sciences. Liberal Arts and Sciences is the most conferred associate degree in Georgia, yet the SOC crosswalk only tracks these programs to Postsecondary Teachers, All Other, which requires additional education beyond an associate degree.

Median annual wages at the associate degree level is \$33,985 and \$40,162 one year and five years post-graduation.¹⁴ The highest-earning associate degree is in Health Professions, with \$47,958 and \$52,191 one year and five years post-graduation.



Of the 10 most conferred associate degrees, five of them are included in the 10 highest-earning associate degrees. Of the remaining five most conferred associate degrees, three of them -- Liberal Arts and Sciences, Visual and Performing Arts, and Education -- have median annual wages below a living wage one year post graduation of \$25,097, \$22,508 and \$18,792 respectively. Five years post-graduation, median annual wages for Education are \$21,789, more than \$4,000 below the living wage for Georgia.¹⁶

¹⁵ GAAWARDS Dec. 2019. Data are provided by GAAWARDS for the years 2007-2016. Wage data are limited to graduates who work in Georgia for employers that provide wage data to the Georgia Department of Labor. This excludes wages earned in out-of-state jobs, while self-employed, or as a federal or military employee. For students with multiple degrees, the most recent degree may reflect earnings attributable to the most recent degree as well as previous degrees. For example, students may obtain a certificate after obtaining a bachelor's, which might inflate wages for that certificate. Statewide totals include all graduates from 2007-2015 in GAAWARDS. Programs of study are presented using 2-digit CIP codes. Data last updated 04/19/2018.

¹⁶ Living Wage Calculator Dec. 2019, www.livingwage.mit.edu

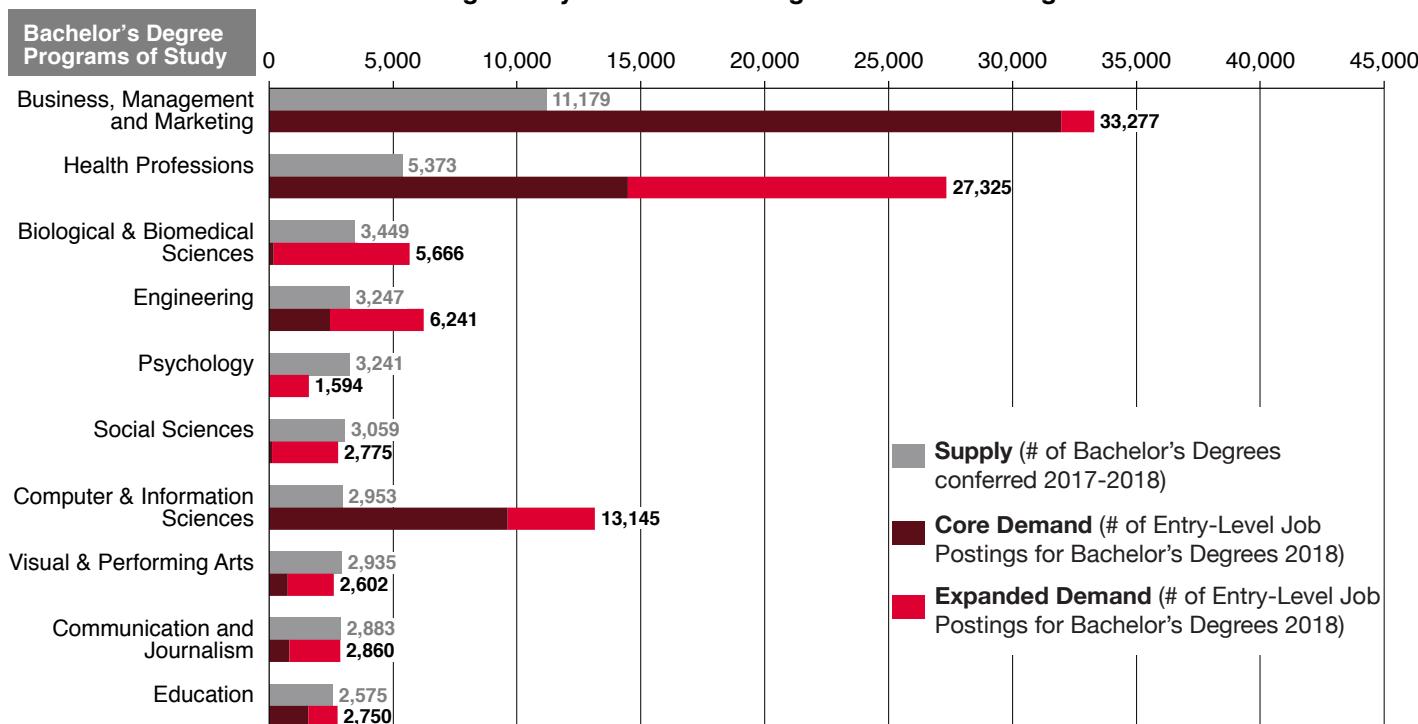
BACHELOR'S DEGREE

The 10 most conferred bachelor's degrees by program of study in Georgia for academic year 2017-2018 are:

- | | |
|---------------------------------------|--------------------------------------|
| 1. Business, Management and Marketing | 6. Social Sciences |
| 2. Health Professions | 7. Computer and Information Sciences |
| 3. Biological and Biomedical Sciences | 8. Visual and Performing Arts |
| 4. Engineering | 9. Communication and Journalism |
| 5. Psychology | 10. Education |

Between academic years 2015-2016 and 2017-2018, Computer and Information Sciences had the largest percentage increase (35%) of bachelor's degrees conferred, followed by Engineering and Business at 13% and 8%, respectively. Biological and Biomedical Sciences, Psychology, and Communication and Journalism programs of study all had modest increases in bachelor's degrees conferred. Education had the largest decline (12%) of bachelor's degrees conferred, followed by Social Sciences.

Georgia 10 Most Conferred Bachelor's Degree Programs of Study 2017-2018 vs. Georgia Entry-Level Job Postings for Bachelor's Degrees 2018¹⁷



Entry-level demand for bachelor's degrees was highest for Business, Health Professions, and Computer and Information Sciences programs. Computer and Information Sciences has the highest ratio of entry-level postings to degrees conferred at 3.25, followed by Business at 2.86 and Health Professions at 2.7. The largest absolute gap is in Business with 20,781 more job postings than degrees conferred for 2018.

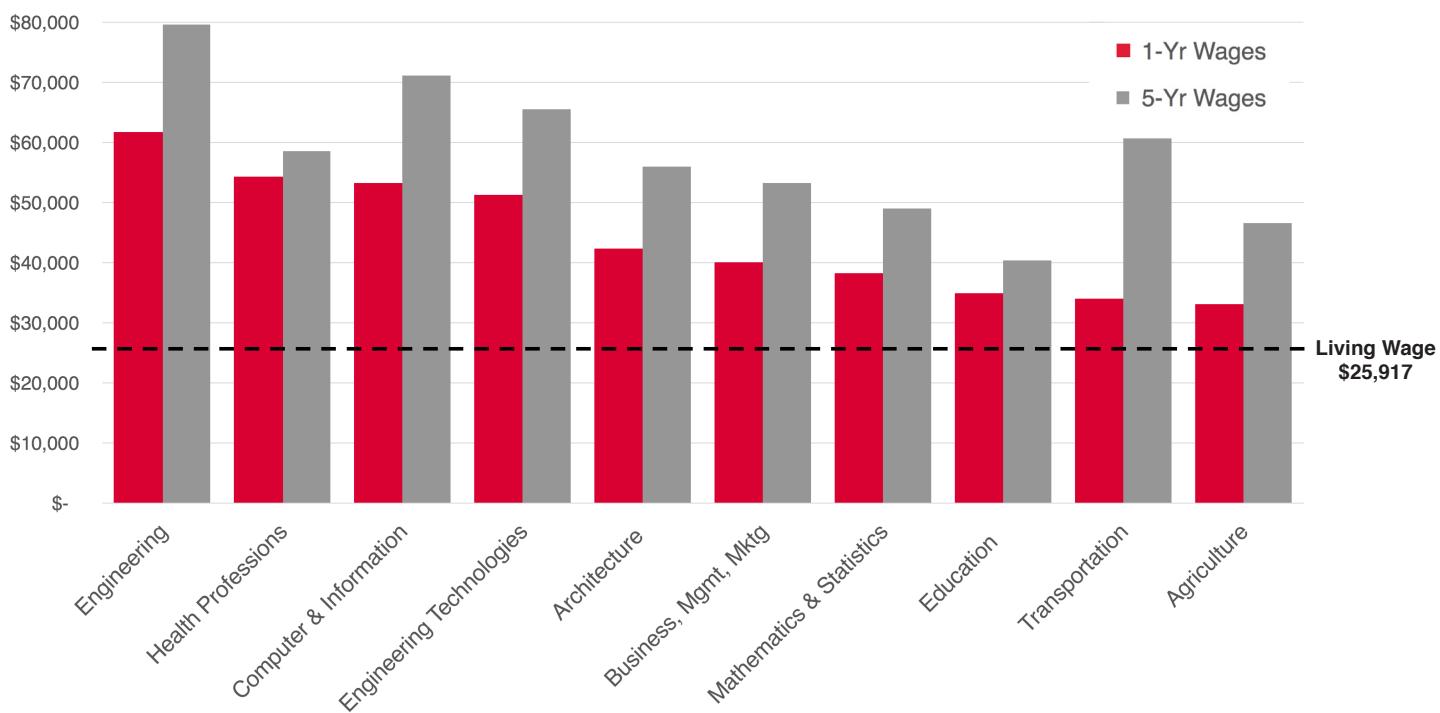
¹⁷ National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS), 2019 is source for associate degrees conferred in Georgia, academic year 2017-2018; is proxy for entry-level talent supply. Burning Glass, Nov. 2019 is source for job postings in Georgia in 2018; is proxy for entry-level talent demand; filters include experience requirement (0-2 years for entry-level) and education requirement (bachelor's degree). Number of entry-level job postings (core demand) is based on the CIP-SOC crosswalk developed by Accenture/MAC in 2017/2019; Number of entry-level job postings (expanded demand) is based on the 2010 CIP-SOC crosswalk developed by the NCES/BLS; Analysis assumes a closed talent market-migration of talent is unaccounted for.

