

# NCWorks Career Pathways Conference

## Preparing North Carolina Workforce for Star Quality Jobs

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North Carolina Department of Commerce



# Demand-Driven & Data-Informed

- ✓ To demonstrate growth industry sectors
- ✓ To identify in-demand occupations
- ✓ To match labor supply & demand
- ✓ To understand employers' needs

# *What data?*

## *Where are the data?*



# Agenda

- Employment Projections
- 5-Star Occupational Ratings
- Real Time Job Postings
- Common Follow-Up System
- Employer Needs Survey

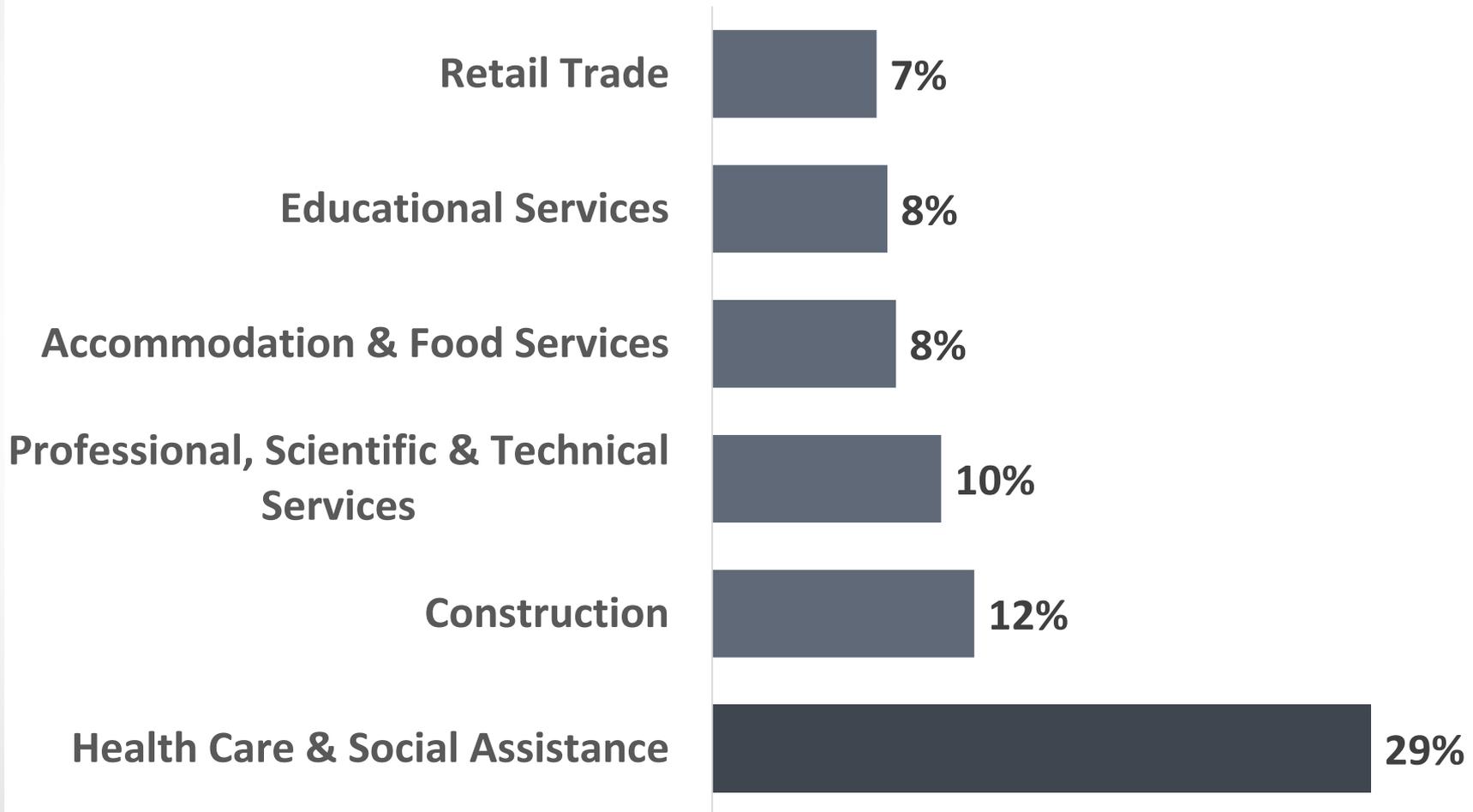
# Projections

- Employment Projections
  - Industry & Occupational
- Long-term vs. Short-term
  - 2 years & 10 years
- Geography
  - State & Prosperity Zones

# Projections Can Answer:

- Fast growing/declining industries
- Top occupations in demand
- Projected number of job openings  
(new jobs + replacement needs)
- Typical level of education, training,  
and work experience needed for entry  
level positions

# Industries Projected to Add the Most Jobs, 2012-2022



# Occupations Projected to Add the Most Jobs, 2012-2022

- # **6** – Customer Service Representatives
- # **5** – Retail Salespersons
- # **4** – Nursing Assistants
- # **3** – Registered Nurses
- # **2** – Home Health Aides
- # **1** – Food Preparation & Serving Workers

