Asheville Metro Workforce Analysis
Institution Programs and Completions within 100-Mile Radius

Select Programs:

- Computer and Information Sciences and Support Services
- Engineering
- Engineering Technologies and Engineering-Related Fields
- Business, Management, Marketing, and Related Support Services

ECONOMIC DEVELOPMENT COALITION
Asheville-Buncombe County

October 2015

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Overview

This workforce study reviews education programs and completions within an approximately 100-mile radius of the four-county Asheville metropolitan statistical area (referred to as Asheville metro[1] in this report). The following select fields of study are examined:

- CIP 11: Computer and Information Sciences and Support Services
- CIP 14: Engineering
- CIP 15: Engineering Technologies and Engineering-Related Fields
- CIP 52: Business, Management, Marketing and Related Support Services

Programs highlight talent development at institutions in the radius and program completions provide insight into the preparedness of students and job seekers to offer trained skills. The Asheville metro's technical colleges and universities offer many programs that align with the select fields of study, providing skills for the workforce and helping to meet business needs. While talent and labor can be attracted from outside of the 100-mile radius, this report offers further insight into the scale and proximity of nearby training and talent, pointing to the area's positioning to support business goals.

Counties Represented

The study captures 79 counties in the 100-mile radius of Asheville metro. The overall population of the counties combined in 2015 was approximately 5.6 million which has grown 3% since 2010. 20-24 year olds are the largest cohort, with population estimated at nearly 395,000. 55-59 year olds followed with just over 393,000.

> Asheville metro, due to its location in the western part of North Carolina, is well positioned to take advantage of having a centralized location in the eastern part of the United States. For example, both the major cities of Chicago and Jacksonville are about a 10-hour drive from Asheville. In addition, the Asheville metro area has 100 million people living within a 500-mile radius (TIP Strategies, Austin, TX, 2015).

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[1] The Asheville metro is comprised of Buncombe, Haywood, Henderson, and Madison counties.
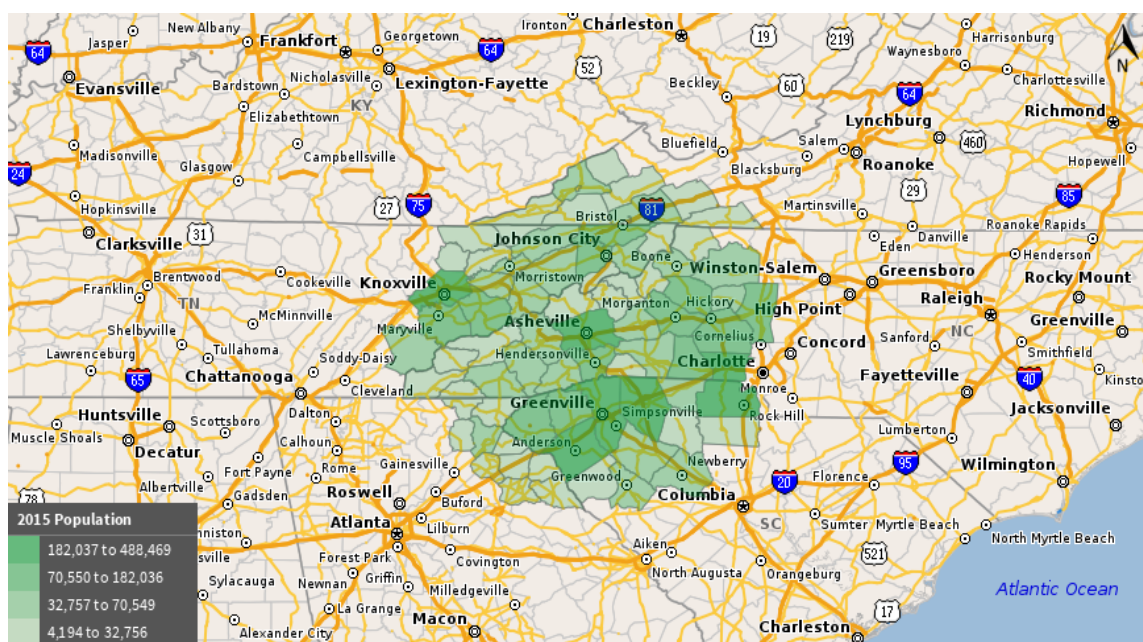
Figures 1 and 2 provide map views of the radius extent. Full county data is included if the county's centroid is contained in the radius. For a listing of counties, refer to Appendix A1.

Figure1. Asheville Metro 100-Mile Radius Map

Source: Economic Modeling Specialists Intl. (EMSI)

Figure2. Asheville Metro 100-Mile Radius Map

Source: Economic Modeling Specialists Intl. (EMSI)

Institution Enrollment and Completion Estimates

Over 80 regional educational institutions are included in the study area with approximately 290,000 students enrolled[2]. College enrollment estimates emphasize a strong presence of students engaged in training, certificate, and degree granting programs in the 100-mile radius.

Completions point to a steady course of trained and educated individuals that help provide a foundation for a skilled workforce. Overall 2014 completion estimates show just over 55,000 completions earning an Associates, Bachelors, or Graduate degree[3]. This number jumps to a little over 69,000 when other types of training awards or certificates are included. Refer to Appendix A2 for a listing of each institution included in the study, with overall enrollment and completion estimates. For institution location, refer to Appendix A3.

Figure 3 highlights the presence of 2-year and 4-year institutions in the study region.

Figure 3: Map of Over 80 2-year and 4-year institutions within 100 miles of the Asheville metro
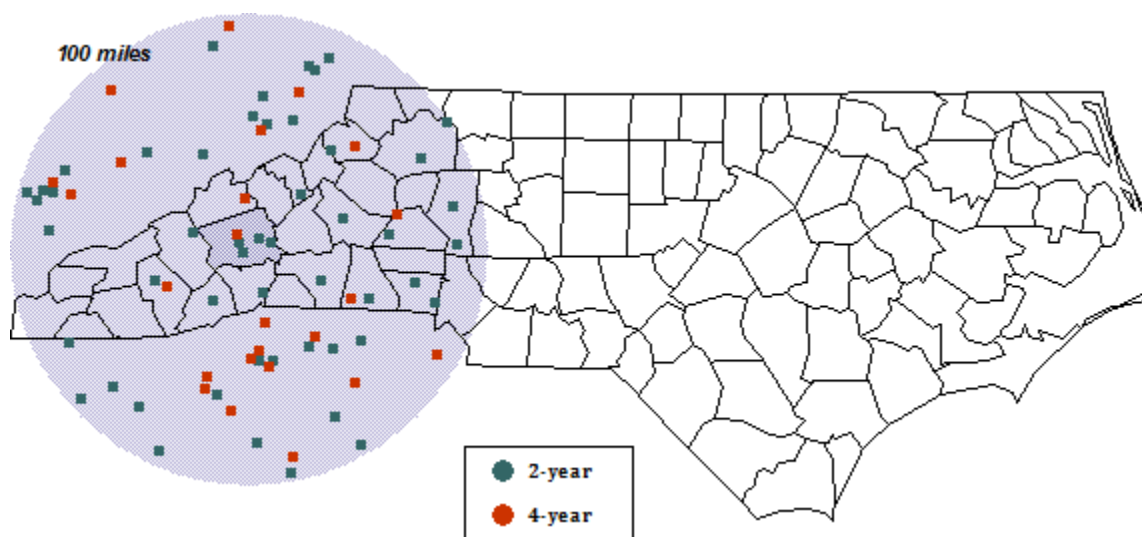
Source: Western Carolina University

Select Program Descriptions

The National Center for Education Statistics (NCES) provides the standard Classification of Instructional Programs (CIP) coding scheme to organize fields of study. According to the NCES, the purpose of the CIP is to provide a taxonomic scheme that will support the accurate tracking, assessment, and reporting of fields of study and program completions activity. **The codes should not be confused with the titles that institutions assign to majors, minors, and other awarded academics.**

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[2] Source: National Center for Education Statistics, 2014
[3] Source: Economic Modeling Specialists Intl.

Four CIP codes have been selected to examine completion activity taking place at institutions within the 100-mile radius of Asheville metro:

- **CIP Code 11: Computer and Information Sciences and Support Services**
  CIP Code 11 and sub-categories are defined as instructional programs that focus on the computer and information sciences and prepare individuals for various occupations in information technology and computer operations fields.

- **CIP Code 14: Engineering**
  CIP Code 14 and sub-categories are defined as instructional programs that prepare individuals to apply mathematical and scientific principles to the solution of practical problems.

- **CIP Code 15: Engineering Technologies and Engineering-Related Fields**
  CIP Code 15 and sub-categories are defined as instructional programs that prepare individuals to apply basic engineering principles and technical skills in support of engineering and related projects or to prepare for engineering-related fields.

