

North Carolina Women in STEM

House Select Committee on Advancing Women in STEM

October 12, 2022



NC DEPARTMENT
of COMMERCE
LABOR & ECONOMIC
ANALYSIS

What LEAD Does



Workforce needs for overcoming labor gaps

Workers in general need to be:

Prepared to work successfully in STEM

- Education/credentials
- Skills
- Professional aptitude/competence

Able to work in STEM

- Current & future job openings
- Livable wage, childcare, etc.
- Limited barriers

Wanting to work in STEM

- Good, fair work opportunities
- Viable career paths
- Aware of jobs & occupations



Defining STEM

STEM Occupations

- Focus on workers – work in all industries tech or non-tech related
- Defined by U.S. Bureau of Labor Statistics (BLS)
 - Excludes Healthcare Occupations

STEM Industry

- Focus is on employers and work production
- No universal definition – but LEAD has defined this as
 - Focusing on Services – Software development, R&D, Computer systems, Telecommunications, Architecture/Engineering



STEM Occupational Employment in NC

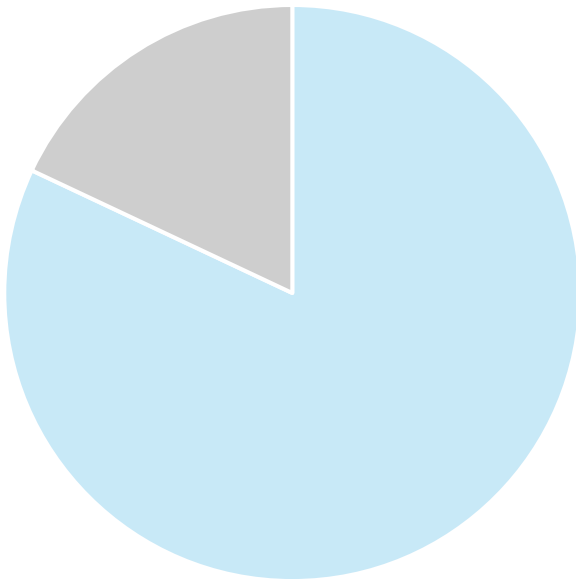
- **300,000 jobs** in STEM in 2021 (*11th most* in U.S.)
 - **6.8%** of all jobs (*16th highest* proportion of jobs among states)
- Median wage **\$94,810** (*13th highest* in U.S.)
 - Median wage of Non-STEM **\$37,680** (*16th lowest* in U.S.)
- Women account for **28%** of STEM jobs* (*excluding teaching occupations*)
 - Women account for **half** of all NC jobs

a workforce
Prepared to Work in STEM



What preparation is need to work in STEM?

**82% of STEM jobs require at least
a Bachelor's Degree for entry**



Top skills important to STEM occupations

- Science
- Programming
- Operations Analysis
- Technology Design
- Mathematics
- Systems Analysis
- Systems Evaluation
- Writing
- Complex Problem Solving
- Reading Comprehension

What are STEM employers looking for?