# Fastest Growing Occupations

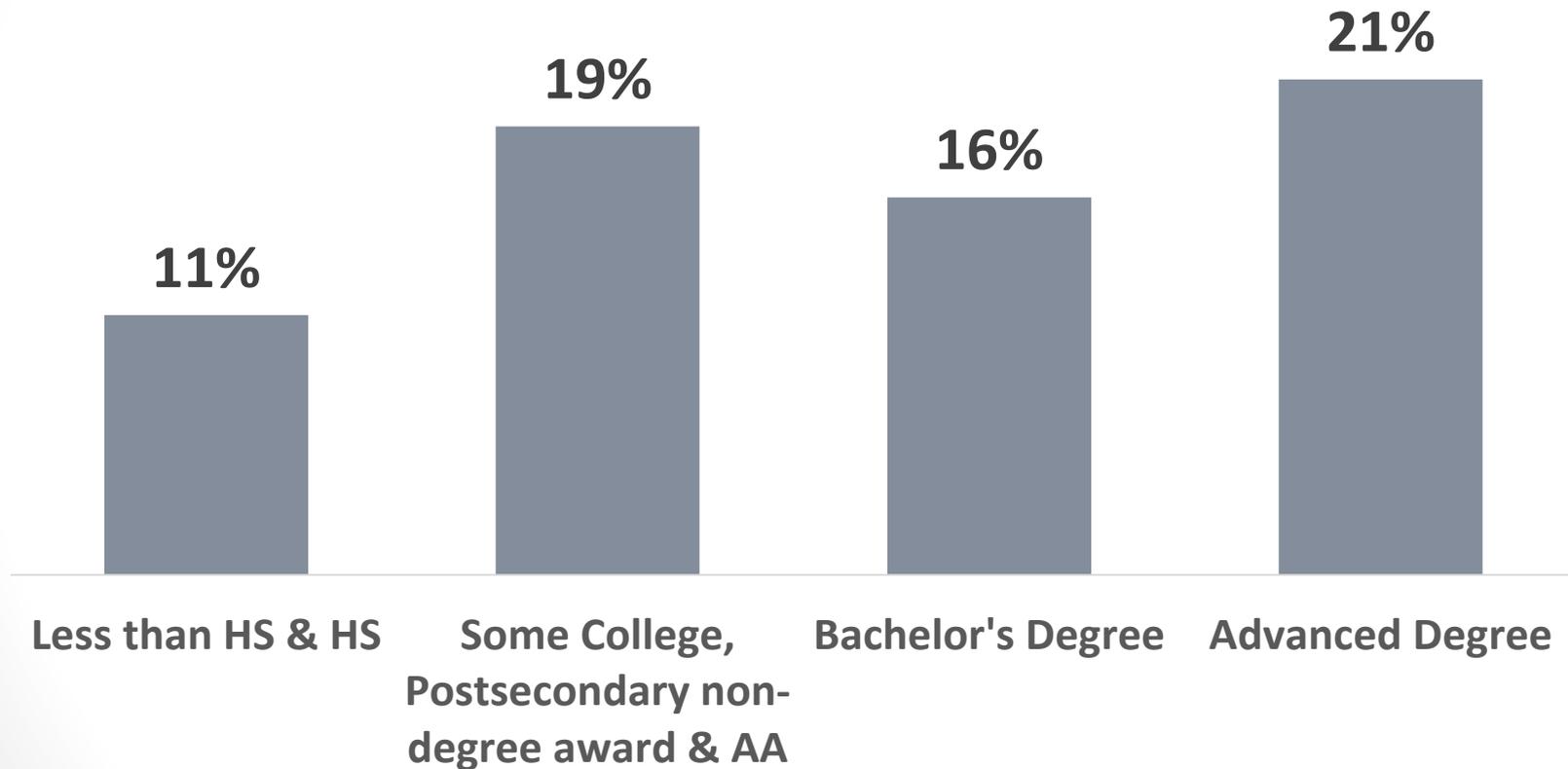
## 2012-2022

Occupations	2012	2022	Number	Percent
Industrial-Organizational Psychologists	89	158	69	77.5
Personal Care Aides	14,711	25,150	10,439	71.0
Insulation Workers, Mechanical	605	1,012	407	67.3
Helpers--Brickmasons, Blockmasons, Stonemasons, Tile & Marble Setters	1,369	2,238	869	63.5
Dental Hygienists	6,162	9,594	3,432	55.7
Psychiatric Aides	798	1,237	439	55.0
Insulation Workers, Floor, Ceiling & Wall	921	1,403	482	52.3
Brickmasons & Blockmasons	2,793	4,232	1,439	51.5

# Minimum Education Required

Jobs in occupations requiring a form of postsecondary education for entry-level will grow faster during the projected 2012-2022 period

# Projected Growth Rate by Education Level, 2012-2022





- Replaced “Hot Jobs”
- Graded Nearly 550 NC Occupations
  - **Projected Openings**
  - **Growth Rate**
  - **Wage**
- Assessed 1 to 5 Stars
  - **More Stars, Better Career Prospects**