- **CIP Code 52: Business, Management, Marketing, and Related Support Services**
  CIP Code 52 and sub-categories are defined as instructional programs that prepare individuals to perform managerial, technical support, and applied research functions related to the operation of commercial and non-profit enterprises and the buying and selling of goods and services.

The select programs combined for the institutions represented in the 100-mile radius show 15,989 completions in 2014.

The following sections break this figure down for each instructional program:

- **Regional Completions by Award Level**

- **Regional Completions by Institution**

- **Frequently Targeted Occupations**

CIP Code 11: Computer and Information Sciences and Support Services

In the study region, institutions offered 30 programs related to Computer and Information Science and Support Services fields of study. There were 1,866 program completions in 2014.

Table 1 shows 34.6% of completions were awarded Associates degrees, 30.9% were awarded Bachelors degrees, and 27.1% were awards or certificates of less than 1 academic year.

Table1. Computer and Information Sciences and Support Services

Regional Completions by Award Level

	Award Level	Completions (2014)	Percent	
●	Award of less than 1 academic year	506	27.1%	▬▬
●	Award of at least 1 but less than 2 academic years	21	1.1%	▏
●	Associates degree	646	34.6%	▬▬▬
●	Award of at least 2 but less than 4 academic years	4	0.2%	▏
●	Bachelors degree	577	30.9%	▬▬▬
●	Masters degree	107	5.7%	▪
●	Doctors degree	5	0.3%	▏
	Postbaccalaureate certificate	0	0.0%	
	Post-masters certificate	0	0.0%	

Source: Economic Modeling Specialists Intl. (EMSI)

Table 2 shows Asheville-Buncombe Technical Community College had the highest number of completions when awards or certificates are included, followed by Pellissippi State Community College. Clemson University completed the most Bachelors, Masters, and Doctors degrees combined. For a full list of institutional completions by award level for CIP 11, refer to Appendix A4.

Table2. Computer and Information Sciences and Support Services

Top 10 Regional Completions by Institution

Institution	Certificates (2014)	Degrees (2014)	Total Completions (2014)
Clemson University	0	137	137
Asheville-Buncombe Technical Community College	137	28	165
Pellissippi State Community College	111	45	156
East Tennessee State University	0	80	80
Fountainhead College of Technology	0	74	74
University of South Carolina-Upstate	0	72	72
Greenville Technical College	60	66	126
Limestone College	0	61	61
Gaston College	59	18	77
The University of Tennessee-Knoxville	0	52	52

Source: Economic Modeling Specialists Intl. (EMSI)

Occupations frequently related with select programs of study can also add insight into the presence of skillsets and the connections between regional programs, talent development, and the workforce.   While not intended to be a comprehensive list, Table 3 shows frequently targeted occupations associated with CIP 11: Computer and Information Science and Support Services programs. Employment in these occupations is estimated at 38,252 jobs in the study radius, pointing to available talent and labor pool present in the study region.

Table3. Computer and Information Sciences and Support Services

Frequently Targeted Occupations

38,252

Jobs (2015)

Occupation	2015 Jobs
Computer User Support Specialists	6,137
Computer Systems Analysts	4,422
Network and Computer Systems Administrators	3,926
Software Developers, Applications	3,074
Computer and Information Systems Managers	2,542
Managers, All Other	2,279

Occupation	2015 Jobs
Graphic Designers	2,198
Data Entry Keyers	2,099
Computer Programmers	1,949
Computer Network Support Specialists	1,827
Software Developers, Systems Software	1,543
Database Administrators	950
Computer Operators	948
Computer Network Architects	906
Computer Occupations, All Other	827
Web Developers	767
Information Security Analysts	671
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	627
Word Processors and Typists	329
Computer and Information Research Scientists	128
Multimedia Artists and Animators	103

Source: Economic Modeling Specialists Intl. (EMSI)

For a list of completions by programs that are categorized under CIP 11, refer to Appendix A8.

CIP Code 14: Engineering

In the study region, institutions offered 53 programs related to Engineering fields of study. There were 1,939 program completions in 2014.

Table 4 shows 62.9% of completions were awarded Bachelors degrees, 25.9% were awarded Masters degrees, and 9.6% were awarded Doctors degrees.

Table4. Engineering

Regional Completions by Award Level

	Award Level	Completions (2014)	Percent	
●	Award of less than 1 academic year	2	0.1%	▏
●	Associates degree	2	0.1%	▏
●	Bachelors degree	1,220	62.9%	▬▬▬▬
●	Postbaccalaureate certificate	25	1.3%	▏
●	Masters degree	502	25.9%	▬▬
●	Post-masters certificate	2	0.1%	▏
●	Doctors degree	186	9.6%	▬
	Award of at least 1 but less than 2 academic years	0	0.0%	
	Award of at least 2 but less than 4 academic years	0	0.0%	

Source: Economic Modeling Specialists Intl. (EMSI)

Table 5 shows Clemson University had the highest number of completions overall, followed by University of Tennessee-Knoxville. University of North Carolina at Asheville and Western Carolina University programs completed a combined 21 degrees in 2014. Some Engineering degree completions for UNC Asheville may be captured through partner programs at North Carolina State University and are not included. For a full list of institutional completions by award level, refer to Appendix A5.

Table5. Engineering

Top 10 Regional Completions by Institution

Institution	Certificates (2014)	Degrees (2014)	Total Completions (2014)
Clemson University	2	1,076	1,078
The University of Tennessee-Knoxville	25	790	815
Bob Jones University	0	14	14
University of North Carolina at Asheville	0	12	12
Western Carolina University	0	9	9
Maryville College	0	4	4
The University of Virginia's College at Wise	0	2	2
Gaston College	0	2	2
Mountain Empire Community College	1	0	1
Furman University	0	1	1

Source: Economic Modeling Specialists Intl. (EMSI)

While not intended to be a comprehensive list, Table 6 shows frequently targeted occupations associated with CIP 14: Engineering programs. The table indicates 56,516 jobs in the study radius in these occupations.

Table6. Engineering

Frequently Targeted Occupations

56,516

Jobs (2015)

Occupation	2015 Jobs
Postsecondary Teachers	22,091
Industrial Engineers	6,373
Mechanical Engineers	5,027
Civil Engineers	3,283
Software Developers, Applications	3,074
Cost Estimators	2,717

Architectural and Engineering Managers	1,979
Electrical Engineers	1,841
Software Developers, Systems Software	1,543
Electronics Engineers, Except Computer	989
Computer Network Architects	906
Web Developers	767
Engineers, All Other	702
Information Security Analysts	671
Operations Research Analysts	609
Chemical Engineers	587
Environmental Engineers	573
Nuclear Engineers	527
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	513
Materials Engineers	360
Stationary Engineers and Boiler Operators	353
Natural Sciences Managers	323
Computer Hardware Engineers	217
Aerospace Engineers	162
Petroleum Engineers	112
Biomedical Engineers	104
Mining and Geological Engineers, Including Mining Safety Engineers	53
Marine Engineers and Naval Architects	32
Agricultural Engineers	28

Source: Economic Modeling Specialists Intl. (EMSI)

For a list of completions by programs that are categorized under CIP 14, refer to Appendix A8.

CIP Code 15: Engineering Technologies and Engineering-Related Fields

In the study region, institutions offered 64 programs related to Engineering Technologies and Engineering-Related fields of study. There were 1,523 program completions in 2014.

Table 7 shows 53.4% of completions were awarded Associates degrees, 22.8% were an award of less than one academic year, and 18.4% were awarded Bachelors degrees.

Table7. Engineering Technologies and Engineering-Related Fields

Regional Completions by Award Level
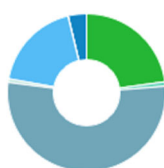
	Award Level	Completions (2014)	Percent	
●	Award of less than 1 academic year	347	22.8%	
●	Award of at least 1 but less than 2 academic years	14	0.9%	
●	Associates degree	813	53.4%	
●	Award of at least 2 but less than 4 academic years	11	0.7%	
●	Bachelors degree	280	18.4%	
●	Postbaccalaureate certificate	1	0.1%	
●	Masters degree	57	3.7%	
	Post-masters certificate	0	0.0%	
	Doctors degree	0	0.0%	

Source: Economic Modeling Specialists Intl. (EMSI)

Table 8 shows Northeast State Community College with 112 completions had the highest number of completions overall, followed closely by Western Carolina University with 102 completions. For a full list of institutional completions by award level, refer to Appendix A6.

