



# The Earning Power of Graduates From Tennessee's Colleges and Universities:

How are graduates from different degree  
programs doing in the labor market?

**Mark Schneider**

President, College Measures

Vice President, American Institutes for Research

**Ben Vivari**

Director, College Measures

**College**Measures.org

A product of College Measures' Economic Success Metrics  
Project supported by the Lumina Foundation

College Measures is a joint venture of  
the American Institutes for Research  
and Matrix Knowledge Group

# Contents

List of Tables and Figures .....	iii
Executive Summary.....	iv
Introduction.....	1
Bachelor’s Degrees .....	6
Variation by Institution .....	6
Variation by Program .....	7
Variation by Program and Institution .....	8
Associate’s Degrees .....	11
Variation by Institution .....	11
Variation by Program .....	12
Variation by Program and Institution .....	13
Certificates .....	15
Conclusions.....	18
Technical Appendix.....	19
Defining Measures .....	19
Data Limitations and Disclosure Rules .....	21

# List of Tables and Figures

## Tables

- Table 1: Bachelor’s Degree Programs With the Highest Earnings Among Recent Graduates ..... 4
- Table 2: Bachelor’s Degree Programs With the Lowest Earnings Among Recent Graduates ..... 5
- Table 3: Earnings, Price, and Expenditures for Tennessee Four-Year Institutions ..... 10
- Table 4: Certificate Programs Where First-Year Earnings Average More Than \$40,000 ..... 16
- Table 5: Certificate Programs With First-Year Earnings Less Than \$30,000 ..... 17

## Figures

- Figure 1: Average First-Year Earnings of Bachelor’s Degree Recipients by Campus ..... 7
- Figure 2: Average First-Year Earnings of Six of Tennessee’s Most Popular Bachelor’s Degree Fields of Study ..... 8
- Figure 3: Average First-Year Earnings of Graduates From the Three Most Popular Bachelor’s Degree Programs ..... 9
- Figure 4: Average First-Year Earnings of Associate’s Degree Recipients by Campus ..... 12
- Figure 5: Average First-Year Earnings of Graduates From the Most Popular Associate’s Degree Programs ..... 13
- Figure 6: First-Year Earnings of Associate’s Degree Graduates From the Three Largest Programs ..... 14
- Figure 7: Average First-Year Earnings of Certificate Versus Associate’s Degree Holders in Six Popular Fields of Study ..... 15

# Executive Summary

This report, the result of a partnership between the Tennessee Higher Education Commission (THEC) and College Measures, draws upon previously not publicly available data to compare the average first-year earnings of recent graduates from two-year and four-year institutions across Tennessee. With this dataset on first-year earnings, we can explore the variation in earnings for graduates from individual degree programs at individual colleges. The results show that the degrees students earn, and where they earn them, matter.

Among the findings in this report:

- In general, graduates with bachelor's degrees in health, business, and engineering earn more than graduates with liberal arts degrees. A closer look tells a more complex story. Graduates in the health professions programs at The University of Tennessee at Martin (UT-Martin) earned nearly \$60,000 in their first year in the workforce (among the highest of all earners in the state), while graduates from health professions programs at Tennessee State University earned \$46,000. However, UT-Martin graduates in history are among the lowest earners of all recent bachelor's degree holders in the state at around \$25,000 annually, while Tennessee State University history graduates earned over \$37,000 per year.
- The average first-year earnings of associate's degree graduates were over \$1,000 more than the average first-year earnings of bachelor's degree graduates, but, again, there was wide variation at the program level. Recent graduates with associate's degrees in health professions from Dyersburg and Volunteer State Community Colleges earned around \$10,000 more per year than graduates in the same areas of study at Northeast State or Nashville State Community Colleges. Recent graduates with business degrees from Roane State and Southwest Tennessee Community Colleges had average first-year earnings around \$7,000 more than graduates from the same programs at Jackson State or Motlow State Community College.
- The average earnings of individuals with certificates were often quite close to the average earnings of associate's degree holders in the most popular fields of study. However, as with both bachelor's and associate's degrees, there is a wide range between the highest and lowest earnings of certificate holders.

**More findings are available at the College Measures website:  
[www.collegemeasures.org/ESM/Tennessee](http://www.collegemeasures.org/ESM/Tennessee)**

# Introduction

## Higher education pays

On average, students with associate's degrees earn more than high school graduates and are less likely to be unemployed, even in harsh economic times such as these. Graduates with bachelor's degrees do even better.<sup>1</sup> Higher education has many benefits besides greater success in the labor market; nonetheless, students, their families, taxpayers, and policymakers should know more about the economic returns on their investment of time and money in the pursuit of postsecondary degrees.

This report is the result of a partnership between the Tennessee Higher Education Commission (THEC) and College Measures to make publicly available the average first-year earnings of recent graduates from two-year and four-year institutions across Tennessee. College Measures is involved in assisting agencies like THEC in other states to make information about the earnings of graduates from higher education programs publicly accessible; specifically, by linking student unit records and unemployment insurance (UI) wage data on graduates working in the state and thereby making it possible to compare graduates' earnings at the state, institutional, and program level. The goal is to better inform prospective students, policymakers, and those who lead institutions of higher learning.

In Tennessee, this effort builds upon the other work of THEC. In 2010, THEC established statewide and system degree attainment targets for the first time in *The Public Agenda for Tennessee Higher Education 2010-2015* and then set out to answer questions about the kinds of degrees the state needs in the future. First, in conjunction with the Center for Business and Economic Research (CBER) at UT-Knoxville, THEC released a study of future supply and demand for graduates from Tennessee institutions of higher education.<sup>2</sup> The supply-demand study plotted projected future graduates in broad fields of study against the future demand for graduates in those same fields. Unsurprisingly, fields with a critical need for workers included health care, teacher preparation, information technology, and certain fields related to business services. THEC required that institutions use these and other supply-demand data when proposing new academic programs.

Second, members of the higher education community came together to offer a series of College Completion Academies in 2011 and 2012 aimed at helping participating schools create individual institutional degree completion plans that support the goals of *The Public Agenda for Tennessee Higher Education 2010-2015*.