## Star Jobs

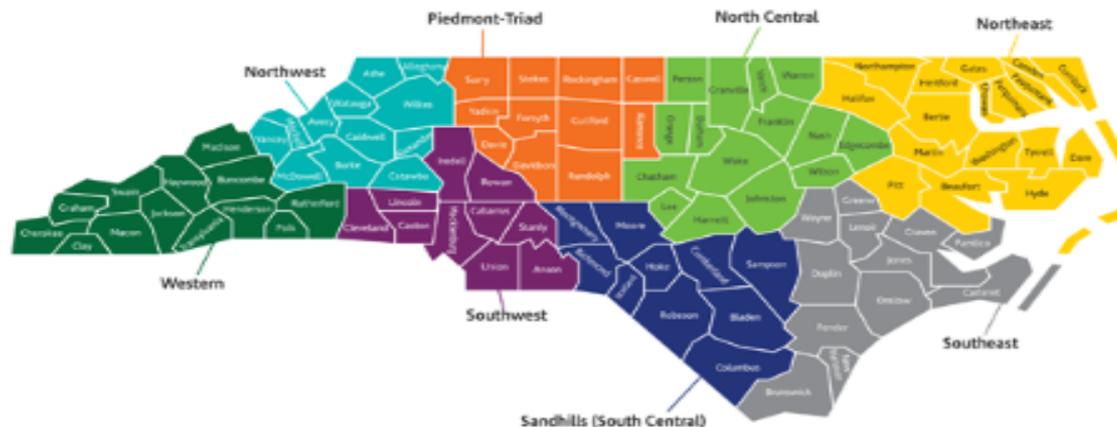
North Carolina Star Jobs is a new and simplified way to help you identify promising occupations. Star ratings are assigned based on wages, projected growth rate, and projected job openings, and each occupation has a rating of between 1 and 5 stars. Occupations with 5 stars are considered to have much better career prospects than occupations with fewer stars.

- Star Jobs Methodology
- Searchable website with the listing of Star Jobs

## Statewide Brochures\*

- All 5-Star Jobs for North Carolina
- Top 15 Star Jobs by Minimum Education Level

## Prosperity Zone Brochures - Top 15 Star Jobs



# Star Jobs Online



[accessnc.commerce.state.nc.us/  
careers/starjobs/star\\_jobs.html](https://accessnc.commerce.state.nc.us/careers/starjobs/star_jobs.html)

# Star Jobs

By Education

By Region

Star Jobs About NORTH CAROLINA STAR JOBS

Area: Statewide Annual Wage: No Minimi No Maxim Education: All Education Levels Career Cluster: All Career Clusters

Filter Search Result Start Over

By Wage Range

By Career Cluster

Excel Print

Occupation		Employment				Wage	Education
Stars	Title	2012	2022	10yr Change	AGR	Openings	Requirement
★★★★★	Accountants and Auditors +	32,799	36,261	3,462	1.06%	1,519	Bachelor's degree
★★★★★	Architects, Except Landscape and Naval +	2,740	3,469	729	2.39%	138	Bachelor's degree
★★★★★	Cardiovascular Technologists and Technicians +	6,311	7,380	1,069	1.68%	1,519	Associate's degree
★★★★★	Carpenters +	21,613	28,819	7,206	2.92%	987	High school diploma or equivalent
★★★★★	Civil Engineers +	8,555	10,386	1,831	2.14%	409	Bachelor's degree
★★★★★	Claims Adjusters, Examiners, and Investigators +	5,892	6,754	862	1.37%	222	High school diploma or equivalent
★★★★★	Computer and Information Systems Managers +	11,485	13,412	1,927	1.56%	353	Bachelor's degree
★★★★★	Computer Network Architects +	5,193	5,854	661	1.21%	148	Bachelor's degree
★★★★★	Computer Systems Analysts +	13,388	16,859	3,471	2.33%	557	Bachelor's degree
★★★★★	Computer User Support Specialists +	19,524	23,077	3,553	1.69%	662	Some college, no degree
★★★★★	Construction Managers +	14,169	17,456	3,287	2.11%	552	Bachelor's degree

Projected Growth Rate & Openings



# Star Jobs

Area: Statewide Annual Wage: No Minimi No Maxim Education: All Education Levels Career Cluster: All Career Clusters

Filter Search Result Start Over

Search Occupation:  Excel Print

Occupation		Employment				Wage	Education
Stars	Title	2012	2022	10yr Change	AGR	Openings	Requirement
★★★★★	Accountants and Auditors +	32,799	38,281	5,482	1.56%	1,519	Bachelor's degree
★★★★★	Architects, Except Landscape and Naval -	2,740	3,469	729	2.39%	138	Bachelor's degree

Area: Statewide

2015 Wages:

	Entry	Median	Experienced
Hourly	\$25.63	\$35.90	\$44.74
Annual	\$53,320	\$74,680	\$93,060

SOC: 171011

Individual Rating:

Wage	Openings	Growth Rate
★★★★★	★★★★	★★★★★

**Entry, Median, & Experienced Wages**

**Star Rating by Criteria**

★★★★★	Cardiovascular Technologists and Technicians +	1,311	1,730	419	2.81%	60	\$62,420	Associate's degree
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# Star Jobs

Search Occupation:

Occupation ⓘ			Employment ⓘ				Wage ⓘ Hourly	Requirements ⓘ		
Stars	SOC	Title	2012	2022	Change	% Growth	Annual Openings	Annual Median	License	Education
★★★★	47-4011	Construction and Building Inspectors -	3,403	3,954	551	1.51%	135	\$48,500	✔	High school diploma or equivalent

Area: Statewide

SOC: 47-4011

**2015 Wages:**

	Entry	Median	Experienced
Hourly	\$16.24	\$23.32	\$27.71
Annual	\$33,780	\$48,500	\$57,640

**Individual Rating:**

Wage	Openings	Growth Rate
★★★★	★★★★	★★★★

[Detail Occupational Profile](#)

**Career Cluster & Pathway:**

- Architecture and Construction
  - Construction
- Government and Public Administration
  - Regulation

**Occupations Requiring a License in North Carolina:**

- ♦ Building Inspector
- ♦ Code Enforcement Official
- ♦ Electrical Inspector
- ♦ Home Inspector
- ♦ Mechanical Inspector
- ♦ Plumbing Inspector