Between 2016 and 2018, entry-level demand for bachelor's degrees in Computer and Information Sciences increased 39%, Business increased 18.6% and Health Professions increased 6%. During that same period, degrees conferred increased 35% in Computer and Information Sciences, 8% in Business and 3% in Health Professions. **Despite the increase in degrees conferred, the talent gaps continue to grow in Computer and Informations Sciences and Business.** The gap between core demand postings and degrees conferred increased 34% in Computer and Information Sciences and 26% for Business.

The most oversupplied programs of study are Psychology, Social Sciences and Biological and Biomedical Sciences. **There were 170.58 Psychology degrees conferred to entry-level job postings** for a psychology degree. Social Sciences and Biological and Biomedical Sciences had 27.32 and 18.85 degrees conferred to core demand entry-level job postings.

When reviewing expanded demand, three occupations - Software Developers, Applications; Computer Occupations, All Other; Managers, All Other – appeared in the Classification of Instructional Programs (CIP) to Standard Occupation Code (SOC) Crosswalk for multiple programs. Managers, All Other appeared in seven of the 10 programs of study, while Software Developers, Applications appeared in three and Computer Occupations, All Other appeared in four. **Managers, All Other, accounted for 99% of expanded demand in Psychology.** It is critical to understand what skills are most needed in the marketplace depending on core demand and expanded demand, especially for oversupplied degrees.

**Median Annual Wages | Georgia Bachelor's Degree Programs of Study 2007-2016
One-Year and 5-Years Post Graduation¹⁸**



The median annual wages at the bachelor's degree level are \$35,419 and \$46,873 one year and five years post-graduation. Engineering is the highest earning bachelor's degree, with median annual wages one year post-graduation at \$61,696. Five of the 10 most conferred degrees are included in the 10 highest earning degrees. Three of the most conferred bachelor's degrees -- Psychology, Biological and Biomedical Sciences, and Visual and Performing Arts -- make below a living wage one year post-graduation, but above a living wage within five years of graduation.¹⁹

¹⁸ GAAWARDS Dec. 2019. Data are provided by GAAWARDS for the years 2007-2016. Wage data are limited to graduates who work in Georgia for employers that provide wage data to the Georgia Department of Labor. This excludes wages earned in out-of-state jobs, while self-employed, or as a federal or military employee. For students with multiple degrees, the most recent degree may reflect earnings attributable to the most recent degree as well as previous degrees. For example, students may obtain a certificate after obtaining a bachelor's, which might inflate wages for that certificate. Statewide totals include all graduates from 2007-2015 in GAAWARDS. Programs of study are presented using 2-digit CIP codes. Data last updated 04/19/2018.