STEM Industry Hiring Difficulties

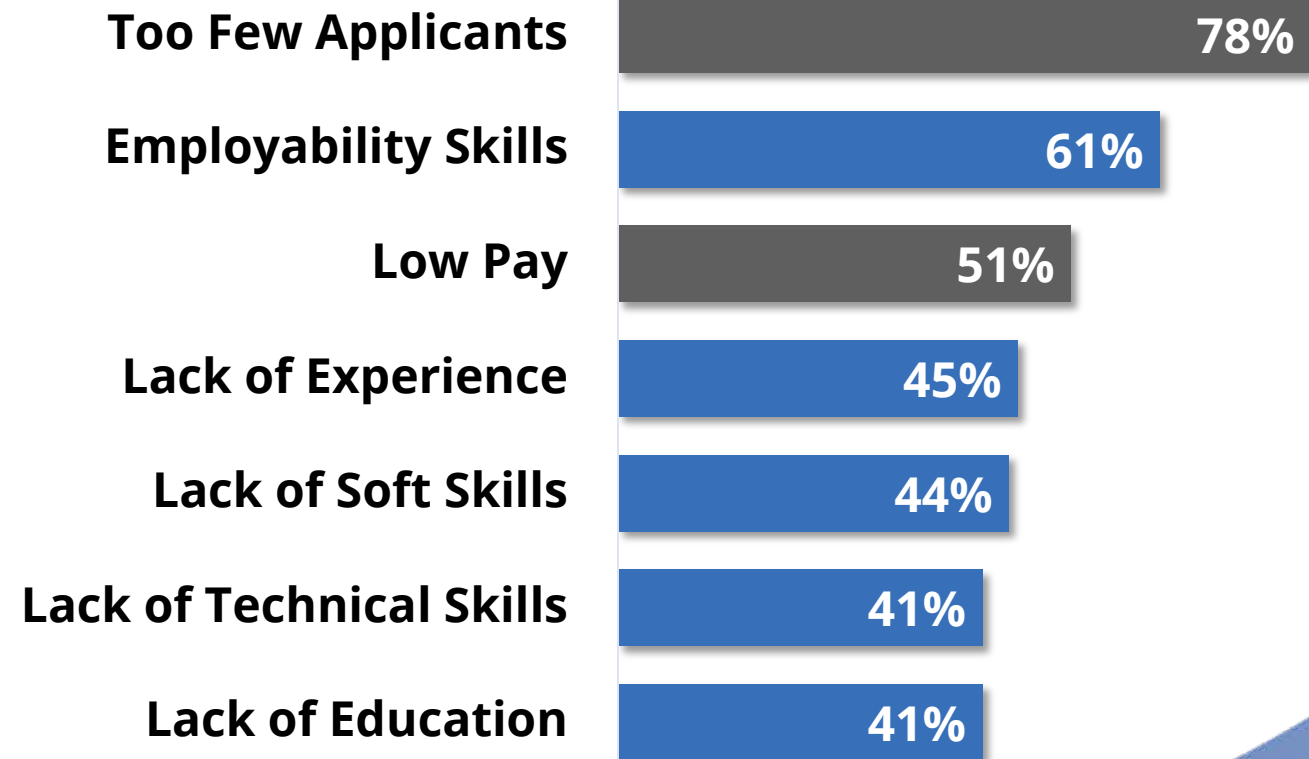
Results from the 2021 NC Employer Needs Survey

- **71%** reported difficulties in 2021
 - Less than all employers overall (81%)
- Greater variety of reasons for difficulties hiring entry-level

“Organizations value general skills more than specific ones because they can get them up to speed when they’re in their role – although it’s important to bear in mind they face barriers to training.”

– SAS How to Solve the Data Science Skills Shortage Report, 2022

Reasons for Entry-Level Hiring Difficulty



Blue bars denote responses significantly greater than all employers

a workforce

Able & Wanting to Work in STEM



NC STEM occupations with highest projected rate of job growth through 2028

Occupations with	Annual % Growth*	Education
Information Security Analysts	3.1%	Bachelor's
Statisticians	3.1%	Master's
Software Developers, Applications	2.6%	Bachelor's
Operations Research Analysts	2.4%	Bachelor's
Cartographers & Photogrammetrists	1.9%	Bachelor's
Actuaries	1.9%	Bachelor's
Forensic Science Technicians	1.7%	Bachelor's
Web Developers	1.6%	Associate's
Computer & Information Systems Managers	1.5%	Bachelor's
Geoscientists	1.5%	Bachelor's
Environmental Science & Protection Technicians	1.4%	Associate's
Database Administrators	1.3%	Bachelor's
Atmospheric & Space Scientists	1.3%	Bachelor's
Computer Systems Analysts	1.2%	Bachelor's
Physicists	1.2%	Doctoral