Occupations Profiles

[http://accessnc.commerce.state.nc.us/careers/stariobs/oes\\_profiles/OES\\_profile\\_474011.pdf](http://accessnc.commerce.state.nc.us/careers/stariobs/oes_profiles/OES_profile_474011.pdf)



# Occupation Profiles



## Operating Engineers and Other Construction Equipment Operators

### What do operating engineers and other construction equipment operators do?

Operating engineers and other construction equipment operators use construction equipment like bulldozers and front-end loaders to dig, move, and grade earth; erect structures; or pour concrete. Among other duties, they may repair and maintain equipment. They typically do the following:

- Learn and follow safety regulations
- Act to avoid potential hazards or obstructions, such as utility lines, other equipment, other workers, or falling objects
- Locate underground services, such as pipes or wires, prior to beginning work
- Monitor operations to ensure that health and safety standards are met
- Move levers, push pedals, or turn valves to activate power equipment
- Drive and maneuver equipment
- Coordinate machine actions with crew members in response to hand or audio signals
- Check to make sure that fuel supplies at sites are adequate

### What's the work environment like?

Construction equipment operators work in nearly every weather condition. Workers often get dirty, greasy, muddy, or dusty. Some operators work in remote locations on large construction projects, such as highways and dams, or in factories or mines. Construction equipment operators may have irregular hours because work on some construction projects continues around the clock or must be done late at night. Extremely cold weather or rain can stop some types of construction. Nearly all operators work full time.

### Are my interests similar to those of operating engineers and other construction equipment operators?

The interests of operating engineers and other construction equipment operators typically match jobs that have the following characteristics:

<i>Realistic</i>	<i>Conventional</i>	<i>Investigative</i>
Often involve work activities that include practical, hands-on problems and solutions. Usually include working with actual materials - many times in an outdoor setting.	Often involve following set procedures and routines. May include working with data and details more than with ideas. Usually have a clear line of authority to follow.	Frequently require working with ideas and involve an extensive amount of thinking. May involve searching for facts and figuring out problems mentally.

You'll find additional information about interests in the introduction to these profiles. To learn more about your interests and how they may connect with careers, try the brief activity at [www.mynextmove.org/explore/ip](http://www.mynextmove.org/explore/ip).

### What are the most important types of knowledge, skills, and abilities to have in this field?

# Occupation Profiles

- What the Occupation Does
- Work Environment
- Typical Interests
- Top Knowledge, Skills, Abilities
- Education, Training, Experience
- Employer Industries
- Job Outlook in NC
- Median NC Wage
- Similar Jobs

# Star Jobs

Search Start Over

Search Occupation:

Excel Print

Occupation ⓘ			Employment ⓘ				Wage ⓘ Hourly	Requirements ⓘ		
Stars	SOC	Title	2012	2022	Change	% Growth	Annual Openings	Annual Median	License	Education
★★★★	47-4011	Construction and Building Inspectors -	3,403	3,954	551	1.51%	135	\$48,500	✔	High school diploma or equivalent

Area: Statewide

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2015 Wages:

	Entry	Median	Experienced
Hourly	\$16.24	\$23.32	\$27.71
Annual	\$33,780	\$48,500	\$57,640

Individual Rating:

Wage	Openings	Growth Rate
★★★★	★★★★	★★★★

[Detail Occupational Profile](#)

Occupations Requiring a License in North Carolina:

- ◆ Building Inspector
- ◆ Code Enforcement Official
- ◆ Electrical Inspector
- ◆ Home Inspector
- ◆ Mechanical Inspector
- ◆ Plumbing Inspector

Career Cluster & Pathway:

- Architecture and Construction
  - Construction
- Government and Public Administration
  - Regulation

http://accessnc.commerce.state.nc.us/careers/starijobs/oes\_profiles/OES\_profile\_474011.pdf

## Occupations Requiring a License



# Occupations Requiring a License

## Occupations Requiring a License in North Carolina

Occupations Requiring a License in North Carolina is compiled by LEAD (Labor & Economic Analysis Division) as a primary source for students, jobseekers, career counselors, and others in need of this information. The occupations are gathered from various sources, including professional associations, licensing boards, and general statutes from the North Carolina General Assembly. For each occupation, the licensing authority and requirements are provided, as well as license and examination fees, and contact information for the licensing organization. Every effort has been made to ensure licensing and occupational information is as accurate as possible; however, information may be modified or deleted when changes occur in state laws.

This compilation addresses only occupational licenses that are required for individuals in particular fields and not business licenses, which are required for a particular business or establishment. For information concerning business licenses required in North Carolina, contact the Business License Information Office, 1-800-228-8443.

### Occupation:

Electrical Inspector



## Electrical Inspector

### Job Description

Electrical inspectors inspect electrical installations to verify conformance with safety laws and ordinances. They inspect installations undergoing construction or remodeling to enforce laws and ordinances establishing and maintaining minimum standards for residential, commercial, and industrial electrical installations and appliances. They review electrical plans, verify loads, inspect wiring, fixtures and equipment and issue notices to repair, remove or refrain from using items found to be unsafe.