---

1 [http://www.bls.gov/emp/ep\\_chart\\_001.htm](http://www.bls.gov/emp/ep_chart_001.htm)

2 [http://www.tn.gov/thec/Divisions/AcademicAffairs/academic\\_programs/THEC%20supply%20and%20demand%20Final.pdf](http://www.tn.gov/thec/Divisions/AcademicAffairs/academic_programs/THEC%20supply%20and%20demand%20Final.pdf)

Finally, with the publication of this report, THEC, CBER, and the Tennessee Department of Labor and Workforce Development have combined their resources to provide consumer information about actual labor market outcomes in a new, interactive format. These data displays show not only the employment and earnings potential for graduates from specific institutions and programs but also the gains to be derived by continuing to study in a particular program throughout various degree levels. As the data in this report and the associated website ([www.collegemeasures.org/ESM/Tennessee](http://www.collegemeasures.org/ESM/Tennessee)) show, earnings of graduates vary across degree programs and across institutions in the state.<sup>3</sup> Since students study a specific subject in a specific college, the detailed information we are reporting matters—students graduating with a psychology degree from one campus may earn substantially more than students graduating with the same degree from another. These data provide individuals interested in pursuing a degree with information they can use in selecting an institution and a field of study, weighing the potential earnings they may achieve and the debt they may incur with their choices.

It is important to note that the wages earned by graduates of any higher education program or institution are not the only measure of how well a program or institution is performing. We know, for example, that individual student success reflects a variety of factors independent of educational experience, such as the student’s background, the local job market, and so on.

We also know that students take many different paths after graduation. For some institutions and degree levels (for example, community college “transfer” associate degrees or bachelor’s-level programs focused on preparation for graduate study), wage outcomes 18 months postcompletion may be less important than wage outcomes of students from programs that usually represent the culmination of a formal postsecondary education. Students who go into the job market within a year of completion represent an important segment of every school’s graduating class, but the percentage of students covered by the wage data we report varies across programs.

A final cautionary note: Because UI wage data are limited to workers within a state, the earnings of graduates who work outside their home state do not appear in the data. Thus, the merged dataset we use presents a somewhat limited picture of the total contribution colleges make to the success of their graduates.

However, from the state perspective, this in-state limitation is less severe than it may seem at first glance. For example, by measuring the percentage of graduates who remain to work in the state after graduation, a state can see which campuses and programs are contributing the most toward building the state’s economy. In addition, despite the limitations on the data, the success that

---

3 The technical appendix describes how we compute earnings and defines terms used in this report. In this report, we are using the term “earnings” to cover the data reported by the state’s unemployment insurance records system. We also focus on what we call “first-year earnings.” In our definition, we give students nine months (three quarters) to find work before we start their “first” year. See the technical appendix for more specific information about this and the other measures we use.

students have in the labor market is valuable information, especially for students and their families as they consider plans for higher education and how to finance it.

In this report, we focus on the variation in first-year earnings of graduates from higher education institutions in the state of Tennessee.<sup>4</sup> All of the charts and tables displayed in this report provide just a sample of the kinds of comparisons that can be made using the full web-based reporting tool found at [www.collegemeasures.org/ESM/Tennessee](http://www.collegemeasures.org/ESM/Tennessee). In the next few months, College Measures will be releasing web-based reporting tools for other states and additional reports focused on the topic of economic success metrics.

The reader is cautioned again that earnings differences can be attributed to a variety of factors, including how well prepared a graduate is for the workforce, the state labor market demand for the skills of the graduate, the occupations and industries to which the graduate applies, and ultimately, the occupation the graduate chooses, regardless of how closely that occupation relates to the degree he or she earned.

## Program-level data is important

Previous work (for example, by the Bureau of Labor Statistics<sup>5</sup> and by Georgetown University's Center on Education and the Workforce<sup>6</sup>) has identified the nation's highest paying professions. For the last several years, PayScale<sup>7</sup> has reported the early- and mid-career salaries of graduates for nearly 1,000 bachelor's degree-granting institutions. More recently, with the support of College Measures, PayScale expanded its reporting to include salary data on graduates from approximately 600 two-year institutions, available at [www.collegemeasures.org](http://www.collegemeasures.org).

Each of these studies provides information on the *average payoff* of a field of study or the average payoff of graduating from a specific college. With the dataset we are making public, the *variation* in earnings for graduates from individual programs at individual colleges can be explored.

---

4 Average first-year earnings data are the earnings from quarters three through six after graduation of students from a given program between 2006 and 2010. See the appendix for more details on this and other measures. We recognize that additional work exploring variation in the *growth* of earnings for students in different careers and who have earned their degrees from different programs is clearly necessary to assess more fully the labor market success of graduates.

5 <http://www.bls.gov/bls/blswage.htm>

6 <http://cew.georgetown.edu/collegepayoff/>

7 <http://www.payscale.com/college-education-value>

Indeed, our data show that the variation across programs and institutions is substantial. As evident in Table 1, average first-year earnings for recent graduates from a dozen programs in Tennessee exceed \$50,000, whereas average first-year earnings for graduates from other programs hover around half that. Many factors can contribute to this variation, including geographic location, school mission, student choice of majors, student enrollment in postgraduate work, and the graduate's occupation. Explaining this variation is for future work; nonetheless, this type of information should be useful to students and their families as they consider their enrollment choices and their choice of majors.

**Table 1: Bachelor's Degree Programs With the Highest Earnings Among Recent Graduates**

Institution	Area of Study	Average First-Year Earnings	Number of Graduates in Database	Percent of Graduates With Wage Data
University of Memphis	Health Professions and Related Programs	\$59,570	806	74.3%
The University of Tennessee-Martin	Health Professions and Related Programs	\$58,592	306	68.0%
The University of Tennessee at Chattanooga	Engineering	\$56,504	263	35.4%
The University of Tennessee at Chattanooga	Engineering Technologies and Engineering-Related Fields	\$55,861	16	37.5%
University of Memphis	Engineering Technologies and Engineering-Related Fields	\$55,728	153	49.0%
The University of Tennessee	Engineering	\$54,967	1,508	29.7%
The University of Tennessee	Computer and Information Sciences and Support Services	\$54,696	109	34.9%
Middle Tennessee State University	Health Professions and Related Programs	\$54,620	790	68.9%
Tennessee Technological University	Engineering	\$54,553	980	43.8%
University of Memphis	Engineering	\$54,090	291	44.3%
The University of Tennessee-Martin	Engineering	\$52,976	158	51.9%
Austin Peay State University	Engineering Technologies and Engineering-Related Fields	\$52,367	79	38.0%



**Table 2: Bachelor’s Degree Programs With the Lowest Earnings Among Recent Graduates**

Institution	Area of Study	Average First-Year Earnings	Number of Graduates in Database	Percent of Graduates With Wage Data
Austin Peay State University	Philosophy and Religious Studies	\$20,458	195	26.7%
East Tennessee State University	Foreign Languages, Literatures, and Linguistics	\$25,089	228	21.1%
The University of Tennessee-Martin	History	\$25,248	168	29.2%
The University of Tennessee at Chattanooga	English Language and Literature/Letters	\$25,511	354	38.4%
Tennessee Technological University	Natural Resources and Conservation	\$26,054	188	23.4%
East Tennessee State University	Visual and Performing Arts	\$26,141	306	39.9%
The University of Tennessee-Martin	Psychology	\$26,205	261	23.4%
Tennessee Technological University	History	\$26,318	251	12.7%
East Tennessee State University	Psychology	\$26,423	308	31.2%
Tennessee Technological University	Psychology	\$27,023	234	43.2%
Tennessee Technological University	Family and Consumer Sciences/Human Sciences	\$27,046	543	43.6%
The University of Tennessee at Martin	Philosophy and Religious Studies	\$27,094	328	28.4%

In the following pages, we explore further some of the patterns in the average first-year earnings of college graduates in Tennessee (and again, we refer the reader to [www.collegemeasures.org/ESM/Tennessee](http://www.collegemeasures.org/ESM/Tennessee) for more comparative information). Note that in order to protect student privacy, data were suppressed where there were fewer than 10 completers for the school, award level, and Classification of Instructional Programs (CIP) grouping and fewer than 5 completers with wage information.