Table8. Engineering Technologies and Engineering-Related Fields

Top 10 Regional Completions by Institution

Institution	Certificates (2014)	Degrees (2014)	Total Completions (2014)
Northeast State Community College	6	106	112
Western Carolina University	0	102	102
East Tennessee State University	0	85	85
Appalachian State University	0	80	80
Pellissippi State Community College	74	66	140
Asheville-Buncombe Technical Community College	29	60	89
Greenville Technical College	30	57	87
ITT Technical Institute-Greenville	0	57	57
Piedmont Technical College	5	47	52
Clemson University	0	47	47

Source: Economic Modeling Specialists Intl. (EMSI)

While not intended to be a comprehensive list, Table 9 shows frequently targeted occupations associated with CIP 15: Engineering Technologies and Engineering-Related Fields programs. The table indicates 96,222 jobs in the study radius in these occupations.

Table9. Engineering Technologies and Engineering-Related Fields

Frequently Targeted Occupations

96,222

Jobs (2015)

Occupation	2015 Jobs
Postsecondary Teachers	22,091
Inspectors, Testers, Sorters, Samplers, and Weighers	13,213
Automotive Service Technicians and Mechanics	11,098
Welders, Cutters, Solderers, and Brazers	7,295
Industrial Engineers	6,373
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	4,643

Software Developers, Applications	3,074
Cost Estimators	2,717
Construction Managers	2,561
Water and Wastewater Treatment Plant and System Operators	2,309
Architectural and Engineering Managers	1,979
Computer Programmers	1,949
Industrial Engineering Technicians	1,603
Software Developers, Systems Software	1,543
Electrical and Electronics Engineering Technicians	1,443
Civil Engineering Technicians	1,063
Occupational Health and Safety Specialists	1,037
Mechanical Drafters	1,022
Mechanical Engineering Technicians	964
Surveying and Mapping Technicians	910
Electromechanical Equipment Assemblers	708
Engineers, All Other	702
Architectural and Civil Drafters	701
Commercial and Industrial Designers	681
Construction and Related Workers, All Other	631
Surveyors	508
Medical Equipment Repairers	503
Hazardous Materials Removal Workers	371
Engineering Technicians, Except Drafters, All Other	357
Environmental Engineering Technicians	355
Electrical and Electronics Drafters	330
Nuclear Technicians	289
Semiconductor Processors	199
Precision Instrument and Equipment Repairers, All Other	146
Cartographers and Photogrammetrists	140
Gas Plant Operators	140
Drafters, All Other	138

Electro-Mechanical Technicians	117
Petroleum Pump System Operators, Refinery Operators, and Gaugers	96
Geological and Petroleum Technicians	77
Service Unit Operators, Oil, Gas, and Mining	61
Aerospace Engineering and Operations Technicians	42
Solar Photovoltaic Installers	41

Source: Economic Modeling Specialists Intl. (EMSI)

For a list of completions by programs that are categorized under CIP 15, refer to Appendix A8.

CIP Code 52: Business, Management, Marketing, and Related Support Services

In the study region, institutions offered 94 programs related to Business, Management, Marketing, and Related Services fields of study. There were 10,661 program completions in 2014.

Table 10 shows 54.7% of completions were awarded Bachelors degrees, 17.7% were awarded Masters degrees, and 15.7% were awarded Associates degrees.

Table10. Business, Management, Marketing, and Related Support Services
Regional Completions by Award Level

	Award Level	Completions (2014)	Percent	
●	Award of less than 1 academic year	899	8.4%	
●	Award of at least 1 but less than 2 academic years	313	2.9%	
●	Associates degree	1,676	15.7%	
●	Award of at least 2 but less than 4 academic years	13	0.1%	
●	Bachelors degree	5,829	54.7%	
●	Postbaccalaureate certificate	14	0.1%	
●	Masters degree	1,884	17.7%	
●	Post-masters certificate	9	0.1%	
●	Doctors degree	24	0.2%	

Source: Economic Modeling Specialists Intl. (EMSI)

Table 11 shows the University of Tennessee-Knoxville had the highest number of completions overall, followed by Clemson University, Appalachian State University, and Western Carolina University. For a full list of institutional completions by award level, refer to Appendix A7.

Table11. Business, Management, Marketing, and Related Support Services

Top 10 Regional Completions by Institution

Institution	Certificates (2014)	Degrees (2014)	Total Completions (2014)
The University of Tennessee-Knoxville	0	1,235	1,235
Clemson University	59	920	979
Appalachian State University	6	705	711
Western Carolina University	0	411	411
King University	0	375	375
East Tennessee State University	6	372	378
Limestone College	0	333	333
Winthrop University	0	310	310
Southern Wesleyan University	0	308	308

Source: Economic Modeling Specialists Intl. (EMSI)

While not intended to be a comprehensive list, Table 12 shows frequently targeted occupations associated with CIP 52: Business, Management, Marketing, and Related Support Services skillsets. The table indicates 721,030 jobs in the study radius in these occupations.

Table12. Business, Management, Marketing, and Related Support Services

Frequently Targeted Occupations

721,030

Jobs (2015)

Occupation	2015 Jobs
Retail Salespersons	71,559
Cashiers	64,652
Customer Service Representatives	42,789
Office Clerks, General	39,699
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	33,212
Stock Clerks and Order Fillers	30,987

Occupation	2015 Jobs
General and Operations Managers	29,576
Bookkeeping, Accounting, and Auditing Clerks	24,131
First-Line Supervisors of Retail Sales Workers	22,751
Postsecondary Teachers	22,091
First-Line Supervisors of Office and Administrative Support Workers	21,342
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	19,007
First-Line Supervisors of Production and Operating Workers	15,179
Receptionists and Information Clerks	14,331
Shipping, Receiving, and Traffic Clerks	12,475
Accountants and Auditors	12,125
Tellers	8,079
Billing and Posting Clerks	7,571
First-Line Supervisors of Mechanics, Installers, and Repairers	7,320
Driver/Sales Workers	6,892
Sales Representatives, Services, All Other	6,710
Bill and Account Collectors	6,635
Executive Secretaries and Executive Administrative Assistants	6,606
Production, Planning, and Expediting Clerks	6,267
Counter and Rental Clerks	5,845
Financial Managers	5,652
Hotel, Motel, and Resort Desk Clerks	5,373
Human Resources Specialists	5,311
Business Operations Specialists, All Other	5,111
Loan Officers	5,077
Postal Service Mail Carriers	5,066
Market Research Analysts and Marketing Specialists	4,584
Parts Salespersons	4,529
Sales Managers	4,316

Occupation	2015 Jobs
Management Analysts	4,297
Insurance Sales Agents	4,225
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	4,120
Industrial Production Managers	4,027
Food Service Managers	3,700
Loan Interviewers and Clerks	3,506
First-Line Supervisors of Non-Retail Sales Workers	3,423
Purchasing Agents, Except Wholesale, Retail, and Farm Products	3,360
Chief Executives	3,304
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	3,272
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	3,075
Administrative Services Managers	3,003
Order Clerks	2,811
Cost Estimators	2,717
Interviewers, Except Eligibility and Loan	2,663
Court, Municipal, and License Clerks	2,637
Construction Managers	2,561
Computer and Information Systems Managers	2,542
Training and Development Specialists	2,513
Residential Advisors	2,491
Telemarketers	2,452
Payroll and Timekeeping Clerks	2,389
First-Line Supervisors of Housekeeping and Janitorial Workers	2,350
Managers, All Other	2,279
First-Line Supervisors of Personal Service Workers	2,223
Switchboard Operators, Including Answering Service	2,126
Data Entry Keyers	2,099
Human Resources Assistants, Except Payroll and	2,046

Occupation	2015 Jobs
Timekeeping	
Securities, Commodities, and Financial Services Sales Agents	1,992
Computer Programmers	1,949
Public Relations Specialists	1,852
Property, Real Estate, and Community Association Managers	1,728
Human Resources Managers	1,660
Real Estate Sales Agents	1,625
Wholesale and Retail Buyers, Except Farm Products	1,613
File Clerks	1,574
Weighers, Measurers, Checkers, and Samplers, Recordkeeping	1,529
Marketing Managers	1,499
Office and Administrative Support Workers, All Other	1,475
Personal Financial Advisors	1,352
Information and Record Clerks, All Other	1,349
Logisticians	1,341
Transportation, Storage, and Distribution Managers	1,325
Social and Community Service Managers	1,272
Financial Analysts	1,270
Tax Preparers	1,266
Claims Adjusters, Examiners, and Investigators	1,212
Procurement Clerks	1,209
Purchasing Managers	1,097
Postal Service Clerks	1,048
Insurance Claims and Policy Processing Clerks	1,046
Postal Service Mail Sorters, Processors, and Processing Machine Operators	1,041
Appraisers and Assessors of Real Estate	976
Sales and Related Workers, All Other	945
Financial Specialists, All Other	901
Demonstrators and Product Promoters	870

