

ILLINOIS INNOVATION INDEX

2023 STEM TALENT REPORT

Assessing a Decade of Pipeline Development

INTRODUCTION FOR 2023

Illinois offers a unique and diverse landscape for Science, Technology, Engineering, and Mathematics (STEM). From degree programs to the post-graduation job market, Illinois is consistently a national leader in STEM graduation rates and employment. This year's STEM Talent Report explores trends within STEM education and the STEM workforce from 2013-2022. The Illinois Science and Technology Coalition ([ISTC](#)) produces this report annually as part of the Illinois Innovation Index, a tripartite report series that provides timely analysis and insight on technology-based economic activity in Illinois. The intention of the STEM Talent Report is to identify and highlight Illinois' supply of STEM talent, which is represented by degree conferrals, as well as demand in the workforce, which is represented by trends in the job market.

STEM supply and demand is an important indicator of economic vitality in Illinois. The state has consistently ranked in the top 10 for STEM degrees awarded and STEM employment rates. A number of sectors critical to the U.S innovation economy have long called Illinois home and Illinois is proud to offer top tier institutions of higher education. ISTC hopes that the data shared in this report can inspire additional research and inform decisions that can continue positioning Illinois as a leader in STEM through evidence-based policy, strategic partnerships, and impactful programming.

EXECUTIVE SUMMARY

Driven by advancements in technology and an evolving job market, STEM degree field completions in Illinois reached a record high in 2022. Illinois awarded 27,434 bachelor's, master's and doctoral degrees in STEM last academic year—a slight improvement from 2021 (27,285). Illinois ranks 7th in the nation for the number of STEM degrees awarded by state. For pre-baccalaureate STEM completions, Illinois ranked 3rd in the nation in 2022. These degrees include associate degrees, certifications of less than two years but more than one, and certificates of more than 12 weeks.

Although the STEM job market in Illinois in 2021 experienced a drop in the number of jobs, due in part to the impacts of the pandemic, STEM jobs in Illinois in 2022 reached a near record high. In 2022, STEM jobs reached a near record high with 350,380 Illinoisans employed in STEM fields. The previous high was in 2019, prior to the COVID-19 pandemic, when the state had 352,280 Illinoisans employed in STEM. Illinois had a 7.21% growth rate for job creation in STEM jobs between 2021 and 2022. The national one-year STEM job growth rate between 2021 and 2022 was 6.05%. Additionally, between 2018 and 2022, Illinois had surges in employment for certain specific occupations in STEM including Aerospace Engineering and Operations Technicians, Engineering and Architectural Drafters, Animal Scientists, Life Scientists, Statisticians, and Psychologists.

In 2022, Illinois reached record high numbers for Diversity, Access, and Inclusion. Illinois hit record-high numbers for women, Black, and Latinx Illinoisans in the STEM job market. Women composed 29.8% of STEM employees in Illinois, a record high for the state and slightly ahead of the national average, which is 29.55%. Black Illinoisans made up 8.05% of the STEM workforce in 2022, also a record high, and a significant increase from 5.5% in 2021. Latinx Illinoisans represented a larger share of the total STEM workforce in Illinois in 2022 than in any year prior, similarly increasing their representation and setting a record high. Illinois' Hispanic population makes up 19.1% of the state and an estimated 9.87% of the STEM workforce. However, degree completion results were mixed. Women made up 39.78% of the total 27,434 STEM degrees awarded in Illinois in 2022—a slight uptick from 39.03% in 2021. Black Illinoisans, who make up 14.71% of Illinois' total resident population, made up only 4.28% of Illinois STEM graduates in 2022.

KEY FINDINGS

STEM TALENT SUPPLY

- In 2022, the number of **STEM degrees awarded in Illinois reached a new record high at 27,434 in 2022** and the state now **ranks 7th in the nation for STEM degree completion**. For comparison, New York ranked 2nd in STEM degree conferrals in 2022 at 54,057, Texas ranked 3rd at 48,878, and Iowa ranked 27th at 7,642 STEM degrees.
- **Illinois ranks 21st among all states in the percentage of total degrees that are in STEM at 22.59%**. For comparison, Texas is ranked 19th (22.75%), New York is 18th (23.14%), Iowa is 1st (45.30%).
- Over the last 5 years, **three STEM subject areas in Illinois have seen increases in completions**; Business and Management STEM degrees (35.01% 5-Year cumulative annual growth rate), Natural Resources and Conservation (7.82%), and Interdisciplinary Sciences (6.85%).
- **Illinois was third in the nation in 2022 for the number of pre-baccalaureate STEM completions in the state** (7,737 degrees or certificates).
- Over the last 5 years, there has been a significantly **larger number of pre-baccalaureate STEM completions in the following subject areas**; Computer and Information Sciences (29.1%), and Engineering-Related Technologies (17.89%).
- Four-year degree completions in Illinois are declining overall, but STEM degree completions are increasing. **The total number of all degree completions in Illinois fell from 2021 to 2022 by just over 2,000 degrees.**

STEM TALENT DEMAND

- **Illinois STEM Jobs¹ reached near record high, with 350,380 Illinoisans employed in STEM fields**, according to ISTC's coding. This is nearly 24,000 more STEM Employees than reported in the 2022 STEM Talent Report. The highest number of STEM jobs in Illinois was in 2019 (352,280).
- **Illinois ranks 25th in the percentage of all jobs in the state that are in STEM fields (6.01%)**, just under the national rate of 6.61%. Washington D.C. (12.97%), and Washington state (10.25%) rank 1st and 2nd on this metric.
- **The fastest growing STEM Career Fields in Illinois are Mathematics and Statistics** (6,090 jobs added in five years; a 13.83% growth rate), **social science roles** (3,270 jobs added in five years; a 8.20% growth rate), and **management roles in STEM** (4,980 jobs added in five years; a 3.98% growth rate).
- By Career Fields, **Illinois² experienced a significant one-year growth in computer science jobs** (8,870 jobs for a 5.5% increase) and **mathematics jobs** (3,050 added for a 25.4% increase).
- **The fastest growing STEM occupations in Illinois include Aerospace Engineering and Operations Technicians (85.5%), Animal Scientists (66.9%), Statisticians (45.9%), General Drafters (37.6%), General Life Scientists (32.4%), General Psychologists (21.7%), and Physicists (18.9%).**

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DIVERSITY, ACCESS, AND INCLUSION

- Women represent 50.49% of Illinois' population. In Illinois, women received 10,648 STEM degrees in 2021 (39.03% of all Illinois STEM Degree Earners in 2021). In 2022, women increased their representation. **10,912 women received STEM degrees in 2022, reflecting 39.78% of the total 27,434 Illinois STEM Degrees awarded.**
- **There were 39,276 Black Illinoisans employed in STEM roles in May of 2022,** according to ISTC's coding of STEM positions and the American Community Survey's available data on employment statistics by demographics. This is a record-high number of Black STEM employees in the state and also contributes to Black employees making up a record-high percentage of the STEM workforce in Illinois for the 2022 data year.
- **In 2022, Black Illinoisians made up 8.05% of STEM workers in Illinois.** This percentage surpasses the previous high in 2011 of 7.1% and is an improvement since 2021, when Black Illinoisians made up 5.5% of STEM workers in Illinois.
- **There was a record-high number of Latinx Illinoisans (60,440) who held STEM related positions in 2022.** This total represents 9.87% of the total STEM workforce in Illinois for 2022. In 2021, Latinx Illinoisans made up 9.46% of the Illinois STEM workforce.

TALENT MIGRATION

- Illinois retains 60.57% of Data and Computer Science graduates.
- **Illinois graduates in computer science or data science are more than 4x as likely to locate in Chicago than any other major city to start their careers.**
- **Illinoisans are 6x as likely to locate in Chicago than any other major city** if they major in biomedical engineering or biotechnology.