¹⁹ Living Wage Calculator Dec. 2019, www.livingwage.mit.edu

CLOSING THE GAP

Georgia is the No. 1 state for business climate for the seventh year in a row, according to Site Selection and the No. 1 state for doing business for the sixth consecutive year, according to Area Development. Maintaining this top spot will require Georgia policymakers, educators, employers, students, parents and businesses to make changes -- changes in how we measure success, supports and inputs in our education and workforce systems; changes in the way employers engage in education and workforce; and changes in how students (and parents) make decisions about which postsecondary and career pathways to pursue. These changes should be focused on growing talent, aligning talent and attracting and retaining talent.

Georgia can grow talent by removing systemic barriers to opportunity and increase access to high-quality early education through higher education for all students:

- I Georgia's parents of young children face barriers to maintaining employment and enrollment in school. The Opportunities Lost reports (www.opportunitieslost.org) show that 1 in 6 parents of young children experienced significant interruptions to work and school each year. A larger number of respondents indicated refusal of a job offering, an educational opportunity or job promotion due to problems with child care. Increasing access to high-quality child care and the flexibility to use that care is a continuing problem with unique challenges for institutions of higher education supporting parent-students and employers supporting employees with young children.
- I Since 2008, state funding per student at Georgia's university and technical college systems has been reduced, forcing tuitions to rise to make up the difference. Tuition increases combined with changes to the HOPE Scholarship and HOPE Grant meant the net cost of college went up 19%.²⁰ This increased cost of college forces many low-income students to stop pursuing their education, limiting their future earning potential and economic mobility. Georgia's HOPE Scholarship program provides significant resources (\$637M in 2019)²¹; however, it is strictly merit-based, with the bulk of resources going to students at colleges where the average household income is over \$100,000/year. The number of low-income students is increasing, yet Georgia remains one of only two states that does not offer need-based financial aid for higher education.²²

Georgia can better align talent by increasing student interest in high-demand areas and aligning training and education programs to workforce needs:

- I The 2019 Metro Atlanta Talent Pipeline report showed 36% of high school students with high aptitude in high-demand, high-wage computer occupations, yet only 3% have both high aptitude and high interest.²³ Increasing interest and career awareness in areas of demand are critical to filling Georgia's jobs. However, for schools and teachers, starting and coordinating business internships, apprenticeships and other work-based learning opportunities can be a difficult process. Likewise, for a business, identifying and coordinating a work-based learning opportunity with a local school or classroom can be difficult, and in cases where multiple schools or districts are involved, nearly impossible. Georgia's system for work-based learning, if properly aligned, coordinated and resourced, could perform more adequately for businesses, parents, schools and students. Developing a world-class workforce in any area of the state is possible given the right framework, leadership and support from state, local and business leaders.

²⁰ GBPI analysis of U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System. GBPI analysis of Georgia public institutions, 2009-2015 average net price data. Average net price is the total cost of attendance less the average amount of aid. Net price calculated for full-time, first-time undergraduates paying in-state tuition who were awarded grant or scholarship aid.

²¹ Governor's Office of Planning and Budget. FY 2020 and AFY 2019 Budget. <https://opb.georgia.gov/budget-briefs>

²² Education Commission of the States http://www.ecs.org/ec-content/uploads/PS_Need_Based_Financial_Aid.pdf

²³ Metro Atlanta Talent Pipeline Report 2019 https://www.metroatlantachamber.com/assets/metro_atlanta_chamber_-_talent_pipeline_report_20190521_final_oMb5X2z.pdf

Georgia can retain more talent by increasing experiential learning opportunities and supporting continuous learning and upskilling:

College-level internships convert to full-time hires 56.1% of the time, and 71% of these interns and co-ops stay with the company more than one year, compared to just 59% for external hires.²⁴ Increasing internships, apprenticeships and other experiential learning opportunities will help retain college graduates in state. The Certified Apprenticeship program, available through the Technical College System, could be expanded to include a wider range of apprenticeship programs and increase the talent pool in high-demand fields.

Accelerating training and education by developing a multi-system articulation agreement, will help students obtain the right skills needed to fill Georgia jobs more quickly and will help reduce state and student funds spent on repeating courses. Additionally, this will reduce demand for dual enrollment and the state funds needed to support dual enrollment and allow these funds to be utilized in other high-need areas to meet Georgia's growing demand for talent.

²⁴ National Association of Colleges and Employer, Internship and Co-Op Report 2019

MAC POLICY & PRACTICE RECOMMENDATIONS

INCREASE ACCESS

Increase Access to in-demand postsecondary education with flexible funding options to meet the needs of Georgia's student population.