Occupation	2015 Jobs
Power Plant Operators	832
New Accounts Clerks	787
Real Estate Brokers	782
Credit Analysts	775
Compensation, Benefits, and Job Analysis Specialists	772
Meeting, Convention, and Event Planners	750
Lodging Managers	747
Mail Clerks and Mail Machine Operators, Except Postal Service	692
Editors	661
Sales Engineers	619
Operations Research Analysts	609
Credit Authorizers, Checkers, and Clerks	600
Tax Examiners and Collectors, and Revenue Agents	593
Office Machine Operators, Except Computer	561
Budget Analysts	513
Insurance Underwriters	480
Training and Development Managers	463
Reservation and Transportation Ticket Agents and Travel Clerks	460
Travel Agents	450
Cargo and Freight Agents	379
Labor Relations Specialists	361
Credit Counselors	356
Technical Writers	356
Stationary Engineers and Boiler Operators	353
Word Processors and Typists	329
Natural Sciences Managers	323
Brokerage Clerks	320
Writers and Authors	264
Financial Examiners	213
Advertising and Promotions Managers	210

Occupation	2015 Jobs
Transportation Workers, All Other	202
Statisticians	201
Compensation and Benefits Managers	173
Telephone Operators	150
Traffic Technicians	142
Plant and System Operators, All Other	142
Gas Plant Operators	140
Transportation Inspectors	126
Statistical Assistants	115
Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	100
Petroleum Pump System Operators, Refinery Operators, and Gaugers	96
Actuaries	93
Power Distributors and Dispatchers	84
Survey Researchers	74
Aircraft Cargo Handling Supervisors	62
Agents and Business Managers of Artists, Performers, and Athletes	60
Economists	59
Travel Guides	56
Gaming Change Persons and Booth Cashiers	53
Models	46
Insurance Appraisers, Auto Damage	46
Correspondence Clerks	45
Gaming Supervisors	34
Gaming Cage Workers	30
Slot Supervisors	<10
Gaming Managers	<10

Source: Economic Modeling Specialists Intl. (EMSI)

For a list of completions by programs that are categorized under CIP 52, refer to Appendix A8.

Summary

The study region is home to numerous technical colleges and well-established institutions. These collectively enroll several hundred thousand students. These institutions offer dozens of programs in the select fields of study. Each plays a role in positioning the area to be responsive to both developing and providing talent. The labor force also employs skills in occupations considered to be, in various ways, related to the fields of study. These skills and aptitudes may be transferrable.

APPENDIX

Appendix A1. County Name and Population Size Represented in 100-Mile Radius of Asheville metro

County Name	2015 Population
Greenville County, SC	488,469
Knox County, TN	454,011
Spartanburg County, SC	296,020
Buncombe County, NC	252,627
York County, SC	247,810
Gaston County, NC	211,680
Anderson County, SC	193,737
Iredell County, NC	169,190
Sullivan County, TN	157,758
Catawba County, NC	155,848
Washington County, TN	128,966
Blount County, TN	126,938
Pickens County, SC	121,421
Henderson County, NC	111,648
Cleveland County, NC	97,348
Burke County, NC	90,764
Sevier County, TN	96,359
Caldwell County, NC	82,139
Lincoln County, NC	81,985
Oconee County, SC	76,011
Greenwood County, SC	70,521
Wilkes County, NC	69,719
Greene County, TN	69,648
Rutherford County, NC	67,780
Laurens County, SC	65,765
Hamblen County, TN	63,587
Haywood County, NC	59,409
Carter County, TN	57,242
Hawkins County, TN	56,823
Cherokee County, SC	56,309
Washington County, VA	55,637
Jefferson County, TN	53,333
Watauga County, NC	53,895
McDowell County, NC	45,349
Monroe County, TN	46,026
Habersham County, GA	44,501
Wise County, VA	40,588
Jackson County, NC	41,622
Newberry County, SC	37,918
Alexander County, NC	37,140

County Name	2015 Population
Cocke County, TN	35,707
Macon County, NC	34,362
Chester County, SC	32,077
Transylvania County, NC	33,266
Claiborne County, TN	31,827
Smyth County, VA	31,313
Russell County, VA	28,204
Union County, SC	27,749
Madison County, GA	28,114
Cherokee County, NC	27,010
Ashe County, NC	27,415
White County, GA	28,505
Stephens County, GA	25,874
Lee County, VA	25,539
Abbeville County, SC	24,783
Hart County, GA	25,900
Scott County, VA	22,519
Grainger County, TN	23,012
Franklin County, GA	21,902
Madison County, NC	20,938
Polk County, NC	20,408
Elbert County, GA	19,246
Union County, TN	19,260
Banks County, GA	18,780
Unicoi County, TN	18,279
Johnson County, TN	18,068
Bristol City County, VA	17,659
Yancey County, NC	17,497
Avery County, NC	17,538
Rabun County, GA	16,370
Dickenson County, VA	15,481
Mitchell County, NC	15,192
Grayson County, VA	14,761
Swain County, NC	14,341
Clay County, NC	10,839
Towns County, GA	10,539
Graham County, NC	8,724
Hancock County, TN	6,678
Norton City County, VA	4,194
	5,573,416

Source: Economic Modeling Specialists Intl. (EMSI)

Appendix A2. Institutions Included in 100-mile Radius, Total Enrollment Estimates, Completion Estimates

Institution	Enrollment Fall 2014	All Certificates, 2014	All Degrees, 2014	All Completions, 2014
The University of Tennessee-Knoxville	30,386	105	7,463	7,568
Clemson University	21,857	147	5,097	5,244
Appalachian State University	18,026	99	4,236	4,335
East Tennessee State University	14,434	46	3,268	3,314
Western Carolina University	10,382	26	2,465	2,491
Greenville Technical College	12,592	1,043	1,209	2,252
Lincoln Memorial University	3,735	1,068	1,049	2,117
Walters State Community College	6,005	1,119	866	1,985
Pellissippi State Community College	10,099	693	1,286	1,979
Gardner-Webb University	4,470	101	1,734	1,835
Asheville-Buncombe Technical Community College	7,507	912	911	1,823
Tri-County Technical College	6,386	670	993	1,663
Winthrop University	6,024	9	1,296	1,305
Gaston College	5,777	541	675	1,216
University of South Carolina-Upstate	5,585	2	1,180	1,182
Northeast State Community College	5,865	318	780	1,098
Piedmont Technical College	5,694	384	623	1,007
King University	2,897	3	968	971
Spartanburg Community College	5,495	311	546	857
North Georgia Technical College	2,663	700	150	850
University of North Carolina at Asheville	3,845	0	830	830
Bob Jones University	3,108	10	817	827
Furman University	2,973	6	796	802
York Technical College	5,061	313	470	783
Catawba Valley Community College	4,742	178	594	772
Caldwell Community College and Technical Institute	3,876	152	578	730
Limestone College	3,214	0	725	725
Haywood Community College	2,069	382	307	689
NASCAR Technical Institute	1,499	672	0	672
Mountain Empire Community College	2,718	395	253	648
Virginia Highlands Community College	2,505	323	315	638
Mitchell Community College	3,106	243	395	638
Western Piedmont Community College	2,056	167	435	602
Southern Wesleyan University	1,778	0	595	595
Tusculum College	1,921	0	589	589
Cleveland Community College	2,990	242	342	584
Lander University	2,787	8	575	583
Anderson University	3,112	0	574	574
Wilkes Community College	2,718	217	341	558
Southwestern Community College	2,528	175	378	553
Tennessee College of Applied Technology-Knoxville	477	515	0	515
Carson-Newman University	2,362	0	494	494
Wofford College	1,658	0	484	484
Isothermal Community College	2,057	227	255	482

Institution	Enrollment Fall 2014	All Certificates, 2014	All Degrees, 2014	All Completions, 2014
North Greenville University	2,569	0	461	461
Lenoir-Rhyne University	2,050	1	438	439
Blue Ridge Community College	2,215	186	220	406
Tennessee College of Applied Technology-Elizabethton	1,300	370	0	370
Strayer University-South Carolina	1,991	2	354	356
Johnson University	1,124	0	348	348
Presbyterian College	1,460	0	333	333
Tennessee College of Applied Technology-Morristown	592	314	0	314
Belmont Abbey College	1,560	0	314	314
Milligan College	1,164	0	311	311
Brown Mackie College-Greenville	708	61	238	299
The University of Virginia's College at Wise	2,183	0	285	285
Converse College	1,389	15	258	273
Montreat College	933	0	247	247
Mars Hill University	1,435	0	239	239
Virginia College-Greenville	453	161	77	238
Emory & Henry College	1,038	0	231	231
Mayland Community College	973	115	109	224
Lees-McRae College	940	0	221	221
Maryville College	1,213	0	218	218
Virginia College-Knoxville	581	196	15	211
Newberry College	1,093	0	208	208
McDowell Technical Community College	1,056	86	121	207
Warren Wilson College	890	0	207	207
Spartanburg Methodist College	793	0	204	204
Virginia College-Spartanburg	413	127	68	195
Toccoa Falls College	920	3	168	171
Young Harris College	1,218	0	170	170
Emmanuel College	816	0	158	158
ITT Technical Institute-Knoxville	294	0	154	154
Erskine College	753	0	140	140
Brevard College	705	0	133	133
ITT Technical Institute-Greenville	269	0	113	113
South College-Asheville	283	28	79	107
Fountainhead College of Technology	123	0	93	93
Truett-McConnell College	1,681	0	93	93
Washington County Adult Skill Center	89	75	0	75
University of South Carolina-Union	679	0	53	53
Clinton College	194	0	31	31
ITT Technical Institute-Johnson City	121	0	28	28
Total Estimates	291,300	14,262	55,075	69,337