¹ [2023 STEM Talent Methodology](#) features Breakdown of Codebook including Operating Definition of STEM Degrees, STEM Jobs, and STEM Occupations

² Naming Mechanisms for 'Career Fields' and 'STEM occupations' from Bureau of Labor Statistics (BLS) 6-digit Standard Occupational Classification (SOC) codes, BLS' 'Occupational Employment and Wage Statistics (OEWS) Survey,' May 2022

2023 OUTLOOKS

STEM Talent Supply (1–12)

- STEM degrees continue to climb amid enrollment challenges, record high amount of STEM Degrees completed in Illinois in 2022
-

STEM Talent Demand (13–23)

- Mathematics jobs soar as STEM occupations return to near pre-pandemic levels
-

Talent Retention and Migration (24–26)

- Illinois retains a majority of recent computer science and biomedical engineering graduates from in-state universities
-

Looking Forward (27–32)

- Alignment of state resources and workforce development programs serves a critical route towards diversifying STEM workforce, and creating new careers opportunities in Illinois
-

STEM TALENT SUPPLY

The Illinois Science and Technology Coalition collects data on two types of degrees for STEM talent: pre-baccalaureate STEM completions and STEM degrees. These each come from the Integrated Postsecondary Education Data System ([IPEDS](#)), utilizing annual survey data collected in the fall by the National Center for Education Statistics (NCES). Data within this report can provide insights on talent creation and support further analysis, such as exploring whether the current talent pool is adequately positioned to begin STEM careers in Illinois.

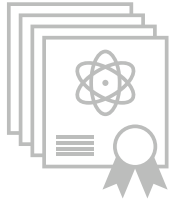
In 2022, STEM degree completions in Illinois reached a new record high with 27,434 degrees awarded in the state. This is a slight improvement from STEM degree conferrals in 2021 (27,285). The data shows a decrease in the number of degrees awarded in what may be considered more traditional STEM degree programs (i.e. engineering, physics) and a growing interest in new STEM degree categories (i.e. degrees in business management, applied mathematics, conservation studies). Additionally, interdisciplinary science studies have been more popular in recent years.

Data shows that interdisciplinary degree tracks are also being developed and becoming more popular in the state. Interdisciplinarity in STEM coursework is crucial as it fosters a holistic understanding of complex scientific and technological challenges. Exposure to diverse disciplines enables students to develop versatile problem-solving skills, encouraging innovation and creativity (Meta-Analysis of relevant literature by Korucu and Kabak, 2021). In their STEM careers, individuals with interdisciplinary backgrounds are better equipped to tackle real-world issues, collaborate across fields, and adapt to the evolving landscape of scientific and technological advancements (Knippenberg et al., 2013; Salazar et al., 2012). The emergence of more business management STEM graduates with specific coursework in econometrics and data analytics is another piece of evidence that indicates that these types of interdisciplinary approaches are increasingly popular among students in the state.

..... • **Illinois reaches new record high in STEM degrees awarded**

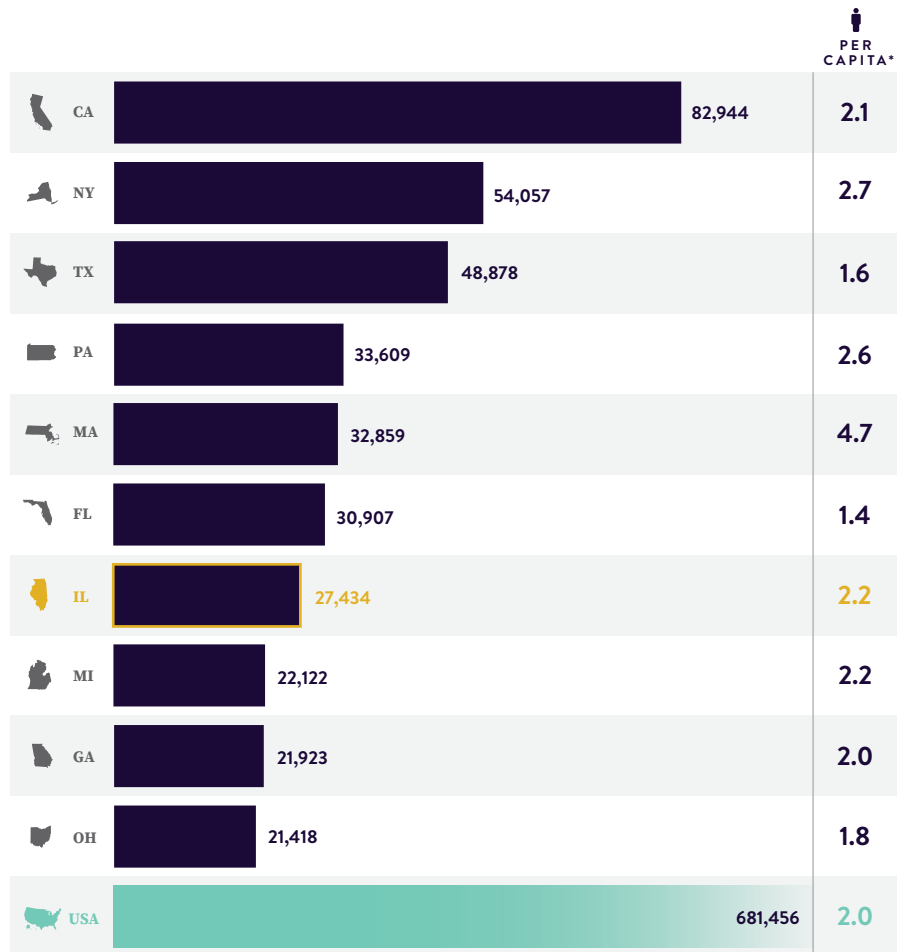
In 2022, Illinois awarded 27,434 STEM degrees—a record high for the state—up slightly from the 27,285 STEM degrees awarded in 2021. From 2021 to 2022, the total number of all degree completions in Illinois fell by just over 2,000 degrees; thus, the percentage of all degrees in Illinois that are in STEM is larger than in years prior for the state. Since 2013, STEM degrees awarded in Illinois have grown by an average of 4.17% annually. Illinois currently ranks 7th in STEM degrees awarded, the same spot it has held for the last several years. States that also ranked in the top 10 include

New York, Michigan, Ohio, Massachusetts, and Texas. However, despite their high ranks, each had a one-year drop in STEM degrees awarded from 2021 to 2022.



STEM Degrees by State

Top 10 States
2022

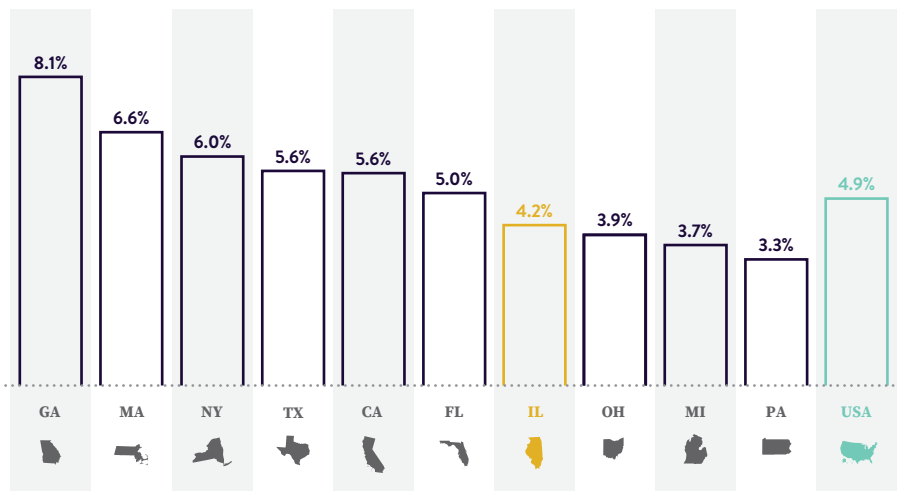


*PER 1,000 RESIDENTS

Top 10 States

Cumulative Annual Growth Rate (2013-2022)

Source: Population Data from U.S. Census Bureau, Population Division, December 2022 Release



National Center for Education Statistics, Integrated Post-Secondary Education Data System