*Average for all NC occupations = 0.6%

*Are there
job opportunities
to work in STEM?*

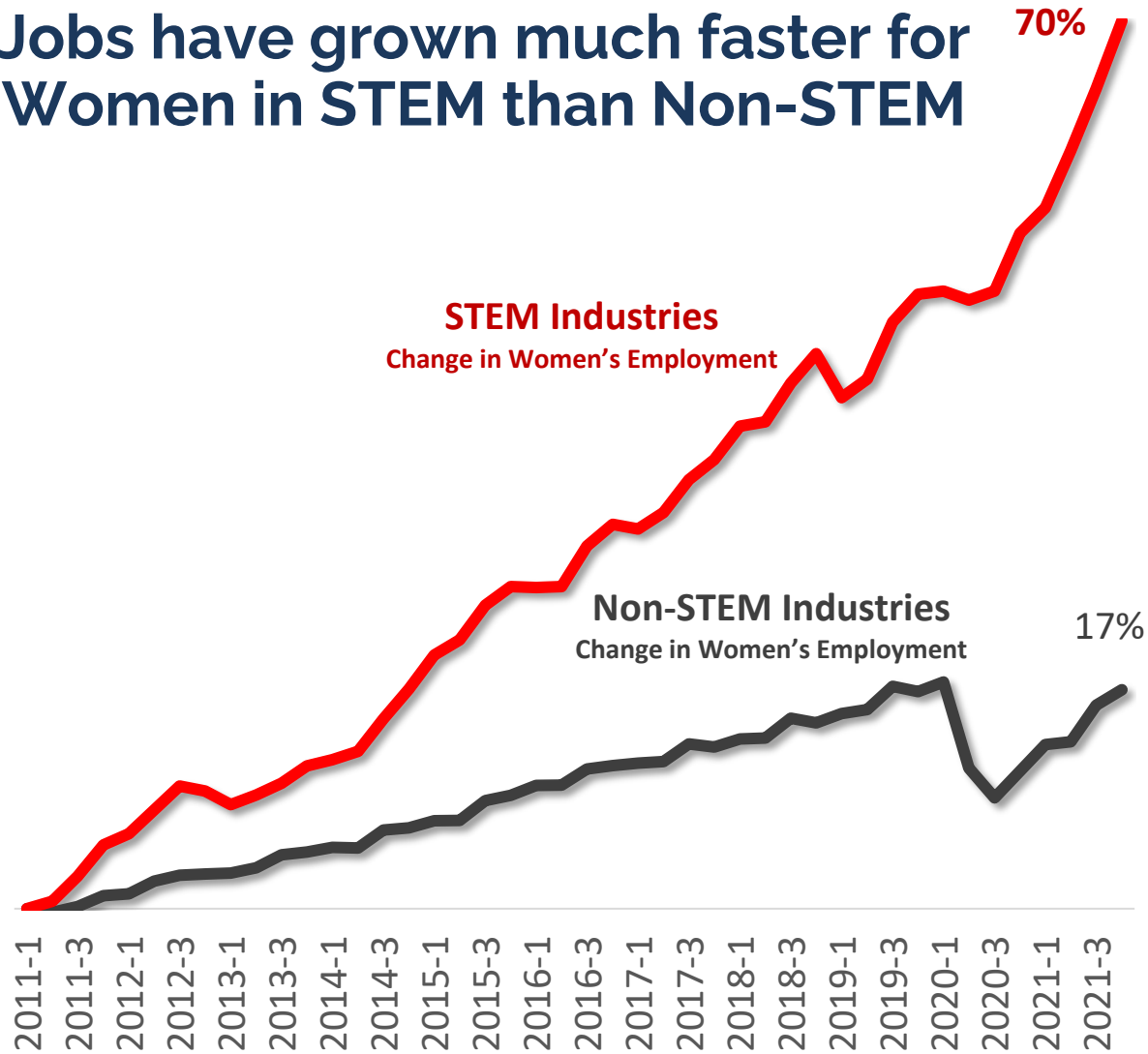
Projected **27,000+** job openings per year in NC in STEM occupations (growth + turnover)

BLS projects STEM occupations will **grow more than twice as fast** as non-STEM in U.S. through 2031