Sources: National Center for Education Statistics, Economic Modeling Specialists, Intl. (EMSI)

Appendix A3. Institution Locations

Institution	City	State
The University of Tennessee-Knoxville	Knoxville	Tennessee
Clemson University	Clemson	South Carolina
Appalachian State University	Boone	North Carolina
East Tennessee State University	Johnson City	Tennessee
Greenville Technical College	Greenville	South Carolina
Western Carolina University	Cullowhee	North Carolina
Pellissippi State Community College	Knoxville	Tennessee
Walters State Community College	Morristown	Tennessee
Lincoln Memorial University	Harrogate	Tennessee
Asheville-Buncombe Technical College	Asheville	North Carolina
Gardner-Webb University	Boiling Springs	North Carolina
Winthrop University	Rock Hill	South Carolina
Gaston College	Dallas	North Carolina
Northeast State Community College	Blountville	Tennessee
Tri-County Technical College	Pendleton	South Carolina
University of South Carolina-Upstate	Spartanburg	South Carolina
Piedmont Technical College	Greenwood	South Carolina
Bob Jones University	Greenville	South Carolina
Catawba Valley Community College	Hickory	North Carolina
Caldwell Community College and Tech Institute	Hudson	North Carolina
Limestone College	Gaffney	South Carolina
King University	Bristol	Tennessee
North Georgia Technical College	Clarkesville	Georgia
Spartanburg Community College	Spartanburg	South Carolina
University of North Carolina at Asheville	Asheville	North Carolina
Furman University	Greenville	South Carolina
York Technical College	Rock Hill	South Carolina
NASCAR Technical Institute	Mooresville	North Carolina
Mountain Empire Community College	Big Stone Gap	Virginia
Virginia Highlands Community College	Abingdon	Virginia
Wilkes Community College	Wilkesboro	North Carolina
Southern Wesleyan University	Central	South Carolina
Western Piedmont Community College	Morganton	North Carolina
Haywood Community College	Clyde	North Carolina
Tusculum College	Greeneville	Tennessee
Southwestern Community College	Sylva	North Carolina
Cleveland Community College	Shelby	North Carolina
Mitchell Community College	Statesville	North Carolina
Lander University	Greenwood	South Carolina
Anderson University	Anderson	South Carolina

Institution	City	State
Lenoir-Rhyne University	Hickory	North Carolina
Wofford College	Spartanburg	South Carolina
North Greenville University	Tigerville	South Carolina
Carson-Newman University	Jefferson City	Tennessee
Strayer University-South Carolina	Greenville	South Carolina
Tenn College of Applied Tech-Elizabethton	Elizabethton	Tennessee
Blue Ridge Community College	Flat Rock	North Carolina
Isothermal Community College	Spindale	North Carolina
Tennessee College of Applied Technology-Knoxville	Knoxville	Tennessee
Converse College	Spartanburg	South Carolina
Milligan College	Milligan College	Tennessee
Belmont Abbey College	Belmont	North Carolina
McDowell Technical Community College	Marion	North Carolina
Tennessee College of Applied Tech-Morristown	Morristown	Tennessee
Presbyterian College	Clinton	South Carolina
The University of Virginia's College at Wise	Wise	Virginia
Mayland Community College	Spruce Pine	North Carolina
Johnson University	Knoxville	Tennessee
Brown Mackie College-Greenville	Greenville	South Carolina
Emory & Henry College	Emory	Virginia
Virginia College-Spartanburg	Spartanburg	South Carolina
Warren Wilson College	Swannanoa	North Carolina
Mars Hill University	Mars Hill	North Carolina
Maryville College	Maryville	Tennessee
Newberry College	Newberry	South Carolina
Montreat College	Montreat	North Carolina
Virginia College-Greenville	Greenville	South Carolina
Spartanburg Methodist College	Spartanburg	South Carolina
ITT Technical Institute-Knoxville	Knoxville	Tennessee
Lees-McRae College	Banner Elk	North Carolina
ITT Technical Institute-Greenville	Greenville	South Carolina
Erskine College	Due West	South Carolina
Toccoa Falls College	Toccoa Falls	Georgia
Young Harris College	Young Harris	Georgia
Emmanuel College	Franklin Springs	Georgia
Fountainhead College of Technology	Knoxville	Tennessee
Brevard College	Brevard	North Carolina
South College-Asheville	Asheville	North Carolina
University of South Carolina-Union	Union	South Carolina
Truett-McConnell College	Cleveland	Georgia
Washington County Adult Skill Center	Abingdon	Virginia
ITT Technical Institute-Johnson City	Johnson City	Tennessee

Institution	City	State
Virginia College-Knoxville	Knoxville	Tennessee
Clinton College	Rock Hill	South Carolina

Source: National Center for Education Statistics

Appendix A4. CIP 11: Computer and Information Sciences and Support Services, Award Level by Institution

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Masters degree	Doctors degree	All Certificates	All Degrees	All Completions
Asheville-Buncombe Technical Community College	133	4	28	0	0	0	0	137	28	165
Pellissippi State Community College	111	0	45	0	0	0	0	111	45	156
Clemson University	0	0	0	0	66	69	2	0	137	137
Greenville Technical College	60	0	66	0	0	0	0	60	66	126
East Tennessee State University	0	0	0	0	64	16	0	0	80	80
Gaston College	59	0	18	0	0	0	0	59	18	77
Fountainhead College of Technology	0	0	52	0	22	0	0	0	74	74
University of South Carolina-Upstate	0	0	0	0	72	0	0	0	72	72
Limestone College	0	0	12	0	49	0	0	0	61	61
The University of Tennessee-Knoxville	0	0	0	0	38	11	3	0	52	52
ITT Technical Institute-Knoxville	0	0	40	0	8	0	0	0	48	48

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Masters degree	Doctors degree	All Certificates	All Degrees	All Completions
Piedmont Technical College	14	0	30	0	0	0	0	14	30	44
Cleveland Community College	27	0	16	0	0	0	0	27	16	43
Appalachian State University	0	0	0	0	34	5	0	0	39	39
Strayer University-South Carolina	0	0	7	0	26	6	0	0	39	39
King University	0	0	0	0	36	0	0	0	36	36
York Technical College	16	0	20	0	0	0	0	16	20	36
Northeast State Community College	0	0	35	0	0	0	0	0	35	35
Catawba Valley Community College	11	0	23	0	0	0	0	11	23	34
University of North Carolina at Asheville	0	0	0	0	32	0	0	0	32	32
Virginia Highlands Community College	15	7	9	0	0	0	0	22	9	31
Spartanburg Community College	2	0	28	0	0	0	0	2	28	30
Mitchell Community College	19	1	10	0	0	0	0	20	10	30

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Masters degree	Doctors degree	All Certificates	All Degrees	All Completions
ITT Technical Institute-Greenville	0	0	28	0	2	0	0	0	30	30
Tri-County Technical College	0	0	29	0	0	0	0	0	29	29
Caldwell Community College and Technical Institute	8	1	20	0	0	0	0	9	20	29
Southwestern Community College	0	6	19	0	0	0	0	6	19	25
North Georgia Technical College	3	0	15	4	0	0	0	7	15	22
Blue Ridge Community College	8	0	13	0	0	0	0	8	13	21
Bob Jones University	0	0	0	0	18	0	0	0	18	18
Haywood Community College	9	2	6	0	0	0	0	11	6	17
Wofford College	0	0	0	0	16	0	0	0	16	16
Gardner-Webb University	0	0	0	0	15	0	0	0	15	15
ITT Technical Institute-Johnson City	0	0	14	0	0	0	0	0	14	14
Walters State Community College	0	0	13	0	0	0	0	0	13	13