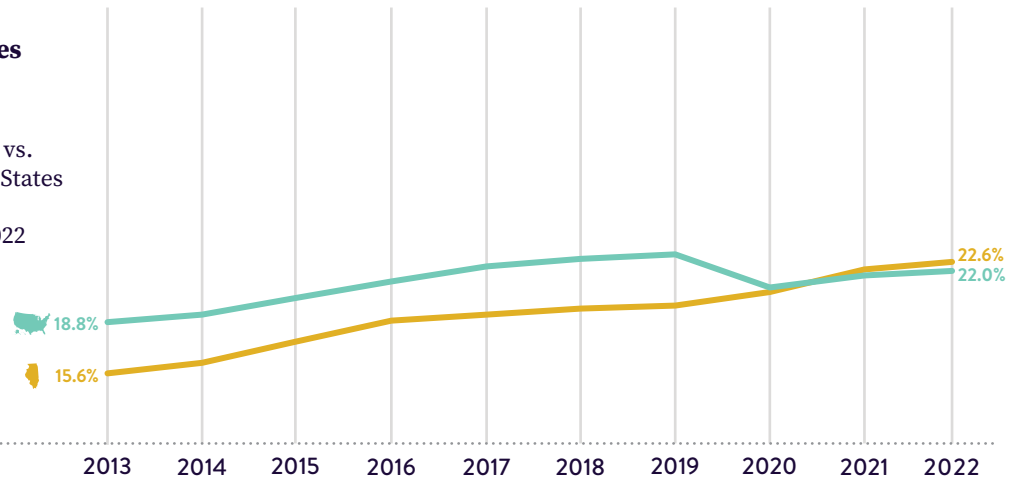
Illinois ranks 21st among all states in the percentage of total degrees that are in STEM at 22.59%—Texas is 19th (22.75%), New York is 18th (23.14%), and Iowa is 1st with 45.30%. States behind Illinois in this ranking include Ohio, Virginia, Connecticut, and Florida. The leading subject areas for STEM degrees in Illinois are as follows: Engineering (5,924), Computer and Information Sciences (5,743), Business and Management in STEM (5,001), and Biological Sciences (4,704).



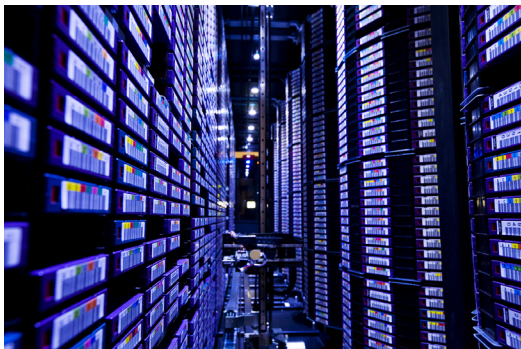
STEM Degrees Share

Illinois vs. United States

2013-2022



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System



▲ Data Storage Tapes at the National Center for Supercomputer Applications housed at the University of Illinois at Urbana-Champaign (Photo Courtesy of Jason Lindsey.)



UNIVERSITY OF ILLINOIS EMPHASIZES COLLABORATIVE UNDERGRADUATE PROGRAMMING THAT CONNECTS COMPUTING TO ‘ANY FIELD IMAGINABLE’

Interdisciplinary Undergraduate Programming

At the University of Illinois Urbana-Champaign, interdisciplinary undergraduate programming rises to meet an ever-growing need for a diverse, innovative workforce that can answer any challenge presented by society’s digital transformation.

“Educational programs that we’ve been building stress the notion that computing is ubiquitous, with application areas in virtually any field imaginable,” said The Grainger College of Engineering Dean

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[Rashid Bashir](#). “Through truly collaborative, interdisciplinary education, we are able to provide Illinois students with a solid foundation to pursue their goals however they interact with the technology field.”

First, Grainger Engineering has partnered with five colleges on campus to create [14 CS + X degree programs](#) that allow students a flexible program of study by incorporating a solid grounding in computer science with technical or professional training in the arts, humanities, and sciences.

Additionally, Grainger Engineering has collaborated with the Gies College of Business, the College of Liberal Arts and Sciences, and the School of Information Sciences to implement five [X + Data Science degree programs](#).

“All fields are undergoing digital transformations, so we have designed the X + DS degree programs to enable students to flexibly integrate their domain of study with interdisciplinary data science learning,” said [Shaowen Wang](#), a professor of both geography and geographic information science and computer science and associate dean for life and physical sciences in the College of Liberal Arts and Sciences.





Fastest growing STEM Subject Areas

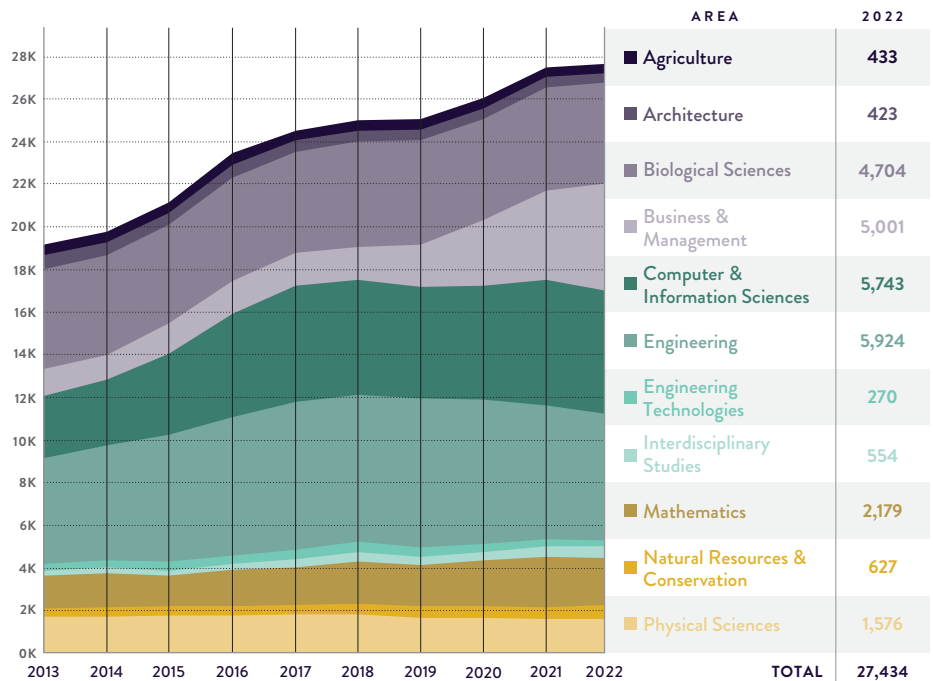
One of the fastest-growing STEM subject areas in Illinois is Business Management STEM degrees. STEM degrees in Business Management include coursework in actuarial sciences, business and data analytics, and management sciences. In 2022, Illinois had a significant uptick in the number of Business degrees awarded, conferring 5,001 degrees compared to 4,154 degrees in 2021 (a 20% increase). This is a record high for Business Management STEM degrees in the state. Nationwide, 8% of STEM Business degrees awarded came from Illinois universities.

Other STEM subject areas that experienced growth in 2022 were Natural Resources and Conservation, and Interdisciplinary Studies. Students of Natural Resources and Conservation at Illinois universities were awarded 627 degrees in 2022 compared to 525 degrees in 2021. This is a 19% increase and the highest number awarded in this field in the last 10 years. STEM students in Interdisciplinary Studies programs were awarded 554 degrees in 2022 compared to 498 in 2021 (an 11% increase), another record high.