# Bachelor's Degrees

Nationwide, bachelor's degrees, the most common degree awarded by America's colleges and universities,<sup>8</sup> remain an excellent investment for most students. According to Bureau of Labor Statistics data, bachelor's degree holders nationwide earn on average about 65% per year more than high school graduates and about 37% more than graduates who end their postsecondary education with an associate's degree.<sup>9</sup> Census data show slightly lower returns in Tennessee, where bachelor's degree holders earn on average 55% more than high school graduates and about a third more than those who end their postsecondary education with some college experience but no degree.<sup>10</sup> However, there is considerable variation between the average first-year earnings of bachelor's degree recipients associated with the institution from which they graduated and the area of study in which they hold their degree.

## Variation by Institution

In Figure 1, we display the average first-year earnings of graduates from each of the public bachelor's degree-granting campuses in Tennessee.<sup>11</sup> In light blue, we highlight the average first-year earnings for bachelor's degree recipients across all campuses in Tennessee, which is \$37,258.

---

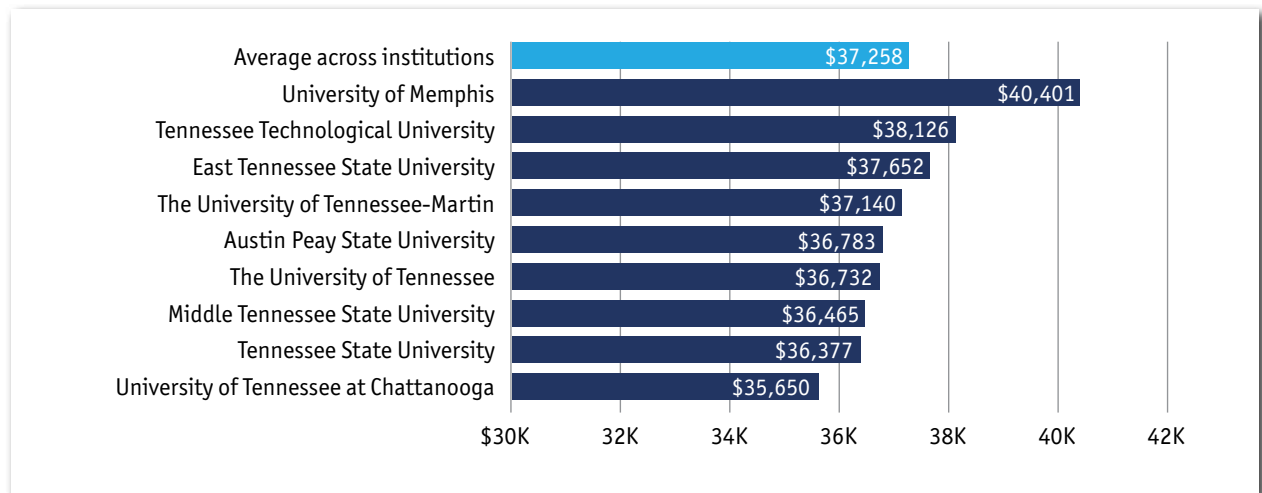
8 [http://nces.ed.gov/programs/digest/d10/tables/dt10\\_195.asp](http://nces.ed.gov/programs/digest/d10/tables/dt10_195.asp)

9 [http://www.bls.gov/emp/ep\\_chart\\_001.htm](http://www.bls.gov/emp/ep_chart_001.htm)

10 <http://www.census.gov/hhes/www/income/data/earnings/call1tnboth.html>

11 The student unit records we start with represent completers from the Tennessee Board of Regents and University of Tennessee systems in the Tennessee Higher Education Commission's Student Information System. Tennessee, as is common across the nation, does not include private for-profit colleges and universities (such as the University of Phoenix or Kaplan) in its student record system. In contrast to some other states, Tennessee also does not include private not-for-profit institutions in its student unit record system. Unfortunately, the Tennessee Higher Education Commission also was not able to provide data on Tennessee Technology Center graduates for this report. These institutions have attracted considerable attention for the success of their students (see, for example, <http://www.insidehighered.com/news/2010/06/21/jobs>).

**Figure 1: Average First-Year Earnings of Bachelor’s Degree Recipients by Campus**



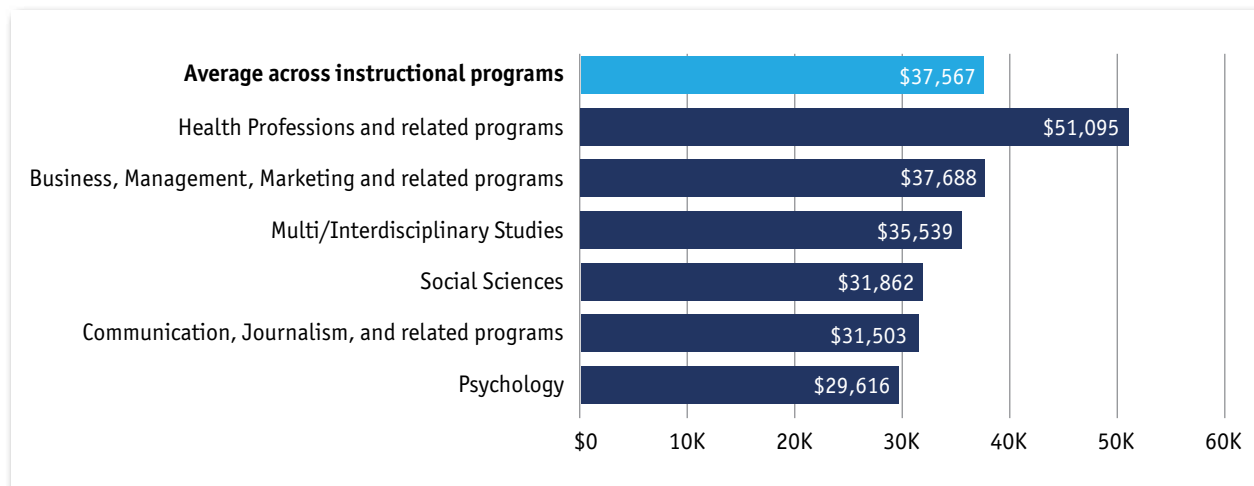
In general, there are not wide differences in the average earnings of graduates from these institutions, with less than \$5,000 separating recent graduates of the University of Memphis from graduates of the University of Tennessee at Chattanooga.