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Masters degree	Doctors degree	All Certificates	All Degrees	All Completions
Western Carolina University	0	0	0	0	11	0	0	0	11	11
Carson-Newman University	0	0	0	0	10	0	0	0	10	10
Isothermal Community College	1	0	9	0	0	0	0	1	9	10
Tri-County Community College	0	0	9	0	0	0	0	0	9	9
Milligan College	0	0	0	0	9	0	0	0	9	9
Furman University	0	0	0	0	9	0	0	0	9	9
Mountain Empire Community College	9	0	0	0	0	0	0	9	0	9
Brown Mackie College-Greenville	0	0	8	0	0	0	0	0	8	8
Western Piedmont Community College	0	0	7	0	0	0	0	0	7	7
Lander University	0	0	0	0	7	0	0	0	7	7
Lenoir-Rhyne University	0	0	0	0	7	0	0	0	7	7
Southern Wesleyan University	0	0	0	0	6	0	0	0	6	6

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Masters degree	Doctors degree	All Certificates	All Degrees	All Completions
Winthrop University	0	0	0	0	6	0	0	0	6	6
McDowell Technical Community College	0	0	5	0	0	0	0	0	5	5
Wilkes Community College	1	0	3	0	0	0	0	1	3	4
Montreat College	0	0	0	0	4	0	0	0	4	4
Mars Hill University	0	0	0	0	4	0	0	0	4	4
Virginia College-Spartanburg	0	0	4	0	0	0	0	0	4	4
Mayland Community College	0	0	3	0	0	0	0	0	3	3
The University of Virginia's College at Wise	0	0	0	0	3	0	0	0	3	3
Maryville College	0	0	0	0	2	0	0	0	2	2
Virginia College-Knoxville	0	0	2	0	0	0	0	0	2	2
Presbyterian College	0	0	0	0	1	0	0	0	1	1
	506	21	646	4	577	107	5	531	1,335	1,866

Source: EMSI

Appendix A5. CIP 14: Engineering, Award Level by Institution

Institution	Award of less than 1 academic year	Associates degree	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Clemson University	0	0	714	0	274	2	88	2	1,076	1,078
The University of Tennessee-Knoxville	0	0	464	25	228	0	98	25	790	815
Bob Jones University	0	0	14	0	0	0	0	0	14	14
University of North Carolina at Asheville	0	0	12	0	0	0	0	0	12	12
Western Carolina University	0	0	9	0	0	0	0	0	9	9
Maryville College	0	0	4	0	0	0	0	0	4	4
Gaston College	0	2	0	0	0	0	0	0	2	2
The University of Virginia's College at Wise	0	0	2	0	0	0	0	0	2	2
Furman University	0	0	1	0	0	0	0	0	1	1
Mountain Empire Community College	1	0	0	0	0	0	0	1	0	1
Blue Ridge Community College	1	0	0	0	0	0	0	1	0	1
	2	2	1,220	25	502	2	186	29	1,910	1,939

Source: Economic Modeling Specialists Intl. (EMSI)

Appendix A6. CIP 15: Engineering Technologies and Engineering-Related Fields, Award Level by Institution

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	All Certificates	All Degrees	All Completions
Pellissippi State Community College	74	0	66	0	0	0	0	74	66	140
Northeast State Community College	0	6	106	0	0	0	0	6	106	112
Western Carolina University	0	0	0	0	79	0	23	0	102	102
Asheville-Buncombe Technical Community College	28	1	60	0	0	0	0	29	60	89
Greenville Technical College	30	0	57	0	0	0	0	30	57	87
East Tennessee State University	0	0	0	0	70	0	15	0	85	85
Appalachian State University	0	0	0	0	65	0	15	0	80	80
Spartanburg Community College	20	0	40	0	0	0	0	20	40	60
ITT Technical Institute-Greenville	0	0	43	0	14	0	0	0	57	57
York Technical College	18	2	37	0	0	0	0	20	37	57
Mountain Empire Community College	11	1	43	0	0	0	0	12	43	55
Piedmont Technical College	5	0	47	0	0	0	0	5	47	52
Isothermal Community College	14	2	32	0	0	0	0	16	32	48
Haywood Community College	36	0	11	0	0	0	0	36	11	47
Clemson University	0	0	0	0	43	0	4	0	47	47
Tri-County Technical College	23	0	20	0	0	0	0	23	20	43
Walters State Community College	25	0	17	0	0	0	0	25	17	42
Mitchell Community College	23	0	15	0	0	0	0	23	15	38
Wilkes Community College	14	0	21	0	0	0	0	14	21	35
ITT Technical Institute-Knoxville	0	0	34	0	0	0	0	0	34	34
Caldwell Community College and Technical Institute	10	0	20	0	0	0	0	10	20	30
Gaston College	4	0	23	0	0	0	0	4	23	27
Catawba Valley Community College	0	0	25	0	0	0	0	0	25	25
Western Piedmont Community College	0	0	23	0	0	0	0	0	23	23
Cleveland Community College	4	1	11	0	0	0	0	5	11	16
Southwestern Community College	0	0	16	0	0	0	0	0	16	16
Virginia Highlands Community College	6	1	6	0	0	0	0	7	6	13
ITT Technical Institute-Johnson City	0	0	13	0	0	0	0	0	13	13
Tennessee College of Applied Technology-Morristown	0	0	0	11	0	0	0	11	0	11
North Georgia Technical College	0	0	10	0	0	0	0	0	10	10
University of South Carolina-Upstate	0	0	0	0	8	0	0	0	8	8
Blue Ridge Community College	2	0	6	0	0	0	0	2	6	8
Mayland Community College	0	0	5	0	0	0	0	0	5	5
Fountainhead College of Technology	0	0	4	0	0	0	0	0	4	4
McDowell Technical Community College	0	0	2	0	0	0	0	0	2	2
Bob Jones University	0	0	0	0	1	0	0	0	1	1

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	All Certificates	All Degrees	All Completions
The University of Tennessee-Knoxville	0	0	0	0	0	1	0	1	0	1
	347	14	813	11	280	1	57	373	1,150	1,523

Source: Economic Modeling Specialists Intl. (EMSI)

Appendix A7. CIP 52: Business, Management, Marketing, and Related Support Services, Award Level by Institution

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
The University of Tennessee-Knoxville	0	0	0	0	867	0	346	0	22	0	1,235	1,235
Clemson University	59	0	0	0	668	0	250	0	2	59	920	979
Appalachian State University	0	0	0	0	619	6	86	0	0	6	705	711
Western Carolina University	0	0	0	0	304	0	107	0	0	0	411	411
East Tennessee State University	0	0	0	0	270	6	102	0	0	6	372	378
King University	0	0	0	0	230	0	145	0	0	0	375	375
Pellissippi State Community College	235	0	101	0	0	0	0	0	0	235	101	336
Limestone College	0	0	56	0	269	0	8	0	0	0	333	333
Winthrop University	0	0	0	0	214	0	96	0	0	0	310	310
Southern Wesleyan University	0	0	31	0	143	0	134	0	0	0	308	308
Gardner-Webb University	0	0	0	0	142	0	127	9	0	9	269	278
Strayer University-South Carolina	0	0	37	0	108	2	127	0	0	2	272	274
Tusculum College	0	0	0	0	196	0	33	0	0	0	229	229

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Greenville Technical College	39	0	162	0	0	0	0	0	0	39	162	201
Tri-County Technical College	81	8	99	0	0	0	0	0	0	89	99	188
Asheville-Buncombe Technical Community College	102	7	70	0	0	0	0	0	0	109	70	179
Piedmont Technical College	29	0	147	0	0	0	0	0	0	29	147	176
Gaston College	71	18	74	0	0	0	0	0	0	89	74	163
Anderson University	0	0	0	0	126	0	34	0	0	0	160	160
Lincoln Memorial University	0	0	0	0	67	0	92	0	0	0	159	159
University of South Carolina-Upstate	0	0	0	0	157	0	0	0	0	0	157	157
Montreat College	0	0	9	0	74	0	66	0	0	0	149	149
Lander University	8	0	0	0	118	0	0	0	0	8	118	126
Bob Jones University	0	0	17	0	101	0	4	0	0	0	122	122
York Technical College	19	1	100	0	0	0	0	0	0	20	100	120
Wofford College	0	0	0	0	113	0	0	0	0	0	113	113
Spartanburg Community College	20	0	86	0	0	0	0	0	0	20	86	106

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Belmont Abbey College	0	0	0	0	105	0	0	0	0	0	105	105
Mitchell Community College	65	1	37	0	0	0	0	0	0	66	37	103
North Georgia Technical College	22	29	47	0	0	0	0	0	0	51	47	98
North Greenville University	0	0	0	0	62	0	33	0	0	0	95	95
Furman University	0	0	0	0	94	0	0	0	0	0	94	94
Carson-Newman University	0	0	0	0	72	0	20	0	0	0	92	92
Piedmont College	0	0	0	0	57	0	30	0	0	0	87	87
Northeast State Community College	0	33	54	0	0	0	0	0	0	33	54	87
Milligan College	0	0	0	0	42	0	34	0	0	0	76	76
University of North Carolina at Asheville	0	0	0	0	76	0	0	0	0	0	76	76
Catawba Valley Community College	11	2	53	0	0	0	0	0	0	13	53	66
Virginia Highlands Community College	13	18	34	0	0	0	0	0	0	31	34	65