STEM Degrees by Subject Area

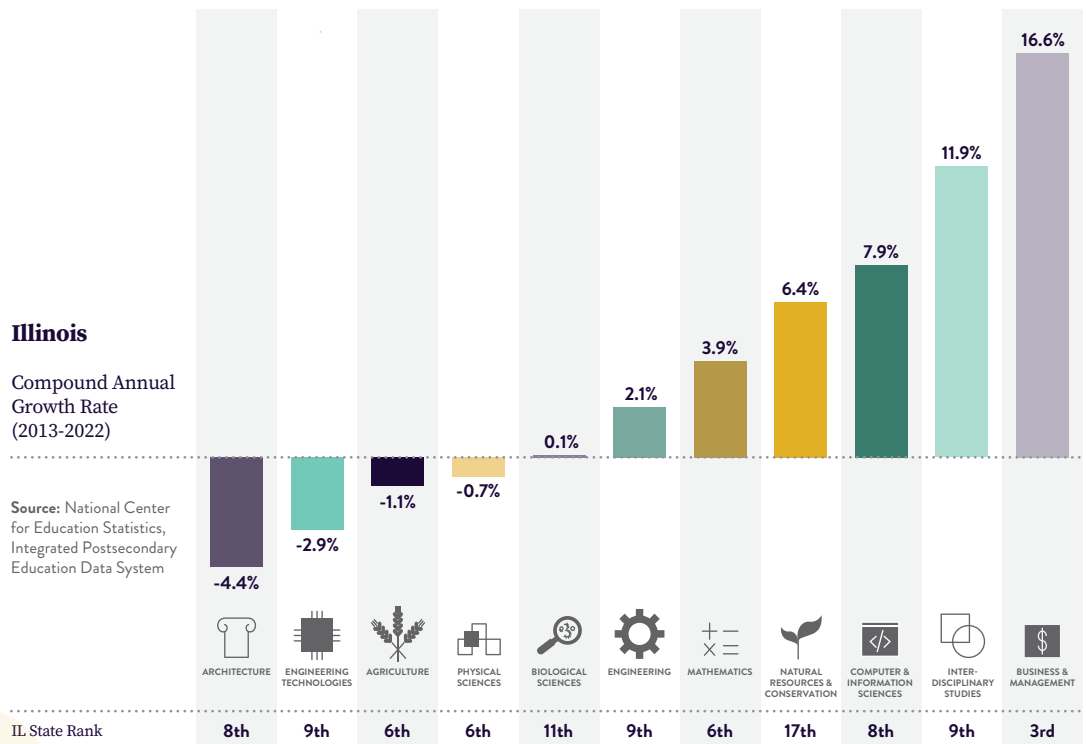
Illinois
2013-2022



Illinois vs. national trends

While natural resources and conservation emerged as a new front-runner in Illinois, there were notable changes in other STEM degree areas. In 2021, computer and information science was one of the fastest-growing areas, but the sector experienced a -1.36% decrease in the number of degrees awarded, falling from 5,822 graduates, which represented 21.3% of STEM degrees awarded in 2021 to graduates of Illinois universities, to

5,743 graduates (20.93%). However, national trends are tracking upward for computer science degree completions, increasing from 117,490 in 2019 to 139,227 in 2022. The five-year cumulative annual growth rates (CAGR) for computer science in the United States is 5.81%, yet in Illinois, the five-year CAGR sits well below the national rate at 1.73%. Illinois went from being the 3rd largest producer of STEM computer science graduates just a few years ago to 8th place in 2022. Georgia, Pennsylvania, Maryland, and Massachusetts have crept past Illinois over the last five years. Each state has increased the number of computer science degrees conferred between 2021 and 2022. In addition, biological sciences—named one of the fastest growing fields in 2021—and engineering also experienced slight declines, yet there is growth in these sectors at the national level.



In 2022, 5,352 more STEM Business Management degrees were conferred nationally than in 2021, a 14% increase. Illinois, mimicking broader national trends, also increased the number of degrees granted to those focusing on the intersections of STEM and Management. Important to consider is that more than 75% of STEM management conferalls are to Master’s degree recipients. 4,256 of Illinois’ Business Management STEM conferrals in 2022 were Master’s degrees (85.1%). Master’s students are more likely than students at other degree levels to be offered fully online degree opportunities ([National Science Foundation](#)).



Mathematics has grown steadily since 2013, by about 3.94% per year in Illinois, which is faster than the national average growth rate over that time of 3.71%. From 2021 to 2022, there was a significant national dropoff in the number of mathematics degree earners, representing 6.14% of STEM graduates in 2021 to just 5.89% in 2022—in total, there were approximately 1,500 fewer STEM mathematics graduates nationally. Illinois had just under 200 fewer STEM mathematics graduates.

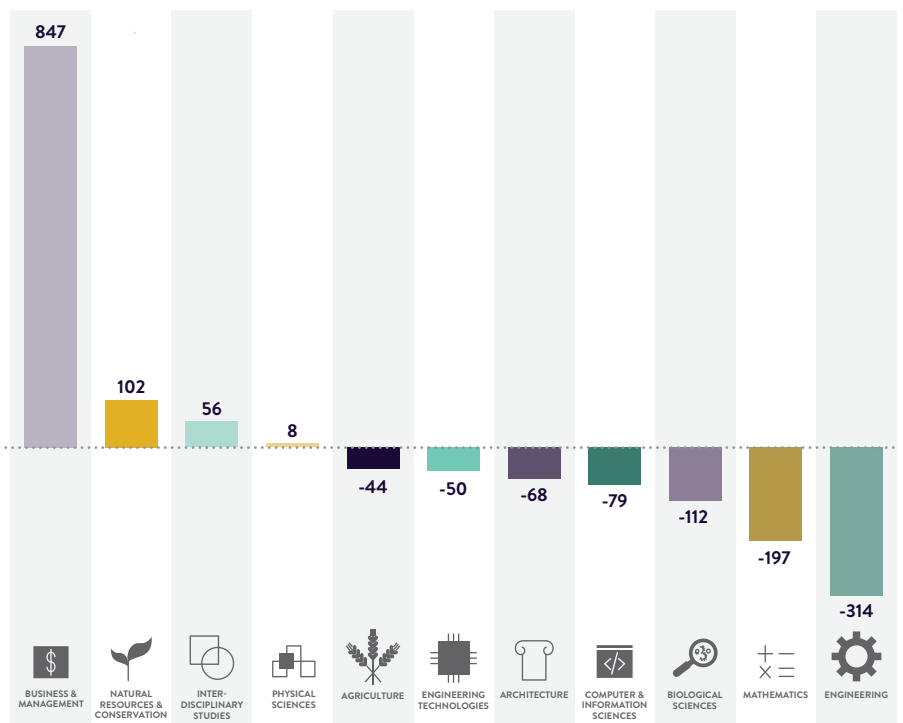
Despite the fluctuations between these STEM fields, overall STEM degrees are growing very quickly in Illinois, and to a smaller extent, nationally as well. In 2022, it was also the first time in ISTC’s collection that there were fewer non-STEM degrees produced nationwide than the prior year. In 2022, there were 2,446,400 non-STEM degrees completed, compared to 2,415,326 in 2021. The Illinois Board of Higher Education's June 2023 Enrollment Landscape (IBHE, 2023) pointed out that college-going rates among Illinois high school graduates has yet to return to pre-pandemic levels with just over 2,800 less high school students enrolling in 4-year universities in 2021 when compared to 2019. Illinois universities experienced a decrease as well; in Fall of 2022 around 1,000 less students enrolled in Illinois public universities compared to the Fall of 2021. This slow-down in enrollment is being matched with a slow-down in overall degree conferral.



STEM Degrees Added by Subject Area

Illinois
2021-2022

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System





▲ Photo Courtesy of Rodnae Productions.



THE ILLINOIS MANUFACTURERS' ASSOCIATION ETIP Program

The Illinois Manufacturers' Association ([IMA](#)) administers the Employer Training Investment Program ([ETIP](#)), on behalf of the Illinois Department of Commerce and Economic Opportunity ([DCEO](#)). Under Governor Pritzker's leadership, the ETIP program funding has increased steadily demonstrating a commitment to education and workforce development.