### Licensing Authority

[NC Department of Insurance Division of Engineering and Building Codes Code Officials Qualification Board](#)

NORTH CAROLINA  
**5-STAR JOBS**  
 BY CAREER CLUSTER

- B** Financial Managers
- S** Computer User Support Specialists
- B** Environmental Engineers
- B** Environmental Scientists & Specialists, Including Health
- D** Veterinarians
- H** First-Line Supervisors of Office & Admin. Support Workers
- H** First-Line Supervisors of Construction Trades & Extraction Workers
- P** Heating, A/C & Refrigeration Mechanics & Installers

- B** Construction Managers
- B** Cost Estimators
- B** Software Developers, Systems Software
- B** Operations Research Analysts
- B** Architects, Except Landscape & Naval
- B** Civil Engineers
- H** First-Line Supervisors of Construction Trades & Extraction Workers
- H** Carpenters
- H** Electricians
- H** Plumbers, Pipefitters & Steamfitters
- P** Heating, A/C & Refrigeration Mechanics & Installers

- M** Nursing Instructors & Teachers, Postsecondary
- D** Pharmacists
- M** Physician Assistants
- M** Occupational Therapists
- D** Physical Therapists
- M** Speech-Language Pathologists
- D** Veterinarians
- A** Registered Nurses
- M** Nurse Anesthetists
- M** Nurse Practitioners
- A** Medical & Clinical Laboratory Technicians
- A** Dental Hygienists
- A** Cardiovascular Technologists & Technicians
- A** Diagnostic Medical Sonographers
- A** Radiologic Technologists
- P** Licensed Practical & Licensed Vocational Nurses
- A** Physical Therapist Assistants
- P** Dental Assistants
- H** First-Line Supervisors of Office & Admin. Support Workers

**Agriculture, Food & Natural Resources**

**Architecture & Construction**

**Health Science**

**Transportation, Distribution & Logistics**

- B** Logisticians
- H** First-Line Supervisors of Office & Admin. Support Workers
- H** Carpenters

- B** Medical & Health Services Managers
- H** Claims Adjusters, Examiners & Investigators
- B** Computer Systems Analysts
- B** Software Developers, Applications
- S** Computer User Support Specialists
- M** Statisticians
- D** Medical Scientists, Except Epidemiologists
- M** Mental Health Counselors
- D** Health Specialties Teachers, Postsecondary

**Science, Tech., Engineering & Mathematics**

**Information Technology**

- B** Cost Estimators
- B** Logisticians
- B** Market Research Analysts & Marketing Specialists
- B** Software Developers, Applications
- S** Computer User Support Specialists
- M** Statisticians
- B** Civil Engineers
- B** Environmental Engineers
- D** Medical Scientists, Except Epidemiologists
- B** Environmental Scientists & Specialists, Including Health
- D** Health Specialties Teachers, Postsecondary
- B** Technical Writers

**Manufacturing**

- B** Computer & Information Systems Managers
- B** Computer Systems Analysts
- B** Information Security Analysts
- B** Software Developers, Applications
- B** Software Developers, Systems Software
- A** Web Developers
- B** Network & Computer Systems Administrators
- B** Computer Network Architects
- S** Computer User Support Specialists

- B** Software Developers, Applications
- S** Computer User Support Specialists
- A** Medical Equipment Repairers

**Education Level**

- H** High School Diploma or Equivalent
- S** Some College, No Degree
- D** Postsecondary Non-Degree Award
- A** Associate's Degree
- B** Bachelor's Degree
- M** Master's Degree
- D** Doctoral or Professional Degree

# Real Time Job Openings

- Using spidering technology, from thousands of online job boards
- Understanding labor market in new ways
  - Who are hiring?
  - Where are the jobs?
  - What jobs are in demand?
- NCWorks Online

# Common Follow-up System

- Providing information on the **educational and employment outcomes** of participants in publicly supported educational, employment and training programs
- Using data to **track recent graduates** in the workforce
- **Linking education and wage records** to help
  - students select programs of study
  - program/training staff to make informed decisions about program quality

# CFS Tool - NC TOWER

NC TOWER

Home

About

Data Search

## WELCOME TO NC TOWER

Welcome to NC TOWER (North Carolina's Tool for Online Workforce and Education Reporting), a product of the Common Follow-up System. Select "Community Colleges" or "Public Universities" from the right and click "Go" to view information about the workforce and educational outcomes of programs at those institutions. Or, scroll down on this page to see selected statistics about North Carolina's State-funded education programs.