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Walters State Community College	0	0	64	0	0	0	0	0	0	0	64	64
Brown Mackie College-Greenville	0	18	36	0	9	0	0	0	0	18	45	63
Lenoir-Rhyne University	0	0	0	0	52	0	10	0	0	0	62	62
Haywood Community College	28	4	28	0	0	0	0	0	0	32	28	60
Presbyterian College	0	0	0	0	59	0	0	0	0	0	59	59
Southwestern Community College	3	24	31	0	0	0	0	0	0	27	31	58
Caldwell Community College and Technical Institute	5	4	45	0	0	0	0	0	0	9	45	54
The University of Virginia's College at Wise	0	0	0	0	53	0	0	0	0	0	53	53
Tennessee College of Applied Technology-Morristown	0	39	0	13	0	0	0	0	0	52	0	52
Newberry College	0	0	0	0	47	0	0	0	0	0	47	47
Mars Hill University	0	0	0	0	47	0	0	0	0	0	47	47

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Isothermal Community College	21	2	23	0	0	0	0	0	0	23	23	46
Blue Ridge Community College	19	7	19	0	0	0	0	0	0	26	19	45
Wilkes Community College	3	8	32	0	0	0	0	0	0	11	32	43
Western Piedmont Community College	22	0	20	0	0	0	0	0	0	22	20	42
Cleveland Community College	10	2	30	0	0	0	0	0	0	12	30	42
Tennessee College of Applied Technology-Elizabethton	0	37	0	0	0	0	0	0	0	37	0	37
Maryville College	0	0	0	0	34	0	0	0	0	0	34	34
Young Harris College	0	0	0	0	31	0	0	0	0	0	31	31
Mountain Empire Community College	5	6	17	0	0	0	0	0	0	11	17	28
South College	0	0	2	0	24	0	0	0	0	0	26	26
Tennessee College of Applied Technology-Knoxville	0	25	0	0	0	0	0	0	0	25	0	25
Truett-McConnell College	0	0	0	0	25	0	0	0	0	0	25	25

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Virginia College-Greenville	0	0	24	0	0	0	0	0	0	0	24	24
Erskine College	0	0	0	0	22	0	0	0	0	0	22	22
Spartanburg Methodist College	0	0	22	0	0	0	0	0	0	0	22	22
Tri-County Community College	4	5	12	0	0	0	0	0	0	9	12	21
Brevard College	0	0	0	0	20	0	0	0	0	0	20	20
Emory & Henry College	0	0	0	0	19	0	0	0	0	0	19	19
McDowell Technical Community College	5	1	12	0	0	0	0	0	0	6	12	18
ITT Technical Institute-Knoxville	0	0	2	0	16	0	0	0	0	0	18	18
Toccoa Falls College	0	0	2	0	14	0	0	0	0	0	16	16
Washington County Adult Skill Center	0	14	0	0	0	0	0	0	0	14	0	14
Johnson University	0	0	0	0	14	0	0	0	0	0	14	14
Lees-McRae College	0	0	0	0	13	0	0	0	0	0	13	13
Virginia College-Spartanburg	0	0	12	0	0	0	0	0	0	0	12	12
Emmanuel College	0	0	0	0	11	0	0	0	0	0	11	11
Forrest College	0	0	11	0	0	0	0	0	0	0	11	11

Institution	Award of less than 1 academic year	Award of at least 1 but less than 2 academic years	Associates degree	Award of at least 2 but less than 4 academic years	Bachelors degree	Postbaccalaureate certificate	Masters degree	Post-masters certificate	Doctors degree	All Certificates	All Degrees	All Completions
Converse College	0	0	0	0	10	0	0	0	0	0	10	10
Clinton College	0	0	6	0	1	0	0	0	0	0	7	7
Warren Wilson College	0	0	0	0	7	0	0	0	0	0	7	7
ITT Technical Institute-Greenville	0	0	0	0	7	0	0	0	0	0	7	7
Mayland Community College	0	0	6	0	0	0	0	0	0	0	6	6
Virginia College-Knoxville	0	0	4	0	0	0	0	0	0	0	4	4
South College-Asheville	0	0	2	0	0	0	0	0	0	0	2	2
	899	313	1,676	13	5,829	14	1,884	9	24	1,248	9,413	10,661

Source: Economic Modeling Specialists Intl. (EMSI)

Appendix A8. Completions and Regional Jobs by Program

CIP Code 11	Program	Regional Completions (2014)
11.0101	Computer and Information Sciences, General	388
11.0102	Artificial Intelligence	0
11.0103	Information Technology	372
11.0104	Informatics	0
11.0199	Computer and Information Sciences, Other	11
11.0201	Computer Programming/Programmer, General	66
11.0202	Computer Programming, Specific Applications	8
11.0203	Computer Programming, Vendor/Product Certification	0
11.0299	Computer Programming, Other	0
11.0301	Data Processing and Data Processing Technology/Technician	224
11.0401	Information Science/Studies	154
11.0501	Computer Systems Analysis/Analyst	22
11.0601	Data Entry/Microcomputer Applications, General	0
11.0602	Word Processing	0
11.0699	Data Entry/Microcomputer Applications, Other	0
11.0701	Computer Science	161
11.0801	Web Page, Digital/Multimedia and Information Resources Design	55
11.0802	Data Modeling/Warehousing and Database Administration	0
11.0803	Computer Graphics	0
11.0804	Modeling, Virtual Environments and Simulation	0
11.0899	Computer Software and Media Applications, Other	13
11.0901	Computer Systems Networking and Telecommunications	165
11.1001	Network and System Administration/Administrator	16
11.1002	System, Networking, and LAN/WAN Management/Manager	63
11.1003	Computer and Information Systems Security/Information Assurance	78
11.1004	Web/Multimedia Management and Webmaster	0
11.1005	Information Technology Project Management	0
11.1006	Computer Support Specialist	16
11.1099	Computer/Information Technology Services Administration and Management, Other	20
11.9999	Computer and Information Sciences and Support Services, Other	34
	Total Estimates CIP 11: Computer and Information Sciences and Support Services	1,866

CIP Code 14	Program	Regional Completions (2014)
14.0101	Engineering, General	30
14.0102	Pre-Engineering	0
14.0201	Aerospace, Aeronautical and Astronautical/Space Engineering	35
14.0301	Agricultural Engineering	46
14.0401	Architectural Engineering	0
14.0501	Bioengineering and Biomedical Engineering	191
14.0601	Ceramic Sciences and Engineering	3
14.0701	Chemical Engineering	124

14.0702	Chemical and Biomolecular Engineering	0
14.0799	Chemical Engineering, Other	8
14.0801	Civil Engineering, General	328
14.0802	Geotechnical and Geoenvironmental Engineering	0
14.0803	Structural Engineering	0
14.0804	Transportation and Highway Engineering	0
14.0805	Water Resources Engineering	0
14.0899	Civil Engineering, Other	0
14.0901	Computer Engineering, General	76
14.0902	Computer Hardware Engineering	0
14.0903	Computer Software Engineering	2
14.0999	Computer Engineering, Other	0
14.1001	Electrical and Electronics Engineering	209
14.1003	Laser and Optical Engineering	0
14.1004	Telecommunications Engineering	0
14.1099	Electrical, Electronics and Communications Engineering, Other	0
14.1101	Engineering Mechanics	0
14.1201	Engineering Physics/Applied Physics	0
14.1301	Engineering Science	4
14.1401	Environmental/Environmental Health Engineering	56
14.1801	Materials Engineering	68
14.1901	Mechanical Engineering	369
14.2001	Metallurgical Engineering	0
14.2101	Mining and Mineral Engineering	0
14.2201	Naval Architecture and Marine Engineering	0
14.2301	Nuclear Engineering	103
14.2401	Ocean Engineering	0
14.2501	Petroleum Engineering	0
14.2701	Systems Engineering	0
14.2801	Textile Sciences and Engineering	0
14.3201	Polymer/Plastics Engineering	4
14.3301	Construction Engineering	0
14.3401	Forest Engineering	0
14.3501	Industrial Engineering	210
14.3601	Manufacturing Engineering	0
14.3701	Operations Research	0
14.3801	Surveying Engineering	1
14.3901	Geological/Geophysical Engineering	0
14.4001	Paper Science and Engineering	0
14.4101	Electromechanical Engineering	0
14.4201	Mechatronics, Robotics, and Automation Engineering	3
14.4301	Biochemical Engineering	0
14.4401	Engineering Chemistry	0
14.4501	Biological/Biosystems Engineering	0
14.9999	Engineering, Other	69
	Total Estimates CIP 14: Engineering	1,939