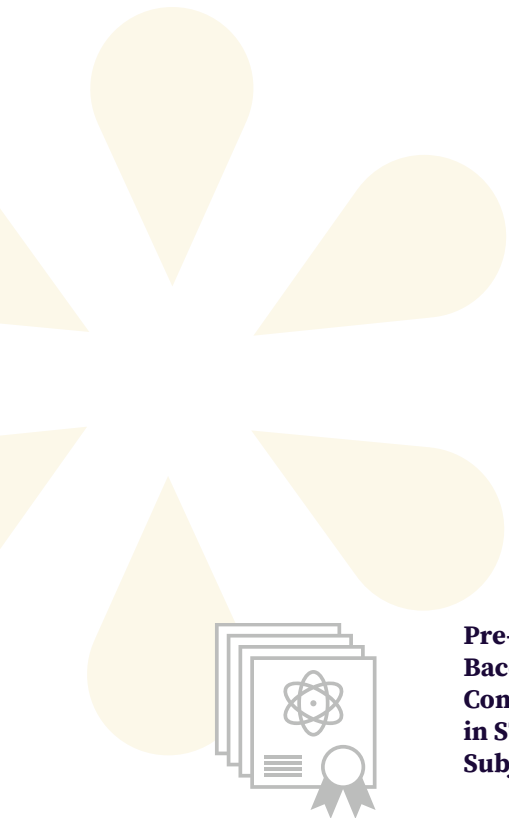
The ETIP program aims to upskill and reskill the Illinois manufacturing workforce. It offers a maximum 50% reimbursement for training provided to full-time employees for companies based in Illinois. The objective is to upskill the Illinois workforce, and enhance workplace safety. Reimbursements cover a range of training, including equipment training and workshops on safety procedures.

IMA's administration of the program aligns with the Illinois DCEO's goal to prepare the state's workforce for the challenges of the future. Notably, the funding can also support pre-baccalaureate degree earners and neurodiverse employees, fostering inclusivity and expanding opportunities.

In 2023, over 4,000 employees and 52 companies benefited from IMA's workforce development initiatives, emphasizing the program's substantial impact on skill enhancement and job safety. This success story highlights the positive outcomes of state and local investments, emphasizing the unique contribution of the ETIP program to Illinois' economic growth and workforce preparedness. The promotion of such programs is crucial not only for workers but also regarding future policy changes that support continued investment in workforce development and innovation.

In the current budget, the Governor and General Assembly again increased funding for the ETIP program.





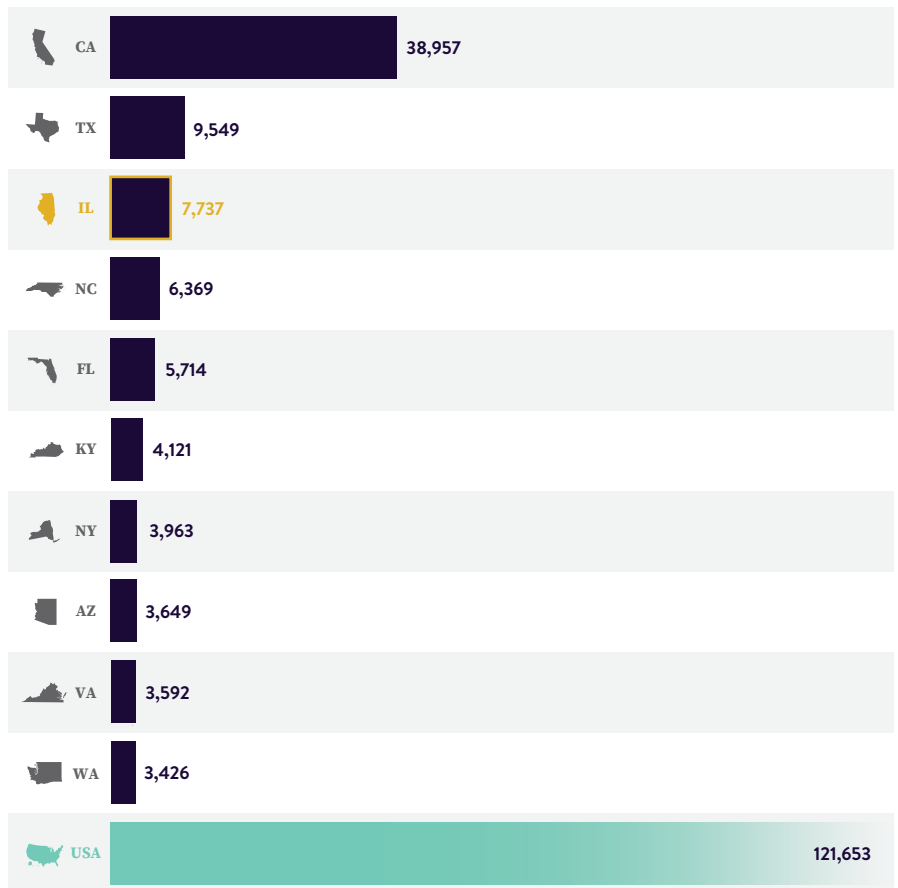
Pre-baccalaureate STEM completions

Pre-baccalaureate completions are categorized and collated differently than four-year STEM degrees and the degree fields are more condensed. Degree earners in this group are completing certifications or degrees that traditionally take less time than a bachelor’s degree to complete. This includes associate degrees; certificates of less than two years, but more than one; certificates of more than two years, but less than four; and certifications of more than 12 weeks, but less than one year.

In 2022, Illinois ranked 3rd in the nation for the number of pre-baccalaureate STEM completions (7,737). California is ranked first with 36,957 completions and Texas is ranked 2nd with 9,549 completions. Illinois’ five-year cumulative annual growth rate for completions of this level sits at 0.47%; lower than the national average of 6.32%.

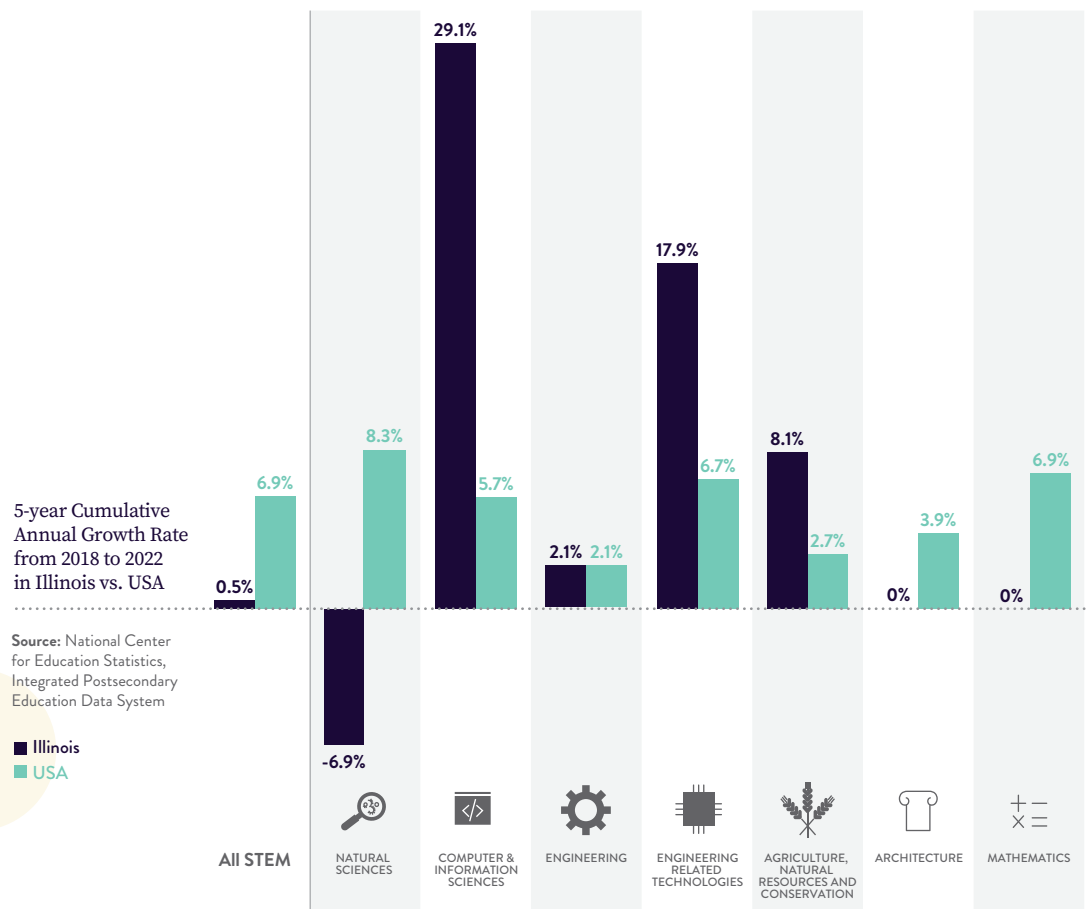
Pre-Baccalaureate Completions in STEM Subject Areas