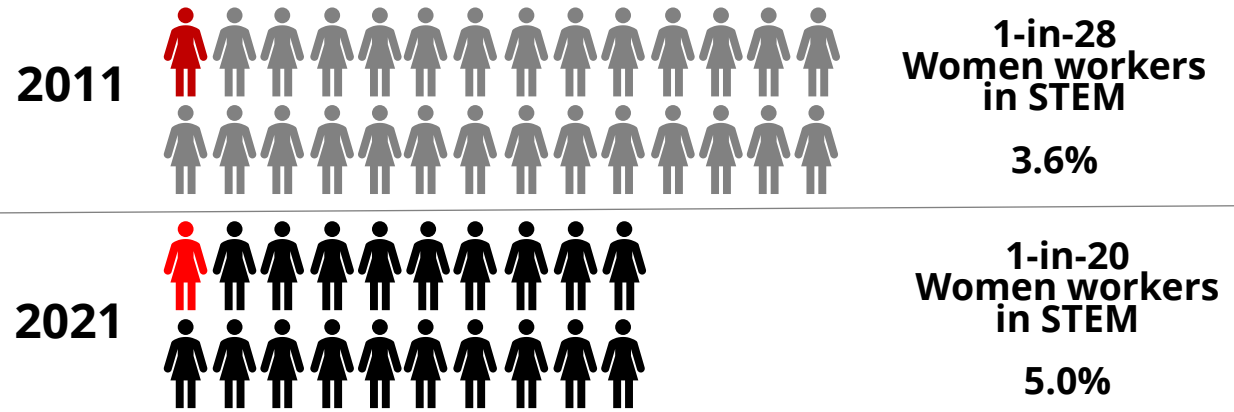


Are there job opportunities for NC women in STEM?

Jobs have grown much faster for Women in STEM than Non-STEM



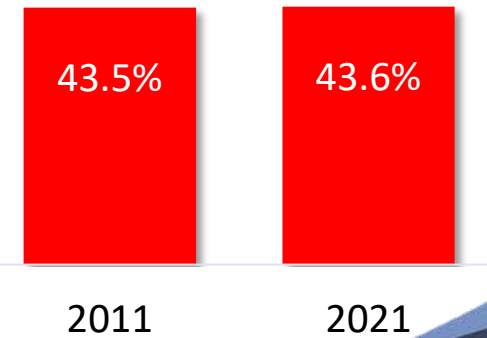
More of Women's Employment in STEM, but still fairly small



However, Women are still a minority in the industry

No change from 10 years ago

Share of STEM Employment by Women



Are there fair opportunities for women in STEM?

Women's Earnings in STEM Industries

STEM industry pays well for Women, 2021



Are there fair opportunities for women in STEM?