## Variation by Program

While students earn a degree from a specific campus, they also earn their degrees from specific programs of study. Thus, campus-level average earnings mask substantial differences in the labor market success of graduates from different fields of study. These differences can be substantial, as seen in Figure 2. Here we define field of study by the standard federal CIP.<sup>12</sup>

<sup>12</sup> See the technical appendix for a definition of Classification of Instructional Programs codes.

**Figure 2: Average First-Year Earnings of Six of Tennessee’s Most Popular Bachelor’s Degree Fields of Study**



Bachelor’s degree recipients from the six most popular bachelor’s-level instructional programs have average first-year earnings that range from less than \$30,000 (psychology) to over \$50,000 (health professions). First-year earnings for graduates from some large liberal arts programs fall below the state average, ranging from around \$35,000 for multi-interdisciplinary studies and less than \$32,000 for social science and communications.

It is important to remember that these are the average first-year earnings of students in the labor market for whom the bachelor’s degree is *currently* their terminal degree. Some of these students might later choose to pursue further studies, which will likely increase their lifetime earnings. Additionally, earnings growth in each of these degrees can vary, affecting lifetime earnings.

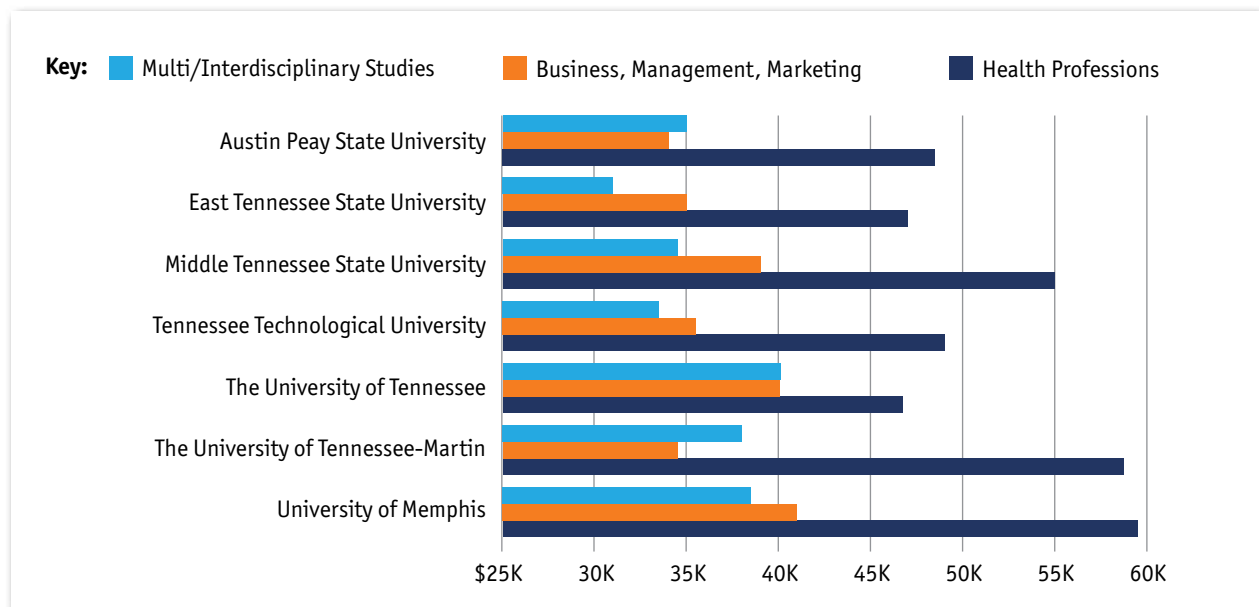
## Variation by Program and Institution

The data underlying this report allow the examination of patterns in the average first-year earnings of graduates from different institutions who have earned their degree in the same field of study. This is important since students enroll in *specific programs in specific institutions* and variation in labor market success at the program level is instructive.<sup>13</sup>

<sup>13</sup> Note that the relationship between field of study and the graduate’s occupation is not available since UI systems do not report occupational data.

In Figure 3, we report first-year earnings of graduates from the three largest programs of study in the state. We report data on seven four-year institutions in Tennessee that have a sufficient number of graduates in all three programs to report data.<sup>14</sup> The data show why this level of detail matters.

**Figure 3: Average First-Year Earnings of Graduates From the Three Most Popular Bachelor’s Degree Programs**



As noted in the previous section, of the most popular programs in Tennessee, graduates from health professions and related programs are among the highest paid one year after completion. However, at the program level there is a wide range of salaries earned by health professions graduates. Bachelor’s degree recipients from health programs at the University of Memphis and the University of Tennessee-Martin have average first-year earnings that are from \$5,000 to over \$10,000 higher than graduates from health professions programs at the other campuses.

When we look at the first-year earnings of graduates from the other two large programs of study, we see again that institutions matter: On most campuses, graduates from business programs earn several thousand dollars per year more than graduates from multidisciplinary studies programs; however, graduates from the multidisciplinary programs at the University of Tennessee-Martin and from Austin Peay State University edge out graduates from their business programs in first-year earnings.

<sup>14</sup> The Economic Success Measures website ([www.collegemeasures.org/ESM/Tennessee](http://www.collegemeasures.org/ESM/Tennessee)) permits the comparison of many more programs of study across institutions in Tennessee.

## The Relationship Between Earnings and Costs

While there is not a wide range in overall average earnings across bachelor degree holders from public Tennessee institutions, the costs to both the student and the taxpayer to generate these roughly similar earnings vary widely. For example, according to federal statistics reported in the U.S. Department of Education’s Integrated Postsecondary Education Data System, in-state students living on the Tennessee State University (TSU) campus pay around \$16,000 for a year’s education; students receiving financial aid pay even less—around \$8,300. The university spends approximately \$13,000 per year delivering that education. While these student and taxpayer investments are below the amounts posted by most of the other public four-year institutions in Tennessee, average first-year earnings of TSU graduates are slightly higher than the average across all these institutions, making TSU a good economic investment from both the student and the taxpayer’s perspective.