- | Appropriate funds for a state-sponsored need-based aid program or implement a statewide postsecondary retention and completion program for low-income students.
- | Increase funding for Child-and-Parent-Services (CAPS) to allow more working parents access to high-quality child care services.
- | Allow enrollment in a high-demand, four-year degree program to fulfill the work requirement for CAPS program eligibility.
- | Offer flexibility via state and private grants that encourage higher education institutions to support students with young children.

ACCELERATE TRAINING

Accelerate Training and education by reducing the need to duplicate or repeat training that has already been successfully completed.

- | Develop standards for articulation from Georgia Department of Education to the Technical College System of Georgia/University System of Georgia and from the Technical College System of Georgia to the University System of Georgia.
- | Develop standards for awarding credit for Advanced Placement (AP) and International Baccalaureate (IB) courses across University System of Georgia institutions.

INCREASE EXPOSURE AND AWARENESS OF IN-DEMAND OCCUPATIONS

- | Develop standards for work-based learning.
- | Incorporate requirement of potential earnings to be a part of financial aid conversations with parents and students both before and during postsecondary enrollment.
- | Reserve 80% of high school counselors' time for working directly with students and lower the average student-to-counselor ratio to less than 250:1 for secondary education.
- | Improve overall efficiency of and access to Georgia's work-based learning opportunities for K-12 students, veterans and displaced workers with emphasis on regionally-in-demand occupations.

INCENTIVIZE WORKFORCE AND EMPLOYABILITY OUTCOMES

- | Measure secondary and postsecondary institutional success by the financial stability and security of their students after graduation.
- | Incentivize programs that lead to students achieving financial independence.
- | Incentivize incorporating employer input into curriculum and training programs.
- | Enhance education and workforce data capabilities to better measure return on education and workforce investments and enable data sharing with community-based organizations to track progress and outcomes for trainees.

PARTNERS AND PROGRESS 2017 – 2019

This initiative, undertaken jointly by MAC and Accenture, began in the fall of 2015 and was spearheaded by MAC’s Educated Workforce Council, a steering committee that included key public and private sector partners, some of whom are directly engaged in education from kindergarten through higher education and beyond. These partners have continued to advise on data collection and analysis, provide context, and develop recommendations for improving job placement outcomes. In addition to MAC investors, public partners supporting this project include the Atlanta Regional Commission (ARC), Georgia Department of Education (DOE), Georgia Department of Labor (DOL), Governor’s Office of Student Achievement (GOSA), Technical College System of Georgia (TCSG) and the University System of Georgia (USG).

The recommendations in the first two reports included the following: increase student and jobseeker awareness of employer demand; increase alignment of education and workforce systems with employer demand; and increase soft skills training and development across all levels of education and training. Since the release of the second report, our partners have made great strides to help close Georgia’s workforce gap.

LEGISLATION:

- | HB 218 - HOPE Extension Bill – extends HOPE Scholarship eligibility period from 7 to 10 years post-high school graduation.
- | SB 3 - The CONNECT Act - increases access to industry credentials and incorporates occupational demand information as part of career advising.
- | SB 186 - Move on When Ready – allows dual enrollment students to be eligible to receive the HOPE Grant to obtain an associate degree.
- | HB 787 - establishes Georgia Student Finance Commission as the administrator and developer of a state-sponsored need-based aid program.
- | SB 108 - establishes computer science education standards to include the development and use of software and computing technologies across all levels of K-12, and supports the professional development of computer science educators.

PROGRAMS:

- | Technical College System of Georgia, Workforce Division increased award amounts for the Industry Partnership Grants.
- | University System of Georgia created a new credential, the Nexus Degree, to augment a bachelor’s degree by providing a mix of experiential learning and courses co-designed with industry to fill high-demand occupations.
- | University System of Georgia launched the Momentum Year initiative, which combines predictive analytics, advising on specific courses required to increase the number of students who persist past their freshman year and graduate with a bachelor’s degree within six years.

UPDATES SINCE 2017:

There were changes to multiple data sources since the last report in 2017. National Center for Education Statistics’ Integrated Postsecondary Education Data System (IPEDS) revised historical numbers for certificates and associate degrees conferred, and split certificates conferred into two categories – below a bachelor’s degree and above a bachelor’s degree. Burning Glass made updates to their technology, which changed job posting numbers that were included in the last report. The supply, demand and talent gaps analyzed in this report use the current reporting methods for both IPEDS and Burning Glass for 2014-2018.

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For more information, visit **www.metrochamber.com**