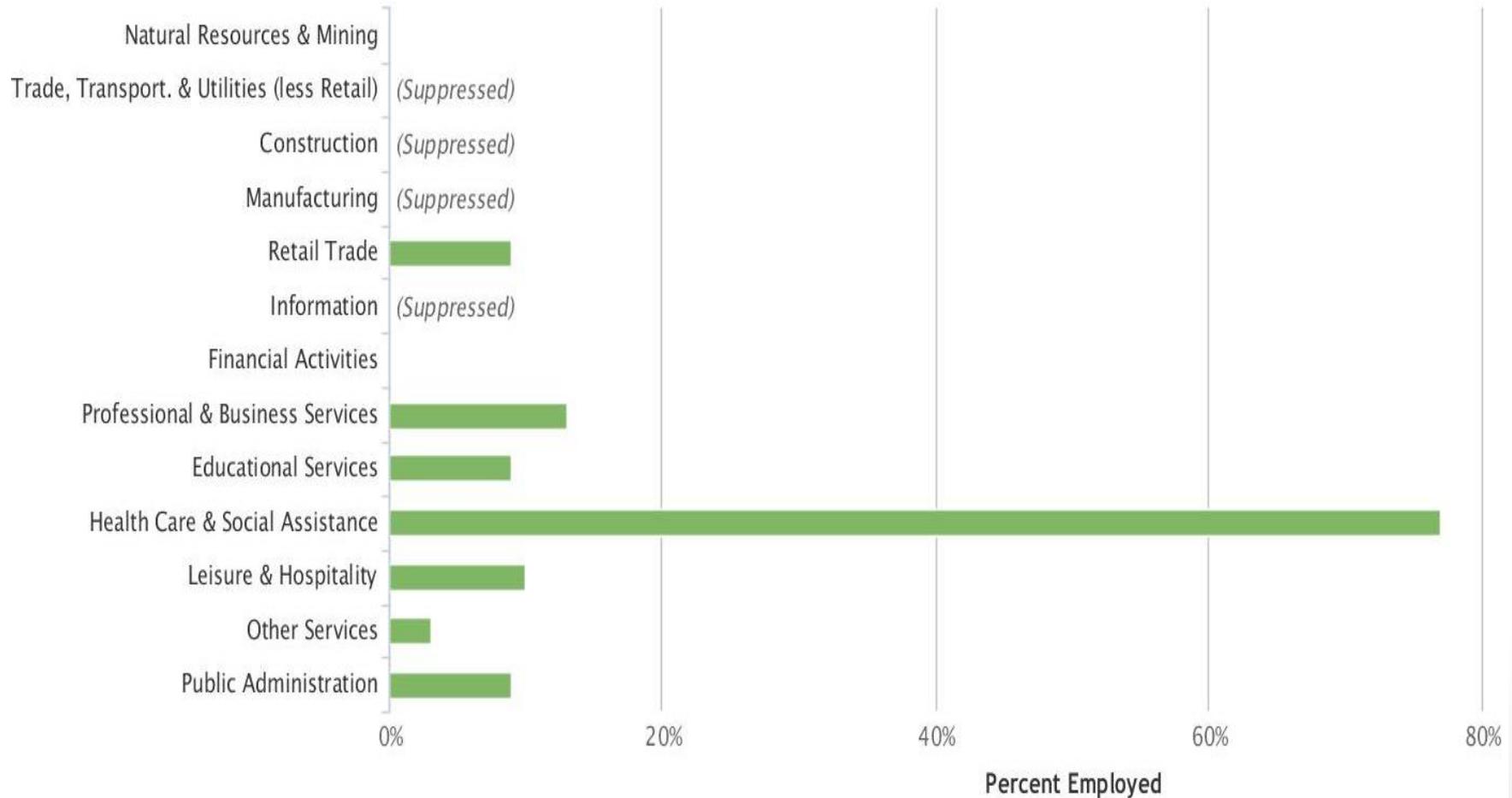
# NC TOWER Can Answer:

- Top-Paying Degree Programs at UNC & NCCCS
- Most Popular Degree Programs at UNC & NCCCS
- Post-Graduation Enrollment or Employment
- Employment by Industry (1 – 10 years)
- Average Wage by Industry (1 – 10 years)
- Program Comparison

# NC TOWER

## AA in Health Science, Wake Tech

Employment by Industry  
(2011-2012 Graduates, After 1 Year)