We should note that the University of Tennessee, as the state’s flagship campus, should be considered in a different light than the regional campuses in this table. Its higher expenditures per full-time equivalent (FTE) student reflect its role as a research university, supporting a much larger range of expensive programs, especially doctoral and preprofessional training programs. Unfortunately, there is no way of using federal data to separate out expenditures by level of training offered.

**Table 3: Earnings, Price, and Expenditures for Tennessee Four-Year Institutions**

Institution	Earnings	Total Price for In-State Students Living on Campus 2009-2010	Average Net Price for Students With Financial Aid 2009-2010	Expenditures per FTE <sup>13</sup>
Austin Peay State University	\$36,783	\$19,603	\$9,757	\$13,086
East Tennessee State University	\$37,652	\$20,292	\$11,170	\$20,781
Middle Tennessee State University	\$36,465	\$18,225	\$9,010	\$20,485
Tennessee State University	\$36,377	\$15,664	\$8,353	\$13,057
Tennessee Technological University	\$38,126	\$18,848	\$11,173	\$14,387
The University of Tennessee	\$36,732	\$22,061	\$13,186	\$41,133
The University of Tennessee at Chattanooga	\$35,650	\$18,874	\$7,240	\$13,464
The University of Tennessee–Martin	\$37,140	\$16,302	\$5,684	\$20,976
University of Memphis	\$40,401	\$20,574	\$10,062	\$13,773

<sup>13</sup> This represents the sum of full-time equivalent expenses for instruction, research, public service, academic support, student services, institutional support, and all other core expenses reported in the Integrated Postsecondary Education Data System.

# Associate's Degrees

Public two-year community colleges now enroll over one-third of the nation's postsecondary students<sup>16</sup> and have become an increasingly important part of the nation's system of higher education. The Obama Administration has emphasized the role of community colleges as key to achieving its goal that the United States will have the highest proportion of college graduates in the world by 2020.<sup>17</sup>

Students enroll in community colleges to pursue a variety of goals that may include learning specific skills, obtaining an industry-recognized certificate, pursuing an associate's degree, taking a few courses to improve professional credentials, taking remedial courses to prepare for further postsecondary education, and taking courses to prepare for transfer to a four-year college or university. We recognize that the ultimate goal for many associate's degree students is not just that degree and many will seek four-year degrees. That said, the graduates in our database are currently in the workforce, and it is important to see the relationship between their associate's degrees and their earnings.

## Variation by Institution

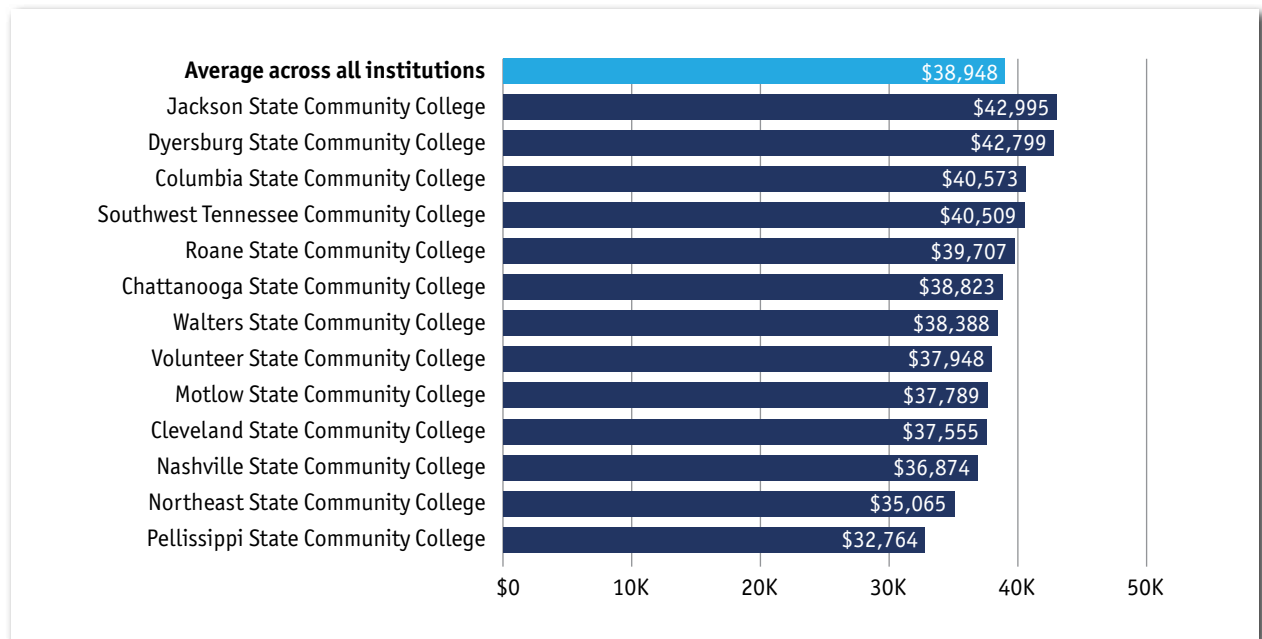
Figure 4 shows the variation in the first-year earnings of graduates from the 13 community colleges in Tennessee. There is an overall average \$10,000 difference in the average first-year earnings of graduates from Jackson State Community College, the institution whose graduates do the best in the labor market, versus Pellissippi State Community College. These differences may reflect the strength of the local labor market as well as the programs that students choose to enroll in since, as we will see next, graduates from some programs earn far more than graduates from other programs.

---

16 Digest of Education Statistics, National Center for Education Statistics. (2010). Table 201. *Total fall enrollment in degree-granting institutions, by control and type of institution, age, and attendance status of student: 2009*. Retrieved from [http://nces.ed.gov/programs/digest/d10/tables/dt10\\_201.asp](http://nces.ed.gov/programs/digest/d10/tables/dt10_201.asp)

17 <http://www.whitehouse.gov/issues/education/higher-education/building-american-skills-through-community-colleges>