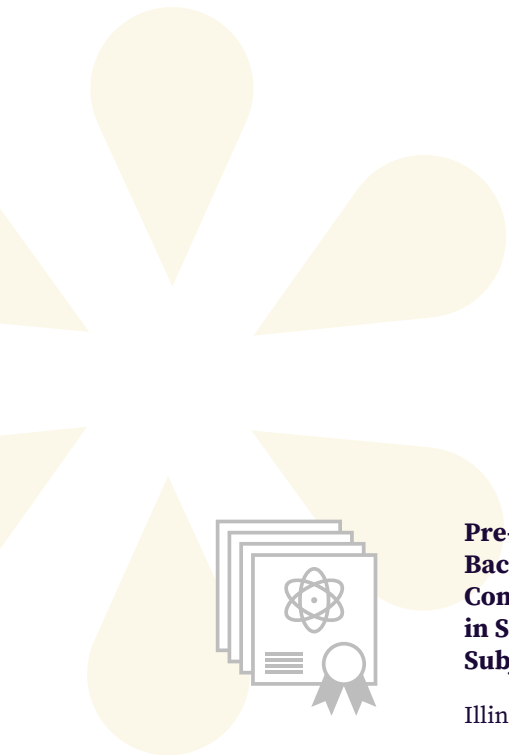
Top 10 States
2022



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System

The increase in the number of individuals receiving computer and information science certifications contributed significantly to Illinois' growth in STEM pre-baccalaureate completions between 2018 and 2022. In 2018, 904 Illinoisans received a certification that met ISTC's standards for STEM-relevant coursework. This total increased to 2,511 certifications in 2022; a 29.1% average increase year over year. Illinois ranks first in the nation over this five-year period in the growth of pre-baccalaureate completions in computer and information sciences. Engineering-related degrees (i.e. construction engineering, energy systems technologies) increased from 44 completions in 2018 to 85 in 2022. The number of individuals completing certifications of less than one-year that were STEM relevant increased significantly from 473 completions in 2021 to 1,385 in 2022.





Pre-Baccalaureate Completions in STEM Subject Areas

Illinois

2022

The top pre-baccalaureate STEM completions in Illinois are Natural Sciences (4,706) and Computer and Information Sciences (2,511). In 2022, Illinois ranked 2nd in the Natural Science pre-baccalaureate STEM completions category and 7th in Computer and Information Sciences. As mentioned, the pre-baccalaureate subject areas are more condensed than for the bachelor’s and higher degrees, meaning interdisciplinary degrees are added into their main categories, mathematics and business management degrees are combined, computer sciences are added to other interdisciplinary computer tracks, biological and physical sciences are combined, and agriculture and natural resources degrees are added together in a larger category.

| AREA | 2022 |
|---|-------|
| Natural Sciences Completions | 4,706 |
| Computer & Information Sciences Completions | 2,511 |
| Engineering Completions | 362 |
| Engineering-Related Technologies Completions | 85 |
| Agriculture, Natural Resources & Conservation Completions | 56 |
| Architecture Completions | 17 |
| Mathematics Completions | 0 |



▲ **Lacie, Program Graduate** (Photo Courtesy of Jane Addams Resource Corporation.)



JANE ADDAMS RESOURCE CORPORATION Training Program

The Jane Addams Resource Corporation ([JARC](#)) promotes strong communities, businesses, and households to ensure that people with jobs do not live in poverty.

JARC does this by providing high-quality skills training to unemployed and underemployed adults and customized services and training to companies in manufacturing. JARC focuses its

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training on computer numerical control (CNC) machining, welding, and mechanical assembly.

Over the last two years, JARC has trained 87 adults who want to start careers in manufacturing. They have earned industry-recognized credentials from the National Institute of Metalworking Skills, the American Welding Society, and the Society of Manufacturing Engineers. During this same period, JARC placed 86 graduates into full-time employment. The Jane Addams Resource Corporation provides ongoing career and financial coaching to students while training and after they graduate and start working. All trainees receive wraparound supportive services, including transportation assistance and other emergency financial support.

One such trainee graduate is Lacie who found the program attractive due to the possibility of finding more stable employment. Through her training she secured a new role with Freedman Seating. Getting a reliable job has also allowed her to enroll in a retirement plan: "I've never really had that opportunity before because my other companies didn't really provide those benefits." Furthermore, she moved out from Rogers Park (where she lived for around five years) to Avondale, cutting down her commute to work drastically and allowing her to be closer to her family: "I was comfortable making that move, because now I have a reliable income." In February 2023, she celebrated her 1 year anniversary at Freedman Seating - her first time working for a full year at one company.



STEM TALENT DEMAND

Data on STEM jobs comes from ISTC's coding of information derived from the Bureau of Labor Statistics' (BLS) Occupational Employment and Wage Statistics (OEWS) survey. This biannual survey is collected by the Bureau through the participation of a representative sample of businesses across multiple industry clusters. STEM jobs correspond to career pathways that align with STEM education received in the classroom, excluding nurses, medical staff, and post-secondary educators in non-STEM classrooms. Post-secondary educators are only included if their courses encompass a STEM curriculum in the following subject areas: mathematics, life sciences, computer sciences, engineering, architecture, social sciences, physics, atmospheric sciences, and conservation studies. ISTC's data does not include health professionals due to the size and focus of the health service sector in Illinois. Certain types of research-oriented social sciences, academic roles in higher education, and business management positions are included if the role includes skills borrowed from more traditional STEM fields such as research practice, data analytics, lab work and computer programming.

Overall STEM job growth reaches national record high

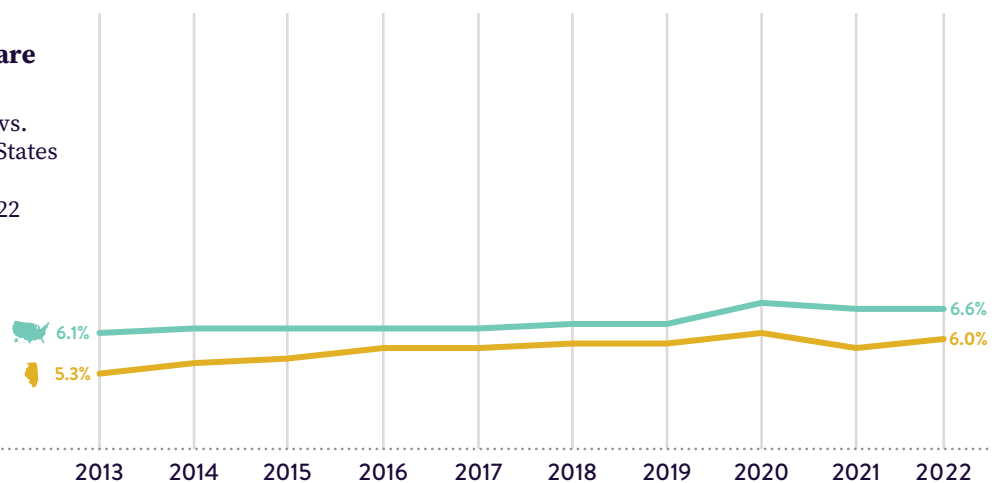
³ [2023 STEM Talent Methodology](#) features full list of 4-digit Classification of Instructional Program (CIP) Codes considered STEM Degrees and SOC Codes we consider STEM Occupations

⁴ 'STEM Degrees' awarded in this section mean 4-year degree completions and higher

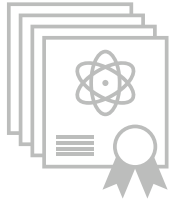
In 2022, the number of STEM jobs in Illinois reached a near-record high. Data show that 350,380 Illinoisans are employed in STEM fields. This is 24,000 more STEM employees than reported in the 2021 STEM Talent Report and nearing the 2019 high of 352,280 jobs. The 10-year cumulative annual growth rate (2013-2022) is 1.1%. Illinois ranks 7th in the nation for STEM jobs, according to the most recent data for 2022. The resurgence of Computer and Mathematics jobs has been a major reason for the return to pre-pandemic levels of STEM employment, though today's job market is also saturated by more STEM Management employees in Illinois; 3,020 more Illinoisans were employed as Natural Sciences, Engineering, or Computer Science managers in 2022 compared to 2019's record high year for STEM jobs.