# NC TOWER

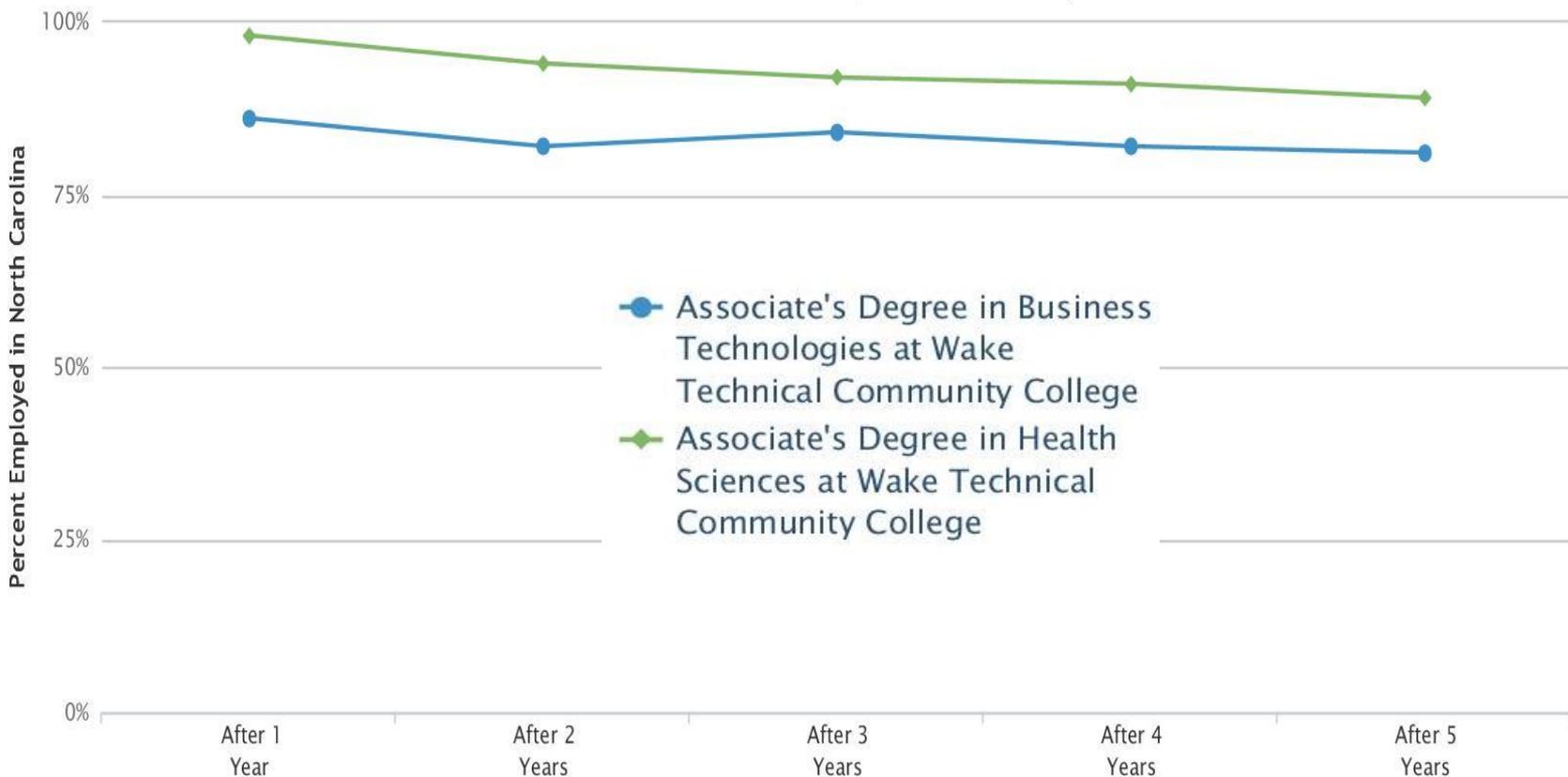
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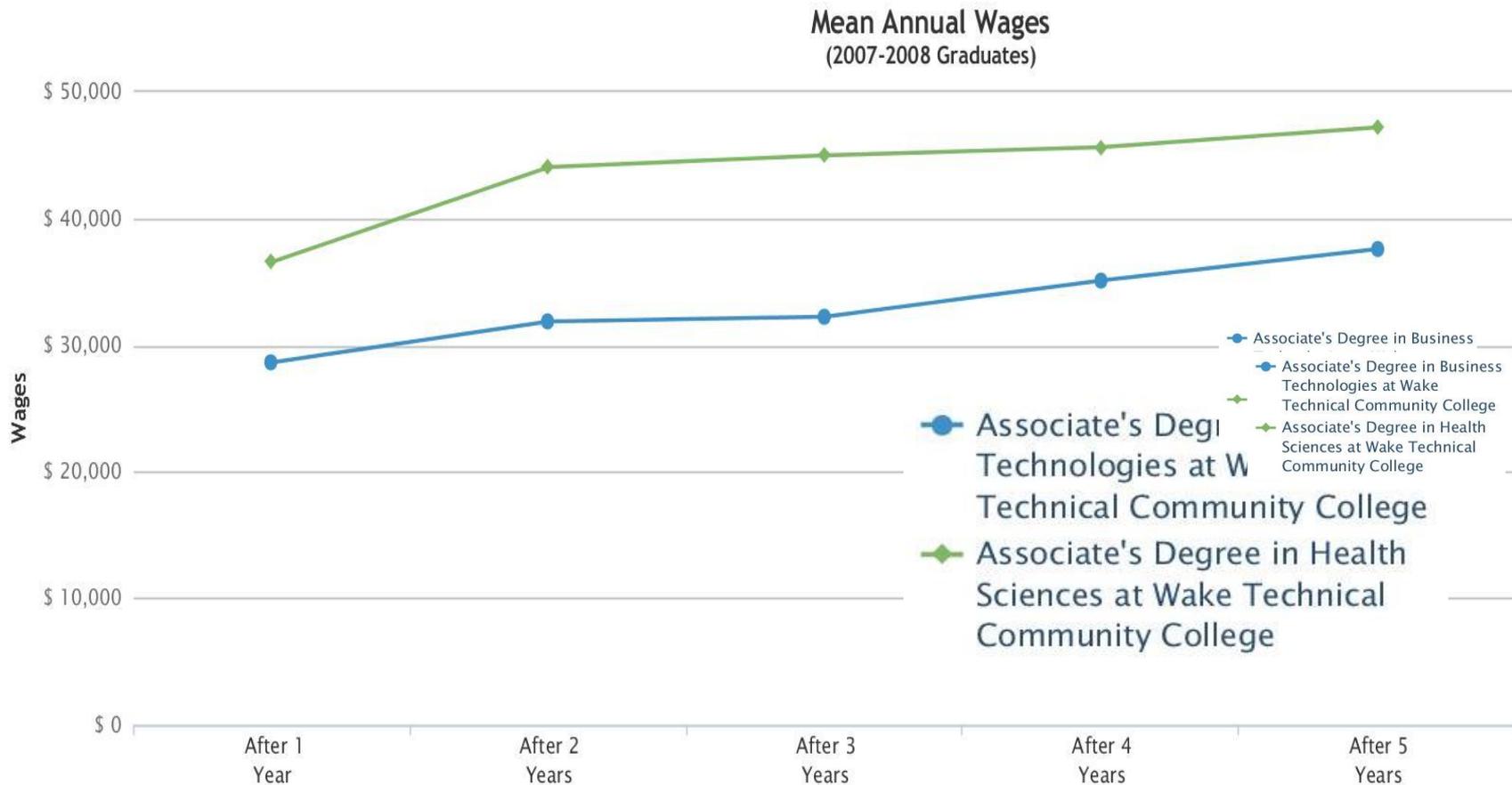


# AA in Business Technologies & Health Sciences, Wake Tech

Post-Graduation Employment in North Carolina  
(2007-2008 Graduates)