Women's Earnings in STEM Industries

STEM industry pays well for Women, 2021

Non-STEM Women

\$43,763

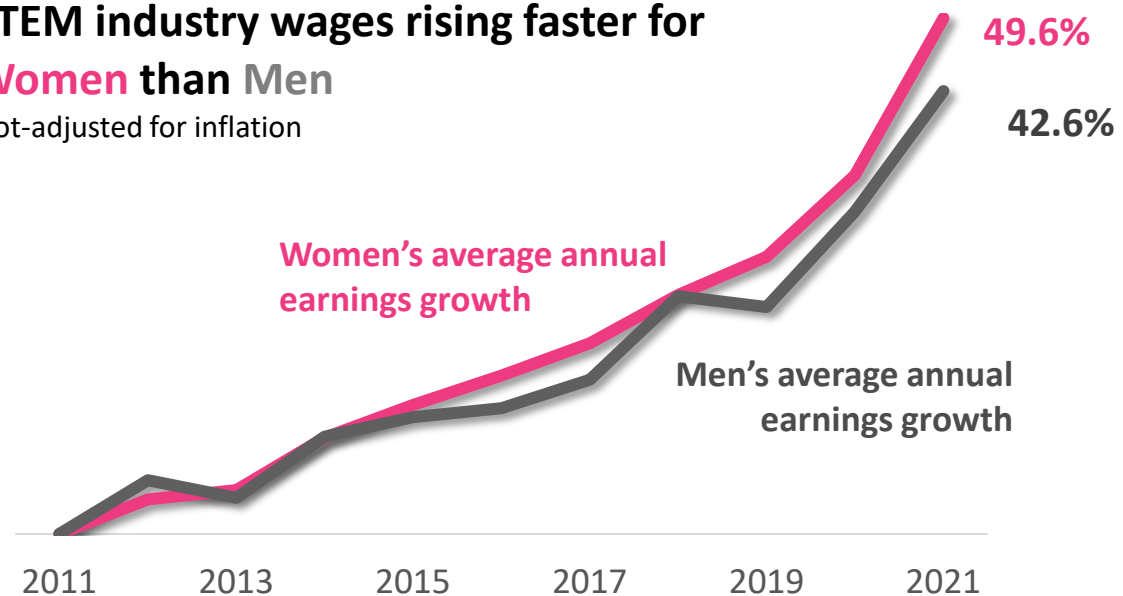
STEM Women

\$80,289

STEM industry wages rising faster for

Women than Men

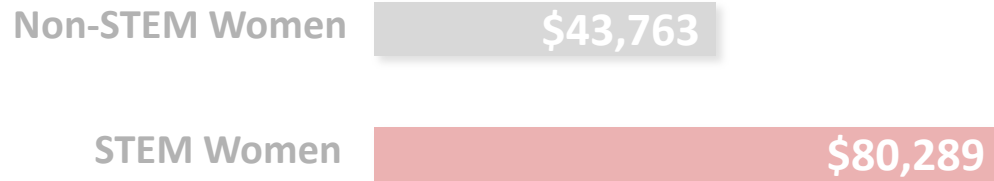
Not-adjusted for inflation



Are there fair opportunities for women in STEM?

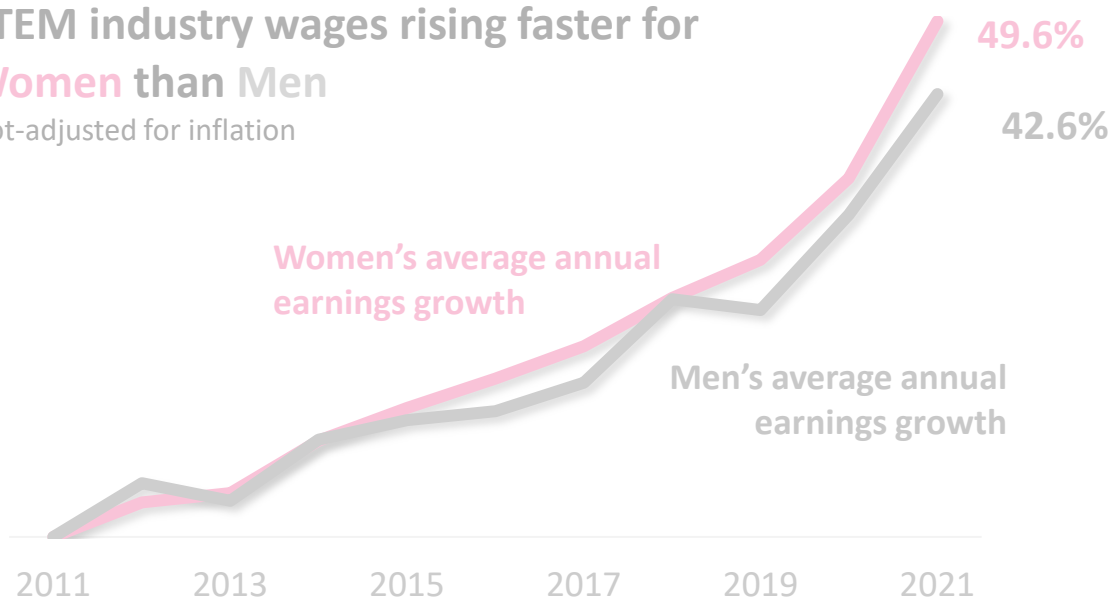
Women's Earnings in STEM Industries

STEM industry pays well for Women, 2021



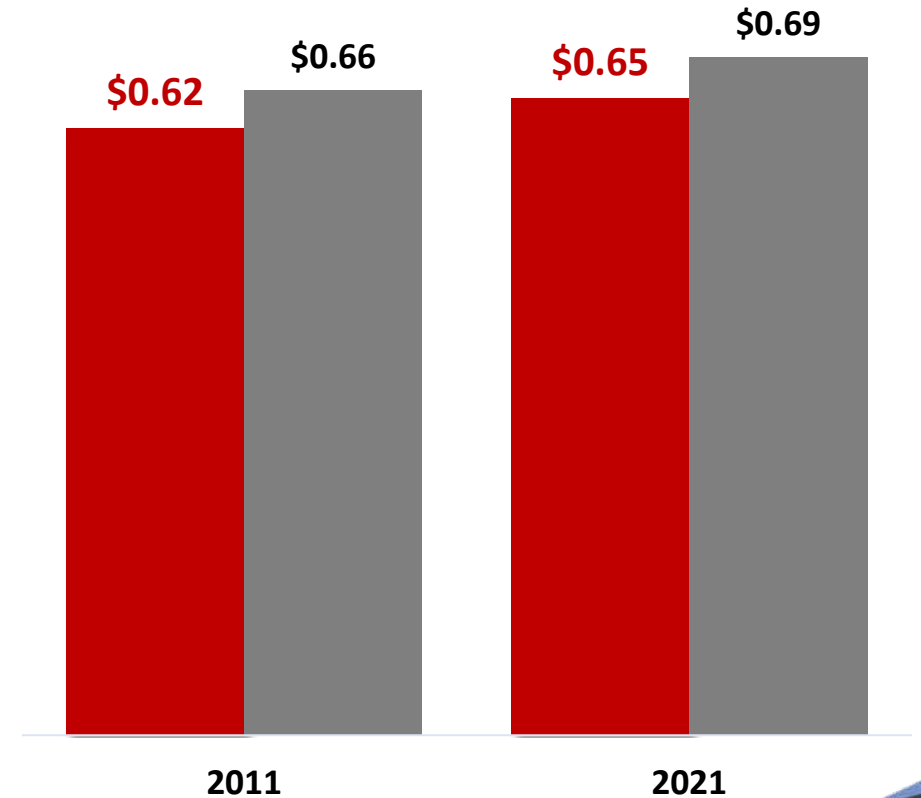
STEM industry wages rising faster for Women than Men