STEM Job Share
Illinois vs. United States
2013-2022

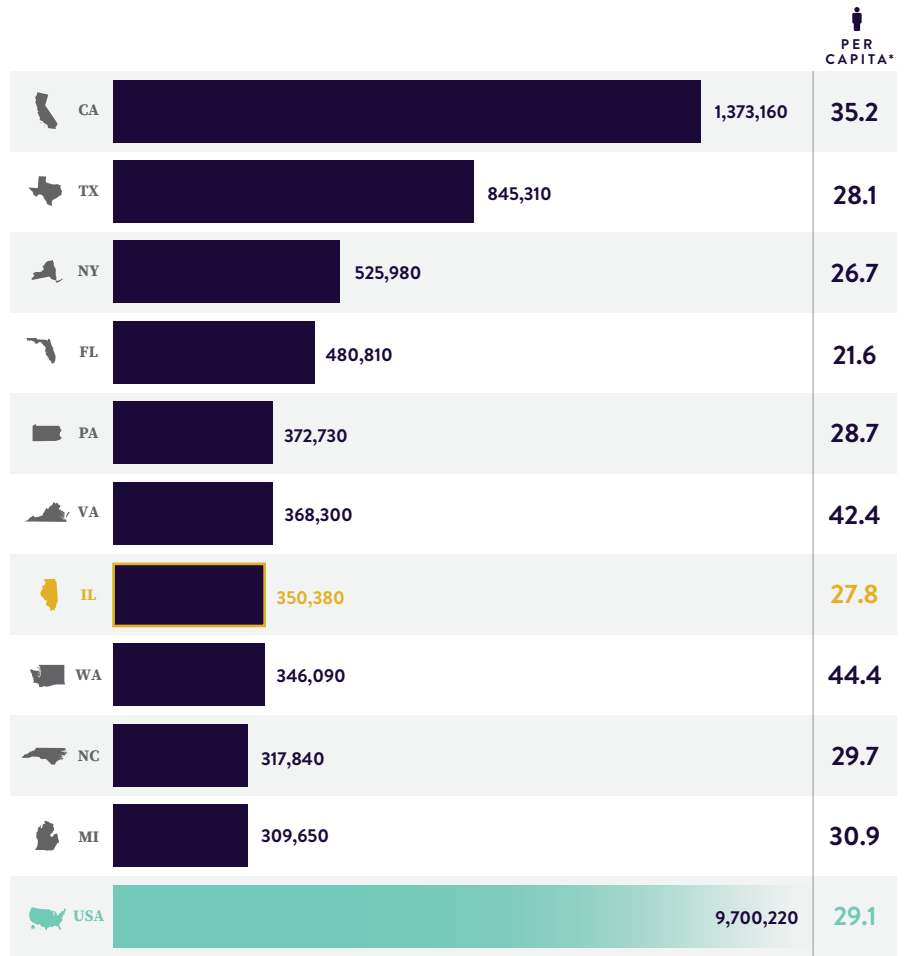


Source: U.S. Bureau of Labor Statistics



STEM Jobs by State

Top 10 States
2022



*PER 1,000 RESIDENTS

National STEM job creation numbers are at record highs. According to our coding during 2020 there was a previous record high mark of 9.3M, but in 2022 national employment in STEM positions topped 9.7M in the United States. The national job growth rate between 2021 and 2022 is 6.05% for STEM roles. Many other research leaders predict a major increase in software engineering and data science roles over the next decade that will continue this growth ([U.S. Department of Labor](#)). Each of the top 10 states in terms of STEM employee count had relatively high growth percentages between 2021 and 2022 for job creation in STEM roles, including Illinois at 7.21%. Other states that saw high growth rates for STEM roles include Florida (13.7%), Texas (9.43%), Virginia (6.95%), and California (6.52%). Illinois ranks 25th in the percentage of all jobs in the state that are in STEM fields (6%), which is just under the U.S. national rate of 6.61%.





▲ Photo Courtesy of Fauxels.



ILLINOIS DEPARTMENT OF INNOVATION & TECHNOLOGY

IT Trainee Program

In October 2023, Governor JB Pritzker unveiled an ambitious initiative with the launch of the Illinois Department of Innovation & Technology's (DoIT) paid Information Technology Trainee Program. The program serves a multifaceted purpose, aiming to address the burgeoning demand for tech professionals, enhance workforce diversity, and cultivate a pool of skilled talent for the future.

Scheduled to commence in January 2024, the inaugural cohort, meticulously selected from a robust pool of nearly 2,000 applicants, will embark on specialized tracks encompassing crucial areas such as cybersecurity, networking, coding, and database. What sets this program apart is its commitment to mentorship, with trainees benefiting from formal guidance provided by seasoned DoIT professionals.

To optimize the training experience, DoIT has forged strategic partnerships with Lincoln Land Community College and City Colleges of Chicago. Lincoln Land Community College has played a pivotal role in crafting the core curriculum, establishing dedicated training sites, with the Springfield cohort hosted at a Lincoln Land facility. Simultaneously, collaboration with City Colleges of Chicago extends the program's accessibility, providing a Chicago-based training site.

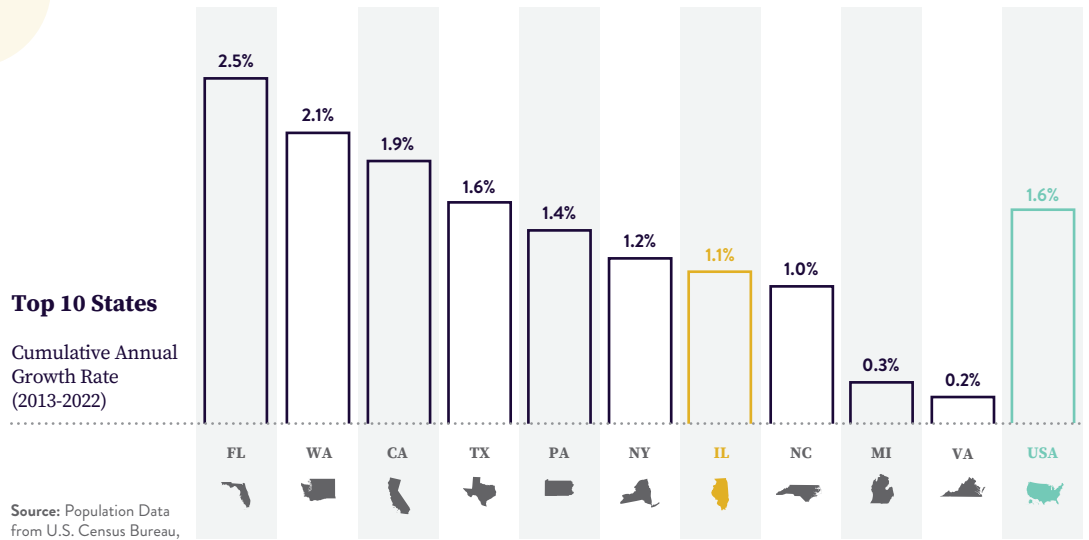
Beyond the educational component, the program offers a competitive salary to trainees, coupled with the promise of a full-time position within DoIT upon successful completion of the program. This combination of formal instruction, hands-on training, and the opportunity to contribute to state government agencies positions participants to play a pivotal role in shaping the technological landscape of Illinois.

In the current budget, the Governor and General Assembly again increased funding for the ETIP program.