# AA in Business Technologies & Health Sciences, Wake Tech



# CAREER & TECHNICAL EDUCATION, 2008-2009

## ASSOCIATE DEGREE RECIPIENTS BY PROGRAM AREA

Program Area	Participants Associate Degree Recipients		Employment and Wages in North Carolina							
			1 Year After Completion				2 Years After Completion			
			Number	%	Average Wage	Median Wage	Number	%	Average Wage	Median Wage
Agricultural and Natural Resources Technologies	1,753	218	143	66%	\$16,566	\$15,099	142	65%	\$20,770	\$20,342
Biological and Chemical Technologies	1,249	139	114	82%	\$19,422	\$17,624	120	86%	\$22,296	\$21,930
Business Technologies	40,139	3,168	2,473	78%	\$20,066	\$18,097	2,457	78%	\$22,835	\$21,210
Commercial & Artistic Production Technologies	3,253	323	238	74%	\$13,158	\$11,211	226	70%	\$18,512	\$14,980
Construction Technologies	3,125	283	220	78%	\$24,767	\$21,762	220	78%	\$28,605	\$27,343
Engineering Technologies	6,260	574	466	81%	\$22,499	\$18,967	452	79%	\$28,055	\$26,533
Health Sciences	20,981	4,234	3,858	91%	\$32,453	\$34,885	3,805	90%	\$38,316	\$41,002
Industrial Technologies	3,026	230	182	79%	\$28,601	\$27,251	183	80%	\$34,814	\$34,151
Public Service Technologies	28,029	2,040	1,628	80%	\$20,125	\$17,577	1,612	79%	\$21,931	\$19,443
Transport Systems Technologies	3,535	320	268	84%	\$19,970	\$18,434	255	80%	\$24,711	\$23,580
			3 Years After Completion				4 Years After Completion			
Agricultural and Natural Resources Technologies	1,753	218	138	63%	\$24,736	\$26,116	142	65%	\$25,500	\$27,399
Biological and Chemical Technologies	1,249	139	115	83%	\$25,692	\$25,680	110	79%	\$29,726	\$28,693
Business Technologies	40,139	3,168	2,445	77%	\$24,950	\$23,312	2,383	75%	\$27,068	\$25,065
Commercial & Artistic Production Technologies	3,253	323	222	69%	\$18,171	\$17,060	204	63%	\$20,746	\$20,681
Construction Technologies	3,125	283	216	76%	\$32,990	\$31,165	214	76%	\$35,614	\$32,985
Engineering Technologies	6,260	574	462	80%	\$31,643	\$31,458	462	80%	\$35,688	\$35,426
Health Sciences	20,981	4,234	3,716	88%	\$40,430	\$43,215	3,638	86%	\$41,924	\$44,110
Industrial Technologies	3,026	230	190	83%	\$37,052	\$35,707	190	83%	\$40,875	\$38,696
Public Service Technologies	28,029	2,040	1,562	77%	\$23,945	\$20,655	1,553	76%	\$24,918	\$21,619
Transport Systems Technologies	3,535	320	250	78%	\$27,278	\$27,509	247	77%	\$30,290	\$31,093

# How to Match Occupations with Training Programs

- Classification of Instructional Programs (CIP)
- Community Program Codes  
<http://www.nccommunitycolleges.edu/academic-programs/curriculum-standards>
- Standard Occupational Classification (SOC)
- CIP – SOC Crosswalk

# Employer – Labor Mismatch

2014 LEAD-Business Service Reps Employer Needs Survey

- **44%** of Employers Had Hiring Difficulty
- No Urban / Rural Difference
- Most Difficulties in Education, Construction, Health Care, Manufacturing
- *Top Reasons:*
  - Lack of **Experience**
  - Lack of **Education Credentials**
  - Lack of **Technical / Occupational Skills**

# 2015 Employer Needs Survey

- Assess current labor demand to better align workforce supply with labor market demand
- General focus on *All* industries but details on manufacturing, healthcare, construction, and STEM
- Survey begins this week
- Focus group
- Report expected to be ready in Spring 2016

# Useful Websites

## Industry Projections

[www.nccommerce.com/lead/data-tools/industry/projections](http://www.nccommerce.com/lead/data-tools/industry/projections)

## Occupational Projections

[www.nccommerce.com/lead/data-tools/occupations](http://www.nccommerce.com/lead/data-tools/occupations)

## Star Jobs

[www.nccommerce.com/lead/data-tools/star-jobs](http://www.nccommerce.com/lead/data-tools/star-jobs)

[accessnc.commerce.state.nc.us/careers/starjobs/star\\_jobs.html](http://accessnc.commerce.state.nc.us/careers/starjobs/star_jobs.html)

## NC Reality Check

[accessnc.commerce.state.nc.us/careers/realitycheck/#/start](http://accessnc.commerce.state.nc.us/careers/realitycheck/#/start)

# Useful Websites

## 2014 Employer Needs Survey

[www.nccommerce.com/Portals/11/Documents/Commission/2014%20Employer%20Needs%20Survey.pdf](http://www.nccommerce.com/Portals/11/Documents/Commission/2014%20Employer%20Needs%20Survey.pdf)

## Common Follow-up System

[www.nccommerce.com/lead/research-publications/common-follow-up-system](http://www.nccommerce.com/lead/research-publications/common-follow-up-system)

## CFS - NC TOWER

[nctower.com](http://nctower.com)

## CIP SOC Crosswalk

[nces.ed.gov/ipeds/cipcode/resources.aspx?y=55](http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55)

# Questions?

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[www.nccommerce.com/lead](http://www.nccommerce.com/lead)