**Figure 4: Average First-Year Earnings of Associate’s Degree Recipients by Campus**

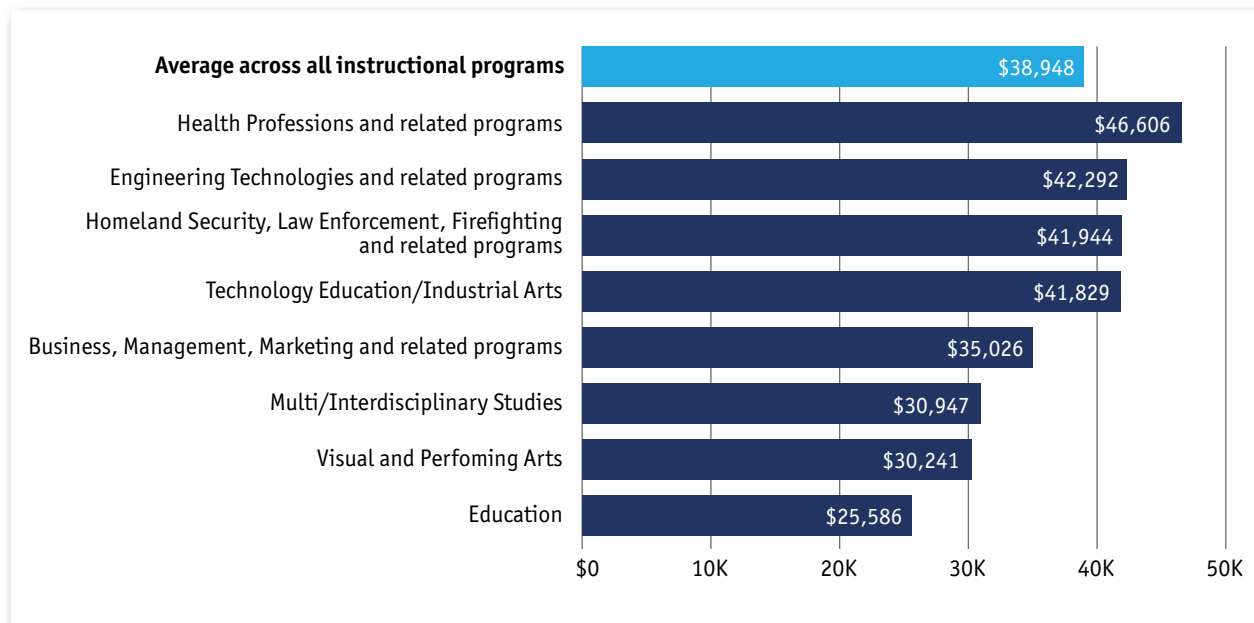


### Variation by Program

In Figure 5 we report the average first-year earnings of graduates from eight of the most popular associate’s degree programs in Tennessee. Students who earned an associate’s degree in health made, on average, almost twice that of a student who earned an associate’s degree in education. Graduates with associate’s degrees in visual and performing arts or liberal arts did not command substantial earnings in the years immediately after graduation. Again, graduates in these fields may be on their way to further education, but for those graduates entering the labor market with these degrees, earnings are far below average.



**Figure 5: Average First-Year Earnings of Graduates From the Most Popular Associate's Degree Programs**



The bottom line: The choice of field matters. Most notably, career- and technically oriented associate's degrees pay off, resulting in first-year earnings between \$5,000 and \$20,000 more than the most popular liberal arts-oriented associate's degrees.

## Variation by Program and Institution

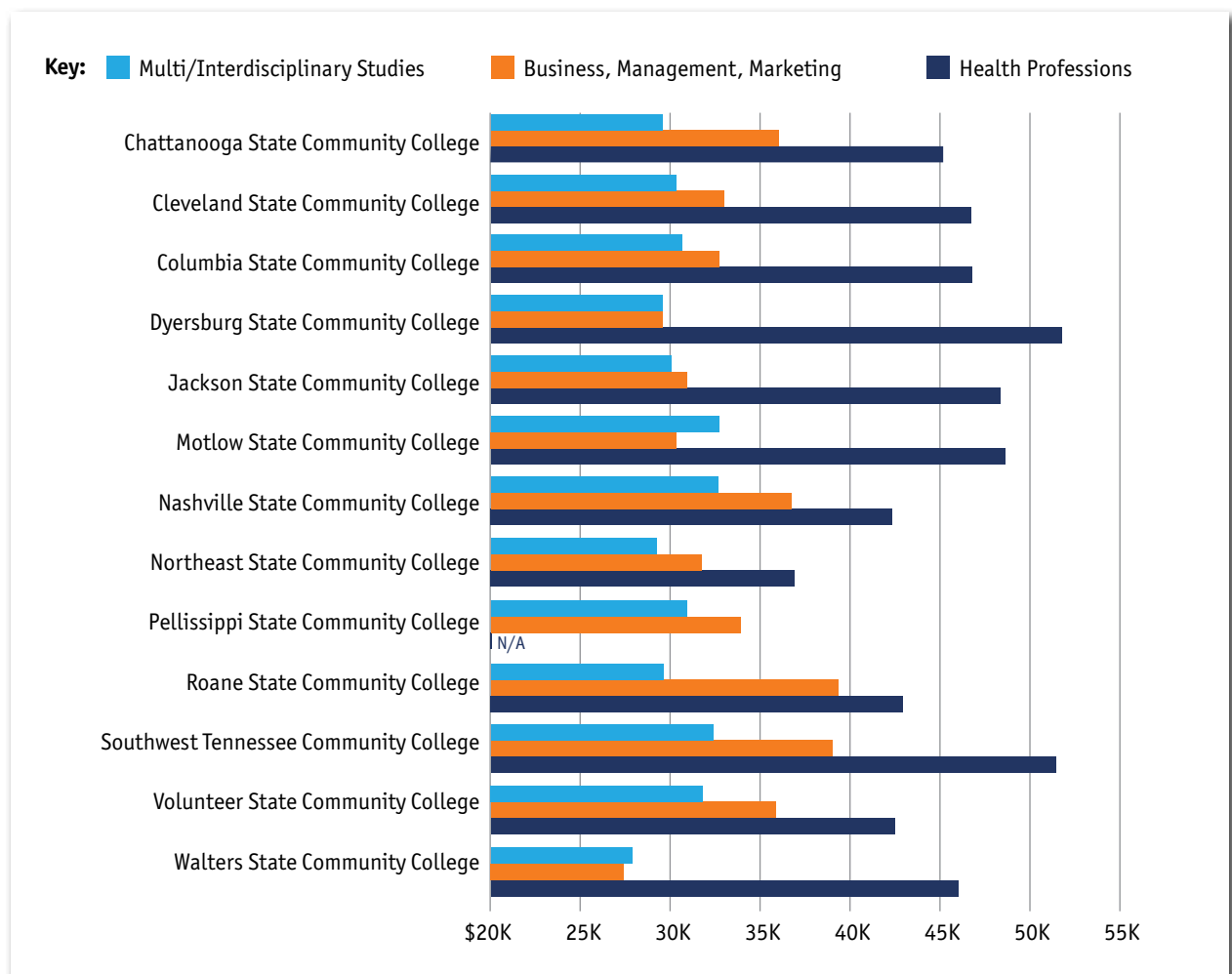
As noted earlier, the most useful aspect of these data is that they permit cross-campus comparisons of the labor market success of students graduating from the same field of study. Figure 6 illustrates the variation in first-year earnings of graduates from the three programs with the greatest number of graduates in the state: business, health professions, and liberal arts. We display the average first-year earnings for these programs in the community colleges for which there were a sufficient number of students in at least two of the three programs of study.