CIP Code 15	Program	Regional Completions (2014)
15.0000	Engineering Technology, General	280
15.0101	Architectural Engineering Technology/Technician	19
15.0201	Civil Engineering Technology/Technician	16
15.0303	Electrical, Electronic and Communications Engineering Technology/Technician	344
15.0304	Laser and Optical Technology/Technician	0
15.0305	Telecommunications Technology/Technician	0
15.0306	Integrated Circuit Design	0
15.0399	Electrical and Electronic Engineering Technologies/Technicians, Other	31
15.0401	Biomedical Technology/Technician	11
15.0403	Electromechanical Technology/Electromechanical Engineering Technology	4
15.0404	Instrumentation Technology/Technician	0
15.0405	Robotics Technology/Technician	0
15.0406	Automation Engineer Technology/Technician	1
15.0499	Electromechanical and Instrumentation and Maintenance Technologies/Technicians, Other	94
15.0501	Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology/Technician	0
15.0503	Energy Management and Systems Technology/Technician	18
15.0505	Solar Energy Technology/Technician	65
15.0506	Water Quality and Wastewater Treatment Management and Recycling Technology/Technician	4
15.0507	Environmental Engineering Technology/Environmental Technology	0
15.0508	Hazardous Materials Management and Waste Technology/Technician	0
15.0599	Environmental Control Technologies/Technicians, Other	18
15.0607	Plastics and Polymer Engineering Technology/Technician	0
15.0611	Metallurgical Technology/Technician	0
15.0612	Industrial Technology/Technician	116
15.0613	Manufacturing Engineering Technology/Technician	16
15.0614	Welding Engineering Technology/Technician	0
15.0615	Chemical Engineering Technology/Technician	0
15.0616	Semiconductor Manufacturing Technology	0
15.0699	Industrial Production Technologies/Technicians, Other	50
15.0701	Occupational Safety and Health Technology/Technician	0
15.0702	Quality Control Technology/Technician	7
15.0703	Industrial Safety Technology/Technician	0
15.0704	Hazardous Materials Information Systems Technology/Technician	0
15.0799	Quality Control and Safety Technologies/Technicians, Other	0
15.0801	Aeronautical/Aerospace Engineering Technology/Technician	0
15.0803	Automotive Engineering Technology/Technician	0
15.0805	Mechanical Engineering/Mechanical Technology/Technician	99
15.0899	Mechanical Engineering Related Technologies/Technicians, Other	0
15.0901	Mining Technology/Technician	0
15.0903	Petroleum Technology/Technician	0
15.0999	Mining and Petroleum Technologies/Technicians, Other	0
15.1001	Construction Engineering Technology/Technician	59
15.1102	Surveying Technology/Surveying	17
15.1103	Hydraulics and Fluid Power Technology/Technician	0
15.1199	Engineering-Related Technologies, Other	0

15.1201	Computer Engineering Technology/Technician	61
15.1202	Computer Technology/Computer Systems Technology	1
15.1203	Computer Hardware Technology/Technician	0
15.1204	Computer Software Technology/Technician	0
15.1299	Computer Engineering Technologies/Technicians, Other	0
15.1301	Drafting and Design Technology/Technician, General	38
15.1302	CAD/CADD Drafting and/or Design Technology/Technician	32
15.1303	Architectural Drafting and Architectural CAD/CADD	4
15.1304	Civil Drafting and Civil Engineering CAD/CADD	0
15.1305	Electrical/Electronics Drafting and Electrical/Electronics CAD/CADD	0
15.1306	Mechanical Drafting and Mechanical Drafting CAD/CADD	59
15.1399	Drafting/Design Engineering Technologies/Technicians, Other	0
15.1401	Nuclear Engineering Technology/Technician	0
15.1501	Engineering/Industrial Management	9
15.1502	Engineering Design	0
15.1503	Packaging Science	47
15.1599	Engineering-Related Fields, Other	0
15.1601	Nanotechnology	0
15.9999	Engineering Technologies and Engineering-Related Fields, Other	3
	Total Estimates CIP 15: Engineering Technologies and Engineering-Related Fields	1,523

CIP Code 52	Program	Regional Completions (2014)
52.0101	Business/Commerce, General	692
52.0201	Business Administration and Management, General	4,494
52.0202	Purchasing, Procurement/Acquisitions and Contracts Management	8
52.0203	Logistics, Materials, and Supply Chain Management	291
52.0204	Office Management and Supervision	189
52.0205	Operations Management and Supervision	161
52.0206	Non-Profit/Public/Organizational Management	25
52.0207	Customer Service Management	0
52.0208	E-Commerce/Electronic Commerce	23
52.0209	Transportation/Mobility Management	0
52.0210	Research and Development Management	0
52.0211	Project Management	23
52.0212	Retail Management	0
52.0213	Organizational Leadership	65
52.0299	Business Administration, Management and Operations, Other	398
52.0301	Accounting	1,232
52.0302	Accounting Technology/Technician and Bookkeeping	135
52.0303	Auditing	0
52.0304	Accounting and Finance	26
52.0305	Accounting and Business/Management	13
52.0399	Accounting and Related Services, Other	11
52.0401	Administrative Assistant and Secretarial Science, General	369
52.0402	Executive Assistant/Executive Secretary	115
52.0406	Receptionist	0

52.0407	Business/Office Automation/Technology/Data Entry	38
52.0408	General Office Occupations and Clerical Services	50
52.0409	Parts, Warehousing, and Inventory Management Operations	0
52.0410	Traffic, Customs, and Transportation Clerk/Technician	0
52.0411	Customer Service Support/Call Center/Teleservice Operation	4
52.0499	Business Operations Support and Secretarial Services, Other	95
52.0501	Business/Corporate Communications	0
52.0601	Business/Managerial Economics	108
52.0701	Entrepreneurship/Entrepreneurial Studies	118
52.0702	Franchising and Franchise Operations	0
52.0703	Small Business Administration/Management	0
52.0799	Entrepreneurial and Small Business Operations, Other	0
52.0801	Finance, General	440
52.0803	Banking and Financial Support Services	6
52.0804	Financial Planning and Services	0
52.0806	International Finance	0
52.0807	Investments and Securities	0
52.0808	Public Finance	0
52.0809	Credit Management	0
52.0899	Finance and Financial Management Services, Other	0
52.0901	Hospitality Administration/Management, General	80
52.0903	Tourism and Travel Services Management	0
52.0904	Hotel/Motel Administration/Management	66
52.0905	Restaurant/Food Services Management	5
52.0906	Resort Management	0
52.0907	Meeting and Event Planning	0
52.0908	Casino Management	0
52.0909	Hotel, Motel, and Restaurant Management	7
52.0999	Hospitality Administration/Management, Other	0
52.1001	Human Resources Management/Personnel Administration, General	188
52.1002	Labor and Industrial Relations	0
52.1003	Organizational Behavior Studies	15
52.1004	Labor Studies	0
52.1005	Human Resources Development	63
52.1099	Human Resources Management and Services, Other	0
52.1101	International Business/Trade/Commerce	54
52.1201	Management Information Systems, General	78
52.1206	Information Resources Management	2
52.1207	Knowledge Management	0
52.1299	Management Information Systems and Services, Other	0
52.1301	Management Science	47
52.1302	Business Statistics	47
52.1304	Actuarial Science	11
52.1399	Management Sciences and Quantitative Methods, Other	0
52.1401	Marketing/Marketing Management, General	627
52.1402	Marketing Research	0
52.1403	International Marketing	0
52.1499	Marketing, Other	49

52.1501	Real Estate	17
52.1601	Taxation	0
52.1701	Insurance	48
52.1801	Sales, Distribution, and Marketing Operations, General	28
52.1802	Merchandising and Buying Operations	0
52.1803	Retailing and Retail Operations	0
52.1804	Selling Skills and Sales Operations	0
52.1899	General Merchandising, Sales, and Related Marketing Operations, Other	0
52.1901	Auctioneering	0
52.1902	Fashion Merchandising	3
52.1903	Fashion Modeling	0
52.1904	Apparel and Accessories Marketing Operations	0
52.1905	Tourism and Travel Services Marketing Operations	0
52.1906	Tourism Promotion Operations	0
52.1907	Vehicle and Vehicle Parts and Accessories Marketing Operations	0
52.1908	Business and Personal/Financial Services Marketing Operations	0
52.1909	Special Products Marketing Operations	0
52.1910	Hospitality and Recreation Marketing Operations	0
52.1999	Specialized Merchandising, Sales, and Marketing Operations, Other	0
52.2001	Construction Management	97
52.2101	Telecommunications Management	0
52.9999	Business, Management, Marketing, and Related Support Services, Other	0
	Total Estimates CIP 52: Business, Management, Marketing, and Related Support Services	10,661

Source: Economic Modeling Specialists Intl. (EMSI)