Not-adjusted for inflation



Gender pay gap only modestly improving
Still greater in STEM and Non-STEM industries

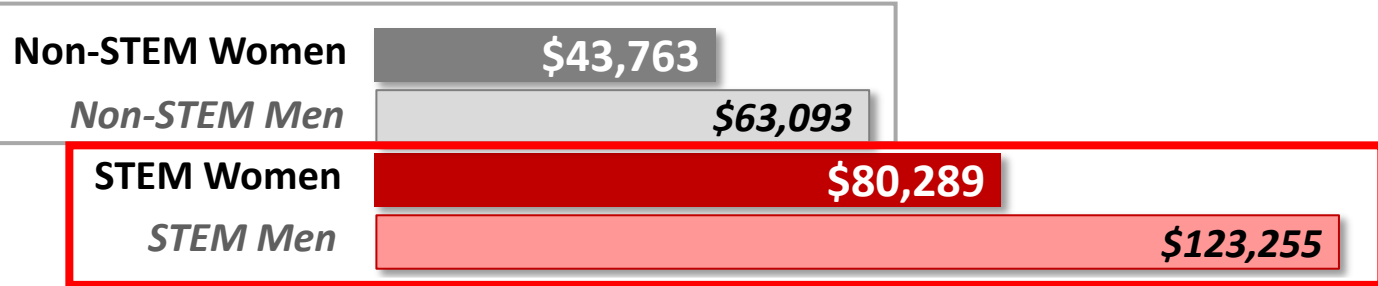
Women's earnings for every \$1 of Men's



Are there fair opportunities for women in STEM?