Across these community colleges, students graduating with health degrees earned more than students completing the other programs. However, the gap in earnings differs widely. For example, the difference in earnings between health and business graduates at Dyersburg State Community College is around \$20,000, twice the difference in earnings between graduates from the two programs at Nashville State Community College and more than three times the gap at Roane State Community College.

While the differences among graduates from the other programs are smaller than for the health programs, over \$10,000 separates the average first-year earnings of graduates in business from Roane State Community College (around \$40,000) and Walters State Community College (less than \$30,000). The range in first-year earnings for graduates of liberal arts programs is even smaller, only around \$5,000, with graduates from most programs earning in the low \$30,000s.

While graduates from business programs tended to earn more than graduates from liberal arts programs, with differences as high as \$10,000 for Roane and Southwest State Community Colleges graduates in these two programs, liberal arts graduates at Motlow State Community College have higher average earnings than business graduates from that campus. At Walters State Community College, first-year earnings of graduates from the two programs are roughly equivalent.

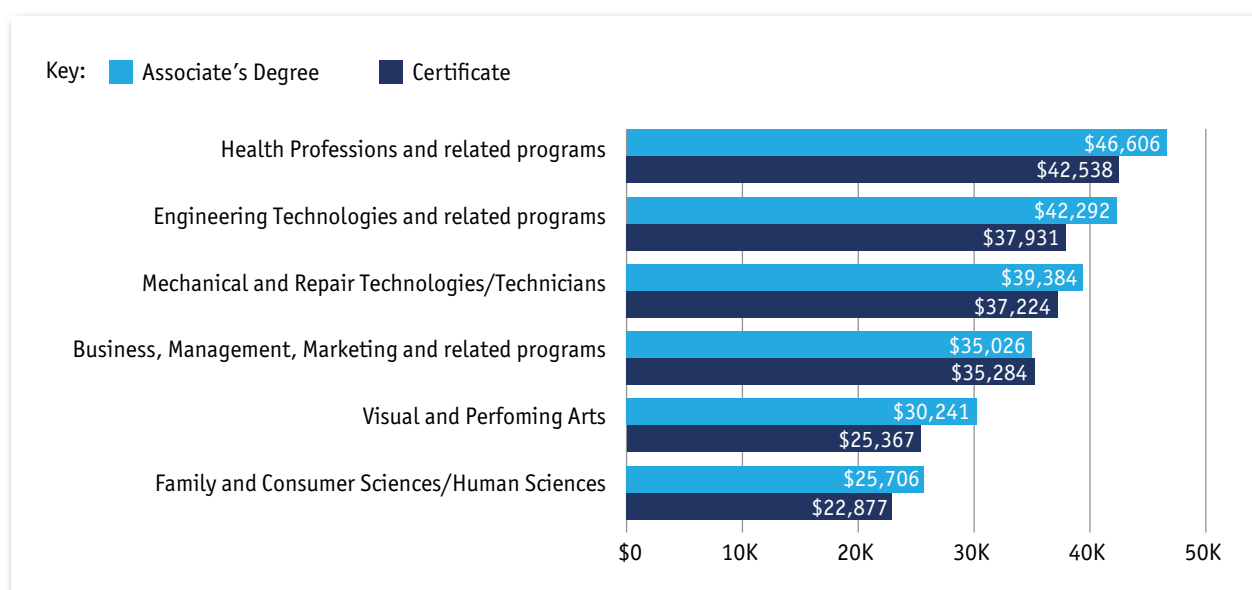
**Figure 6: First-Year Earnings of Associate’s Degree Graduates From the Three Largest Programs**



# Certificates

Certificates are the fastest growing segment of credentials offered by colleges throughout the nation. Certificates, compared to associate's degrees, are more highly focused on a particular field and are designed to be completed in less time than an associate's degree. Given these characteristics, some researchers have emphasized the value of these credentials.<sup>18</sup> However, across the state in six popular fields of study in which both associate's degrees and certificates are awarded, degree holders tend to do slightly better than certificate holders in the same field (see Figure 7). Whether or not the added earnings are worth the extra time and expense of earning the degree is something that students need to consider.

**Figure 7: Average First-Year Earnings of Certificate Versus Associate's Degree Holders in Six Popular Fields of Study**



<sup>18</sup> See, in particular, Carnevale, A.P., Rose, S.J., Hanson A.R. (2012). *Certificates: Gateway to Gainful Employment and College Degrees*. Retrieved from Georgetown University Center on Education and the Workforce website: <http://cew.georgetown.edu/certificates/>

This overall pattern masks important differences between the value of certificates in different fields and from different institutions. In Table 4, we list the certificate programs where first-year earnings exceed \$40,000. The certificate with the highest earnings data is in construction trades awarded by Nashville State Community College. Of the other programs, most are in health professions. In addition, programs in engineering, science technology, and computer services are also represented. Note that the certificate program with the fourth highest average wage is basic skills and developmental education, which suggests that many people earning certificates already have degrees and are pursuing certificates to advance in their professions. Thus, prior education should be taken into account when analyzing the value of certificates.

**Table 4: Certificate Programs Where First-Year Earnings Average More Than \$40,000**

Institution	Area of Study	Average First-Earnings	# of Graduates in Database	% of Graduates With Wage Data
Nashville State Community College	Construction Trades	\$66,444	54	87.0%
Columbia State Community College	Health Professions and Related Programs	\$50,263	74	91.9%
Southwest Tennessee Community College	Health Professions and Related Programs	\$49,474	189	74.1%
Cleveland State Community College	Basic Skills and Developmental/ Remedial Education	\$43,987	94	67.0%
Walters State Community College	Health Professions and Related Programs	\$43,726	79	88.6%
Chattanooga State Community College	Health Professions and Related Programs	\$42,946	424	52.8%
Jackson State Community College	Health Professions and Related Programs	\$42,882	71	81.7%
Nashville State Community College	Engineering Technologies and Engineering-Related Fields	\$42,619	41	56.1%
Volunteer State Community College	Health Professions and Related Programs	\$41,631	204	66.2%
Roane State Community College	Health Professions and Related Programs	\$40,595	133	74.4%
Northeast State Community College	Science Technologies/ Technicians	\$40,499	23	52.2%
Northeast State Community College	Computer and Information Sciences and Support Services	\$40,076	15	53.3%

Table 5 lists the four programs where the first-year earnings of certificate holders were less than \$30,000. Note that certificate holders in health professions from Dyersburg State Community College fare less well in the job market than health-related certificate holders from other community colleges. Of the other three certificate programs with low wage-earners, two are in family and consumer sciences and one is in the visual arts.