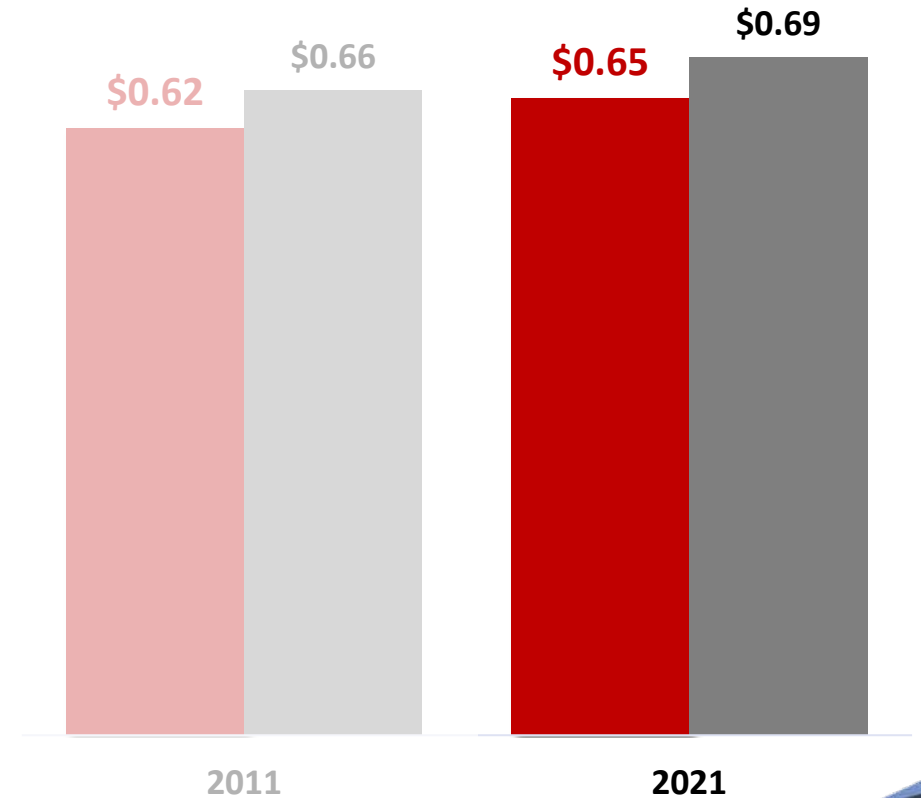
Women's Earnings in STEM Industries

STEM industry pays well for Women, 2021



Gender pay gap only modestly improving
Still greater in **STEM** and Non-STEM industries

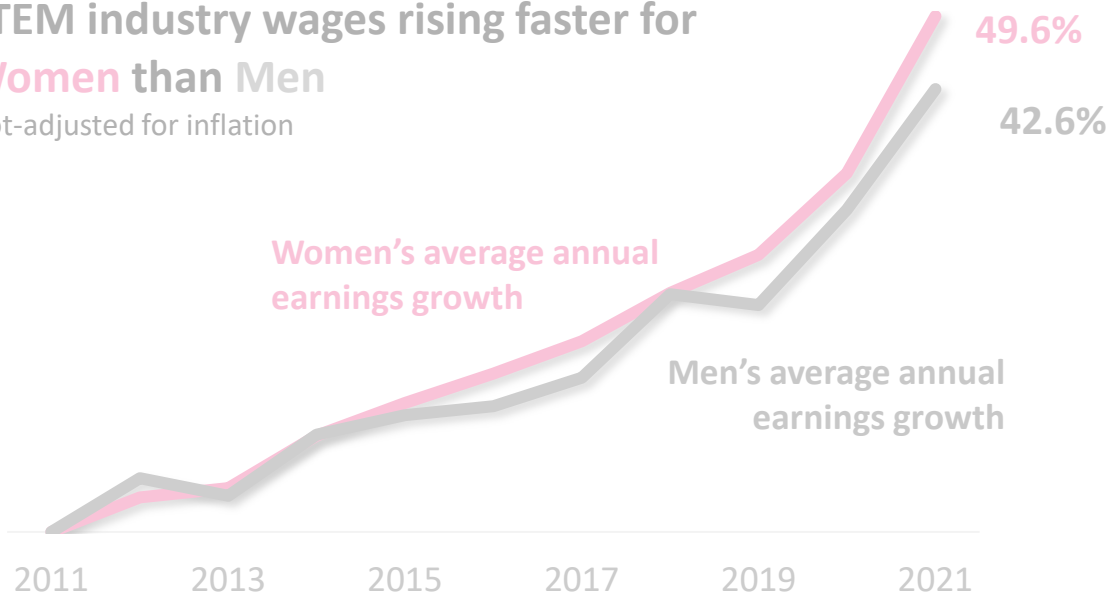
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STEM industry wages rising faster for

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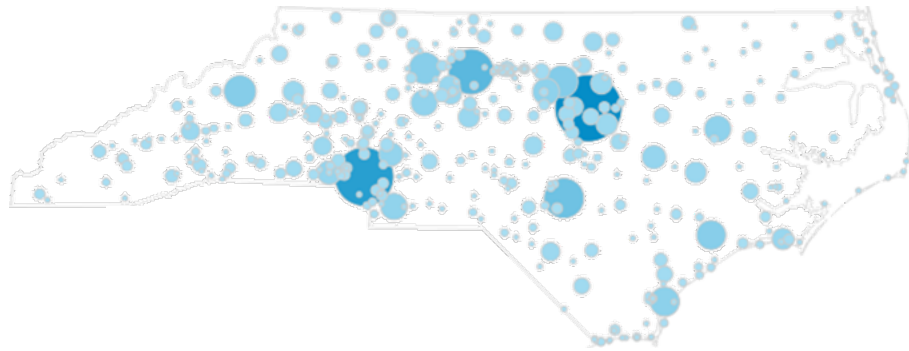
Not-adjusted for inflation



What Commerce is Doing to Help? [NCcareers.org](https://www.nccareers.org)

Is there awareness of STEM opportunities?