Finally, note the low percentage of graduates from these programs in the database. We do not know if these graduates are enrolled in further study, in the military, working for firms not covered by UI, working out of state, or unemployed.

**Table 5: Certificate Programs With First-Year Earnings Less Than \$30,000**

Institution	Area of Study	Average First-Earnings	# of Graduates in Database	% of Graduates With Wage Data
Dyersburg State Community College	Health Professions and Related Programs	\$29,857	20	55.0%
Nashville State Community College	Visual and Performing Arts	\$25,799	95	22.1%
Northeast State Community College	Family and Consumer Sciences/Human Sciences	\$23,132	55	20.0%
Columbia State Community College	Family and Consumer Sciences/Human Sciences	\$22,760	85	28.2%

# Conclusions

Research has shown that nationwide the average earnings for graduates in different fields of study vary considerably. The Bureau of Labor Statistics and the Census Bureau have documented the “big payoff” of higher education,<sup>19</sup> but our work shows that the payoff varies considerably from program to program and from institution to institution. We have also confirmed an observation made by Georgetown University’s Center on Education and the Workforce: The payoff of an associate’s degree can exceed that of a bachelor’s degree (at least in the short-term timeframe measurable with our current dataset).

The bottom line: The degrees students earn, and where they earn them, matter.

In this report, we have not tried to explain this variation. We know that the credentials of incoming students vary across institutions, that missions vary across institutions, and that many schools serve regional labor markets where earnings vary. We believe that for institutional accountability purposes, policymakers must take these factors into consideration.

We also know that there are many rewards to postsecondary education besides the boost in earnings; however, students who borrow \$100,000 and earn \$25,000 will likely be so consumed by trying to pay off their loans that they will not have time to enjoy these other rewards.

Again, we believe that government officials and political leaders should know about the variation in the economic payoff of degrees and programs of study, but they need to be careful about using them in any program of institutional accountability. Nevertheless, we believe the data we report should be made widely accessible to the public and should be a central component of consumer choice.

---

<sup>19</sup> <http://www.census.gov/prod/2002pubs/p23-210.pdf> and <http://www.census.gov/prod/2011pubs/acs-14.pdf>

# Technical Appendix

## Defining Measures

### *Defining a Cohort*

In this report, we set the universe of data to include completers from the Tennessee Board of Regents and University of Tennessee systems in Tennessee Higher Education Commission (THEC). We combine five years of data from the 2006 to 2010 academic years into one cohort, and we label the cohort with the most recent year of data (e.g., 2010). The 2006 to 2010 academic years equate to summer 2005 through spring 2010.

Data for each completer are compared with the completer's school, award level, and CIP major code for the first major only. For this report, we aggregated information to the two-digit CIP code in order to reduce the number of records that needed suppression. Most of the CIP major codes in the THEC database are 10-digit codes. In order to extract the two-digit CIP code, we took the third and fourth characters of this code. In cases where the CIP major code was nine digits, we used the second and third characters to extract the two-digit CIP code. When the CIP major code was six digits, we used the first two characters to extract the two-digit CIP code. If the CIP major code was less than six digits, we excluded the record.

### *Number of Completers*

This is the total number of students who graduated from the program in the cohort.

### *Percentage of Completers With Wage Data*

This is the number of completers in the cohort with earnings data divided by the total number of completers in the cohort.

### *Average First-Year Earnings*

Wage data were obtained by linking Social Security numbers of graduates to wage data from the UI wage file. Completers were included in the cohort if their earnings in each quarter from quarter 3 (Q3) to Q6 after graduation met or exceeded the minimum wage threshold. Wages are from all jobs where there was wage data. If the individual had multiple jobs, all wages were included.

In order to determine the semester a student graduated, we converted the quarter information from the wage table into a calendar quarter (e.g., spring = Q2, summer = Q3, fall = Q4). First-year earnings are calculated as wages in the third through sixth calendar quarters after graduation.

The minimum wage threshold for each quarter was set to the minimum wage for that quarter multiplied by 35 hours per week.

All wages were adjusted to 2011 dollars using the Bureau of Labor Statistics' Consumer Price Index inflation calculator ([http://www.bls.gov/data/inflation\\_calculator.htm](http://www.bls.gov/data/inflation_calculator.htm)).

### ***Percentage of Above-Average Earners***

This percentage was calculated by dividing the number of completers in the cohort for a given program with first-year wages above the statewide average for that program cohort by the total number of program completers in the cohort across the entire state. Wages for each completer were compared to the average wages of the school, award level, and CIP code to determine if the completer's wages were above or below these broad averages.

### ***Number of Completers With Wage Data***

This is the number of completers in the cohort with earnings data.

### ***Area of Study, Area of Study (CIP) Code, Program***

The Area of Study, Area of Study (CIP) Code, and Program refer to the CIP developed and maintained by the U.S. Department of Education's National Center for Education Statistics (NCES). According to NCES, "The Classification of Instructional Programs (CIP) provides a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. CIP was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980, with revisions occurring in 1985, 1990, 2000, and 2010." More information about CIP codes is available at on the NCES website: <http://nces.ed.gov/ipeds/cipcode/>.

### ***Data Suppression and Exclusions***

Data were suppressed where there were fewer than 10 completers for the school, award level, and CIP grouping and fewer than five completers with wage information.



## Data Limitations and Disclosure Rules

The wage data included in these reports represent only the following:

- Graduates successfully matched to the UI wage records collected by the Tennessee Department of Labor and Workforce Development.
- Graduates employed in Tennessee by an entity that reports to the Tennessee Department of Labor and Workforce Development. This excludes federal employees, including those within the Department of Defense.

Employers subject to the unemployment tax must be registered and file with the Tennessee Employment Commission if they meet one of the following criteria:

- One or more employees (10 employees if an operation is agricultural) for some portion of a day during any 20 different weeks in a calendar year.
- A \$1,500 or more total gross quarterly payroll (\$20,000 if a business is agricultural; \$1,000 if domestic labor).
- Acquired a business subject to this tax.
- Been subject to the Federal Unemployment Tax.
- Are a governmental operation or political subdivision.
- A nonprofit organization under Section 501(c)(3) of the Internal Revenue Code and had four or more employees for some portion of a day during any 20 different weeks in a calendar year.

These criteria mean that individuals working as consultants or independent contractors (including many psychologists, counselors, barbers, and cosmetologists) may be excluded.



**Mark Schneider**

President, College Measures

Vice President, American Institutes for Research

**Ben Vivari**

Director, College Measures

**College**Measures.org

A product of College Measures' Economic Success Metrics  
Project supported by the Lumina Foundation

College Measures is a joint venture of  
the American Institutes for Research  
and Matrix Knowledge Group