- Launched in 2020 to provide unbiased occupational, educational, & credential information to students, jobseekers, & career planners
- Over 600,000 unique users have been to NCcareers – spending 8 minutes per visit on average
 - Including 60,000 last month generating half a million page views



Governance & Advisory Partners:



What Commerce is Doing to Help?

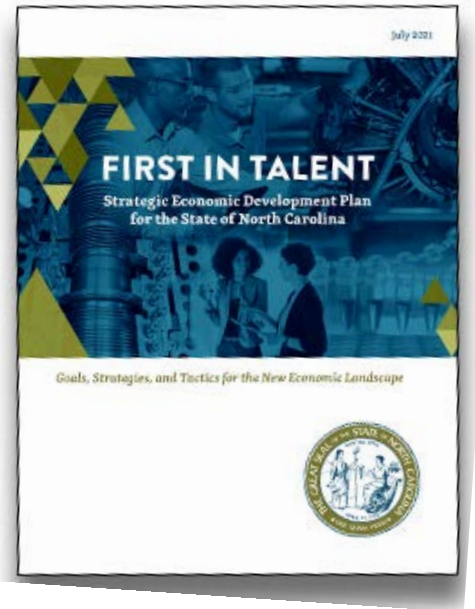
Division of Workforce Solutions

- Workforce Innovation & Opportunity Act, 2014
 - Federally-funded, employer-driven workforce services
- State Workforce Agency
 - Ecosystem, technical assistance, monitoring of 22 local workforce areas
 - 80+ NCWorks career centers
- Recruitment Strategy, Talent Acquisition
 - Job profiling and analysis, identifying labor pools, skills assessment and pre-/training referrals
- Sector Strategies
 - NC Job Ready Initiative, *First In Talent* strategic plan
 - IT in RTP (NCWorks Commission Member Pam Townsend)
 - IT in Gaston/Lincoln/Cleveland (InfoSys and Commerce DWS)
- ARPA – Women & Minority-Owned Small Business Grants
 - Work-based learning grant funding for small and micro-businesses



Secretary Sanders' Initiatives to Support Women in STEM Industries

- The ***First in Talent*** plan includes strategies to enable more women to enter the workforce by increasing access to childcare, education, training, and family friendly work environments.
- NC Commerce participated in the Wake Invests in Women Challenge, organized by Wake Technical Community College.



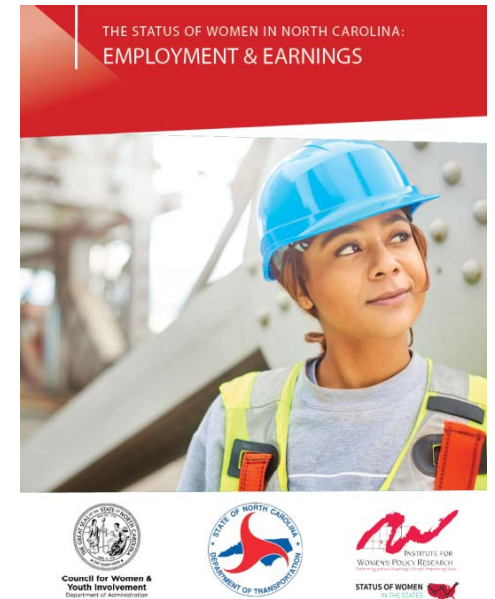
- Employers complete a self assessment to examine the diversity in gender and ethnicity in STEM and leadership positions

Secretary Sanders' Initiatives to Support Women in STEM Industries

- Status of Women: Employment and Earnings
- Advocate for employers to promote paid internships, training, apprenticeships, and recruitment for women in high-growth occupations with low female participation

“Improving the status of women in North Carolina is not just a woman’s issue – it is a family, poverty, and economic issue.” –
Machelle Sanders, Secretary

- Lady Cardinal STEM Mentorship Program
 - Mentorship program for female high school students to gain exposure to STEM related fields in state government
- Experience as a VP of a life sciences company, created a Women’s Innovation Network, and serves on OnBoardNC



Thank you.

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