U.S. vs. Illinois STEM jobs

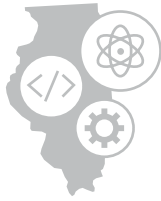
Data show that STEM job growth in Illinois was similar to nationwide trends. In Illinois, there was a record-high number of people employed in mathematics and social science STEM positions. From 2018 to 2022, Illinois added 6,090 mathematics jobs (13.83% annual growth since 2018), and 3,270 social science jobs (8.2% annual growth since 2018). The trend in Illinois for mathematics professionals is similar to the national trend, where mathematics roles have grown 17.33% year over year on average since 2018. Illinois is outpacing the national average on job growth in the Social Sciences; nationally, there has been a 0.94% year-over-year increase in jobs in this sector since 2018, compared to the 8.2% annual growth in Illinois.



Source: Population Data from U.S. Census Bureau, Population Division, December 2022 Release

U.S. Bureau of Labor Statistics

While mathematics and social science positions continued upward, life science, physical science, and social science technician roles in Illinois have decreased by more than 5,000 since a record high in 2018. In 2022, there were only 7,200 life, physical, and social science technicians in the state, which is the lowest number reported in the last 10 years. On a national scale, there is a similar trend, with 14,000 technician roles being eliminated in the last five years (a drop of 1% annually).



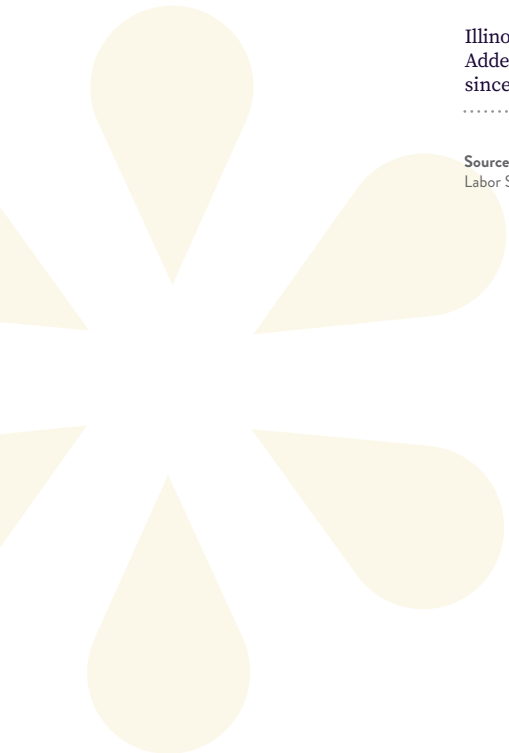
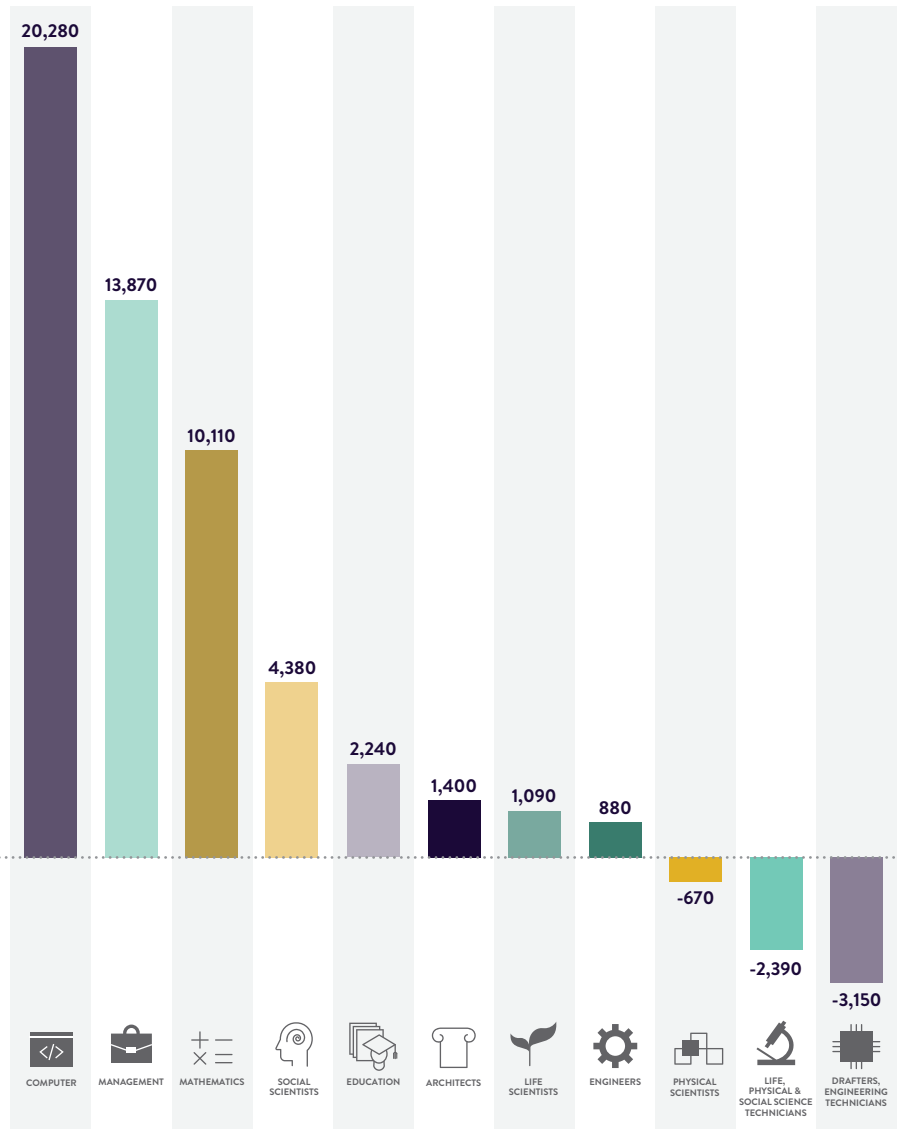
STEM Jobs Added by Field

Illinois

2013-2022

Illinois Jobs Added by Field since 2013

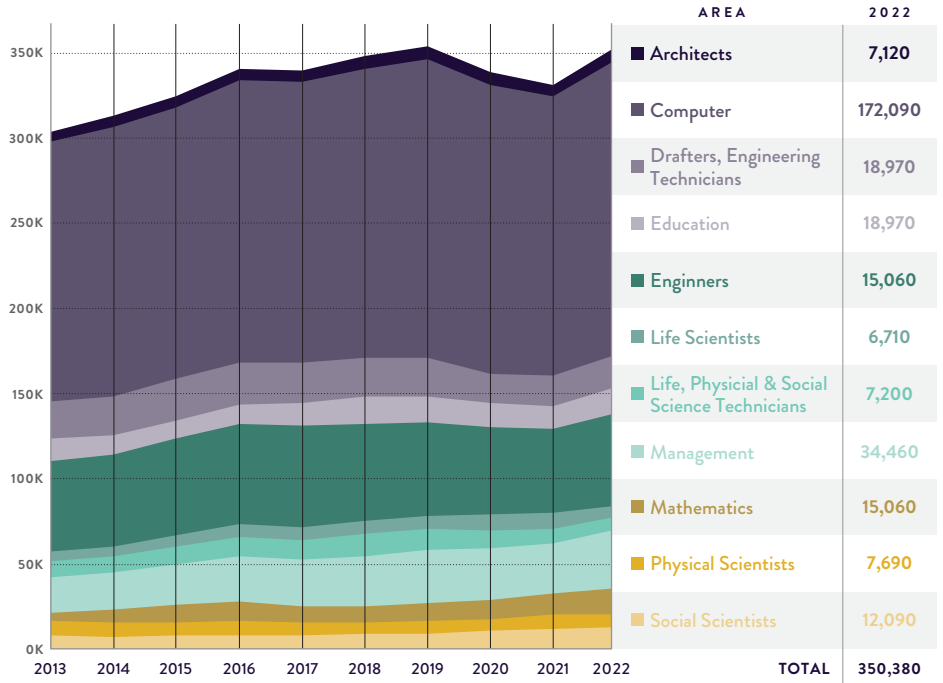
Source: U.S. Bureau of Labor Statistics





STEM Jobs by Field

Illinois
2013-2022

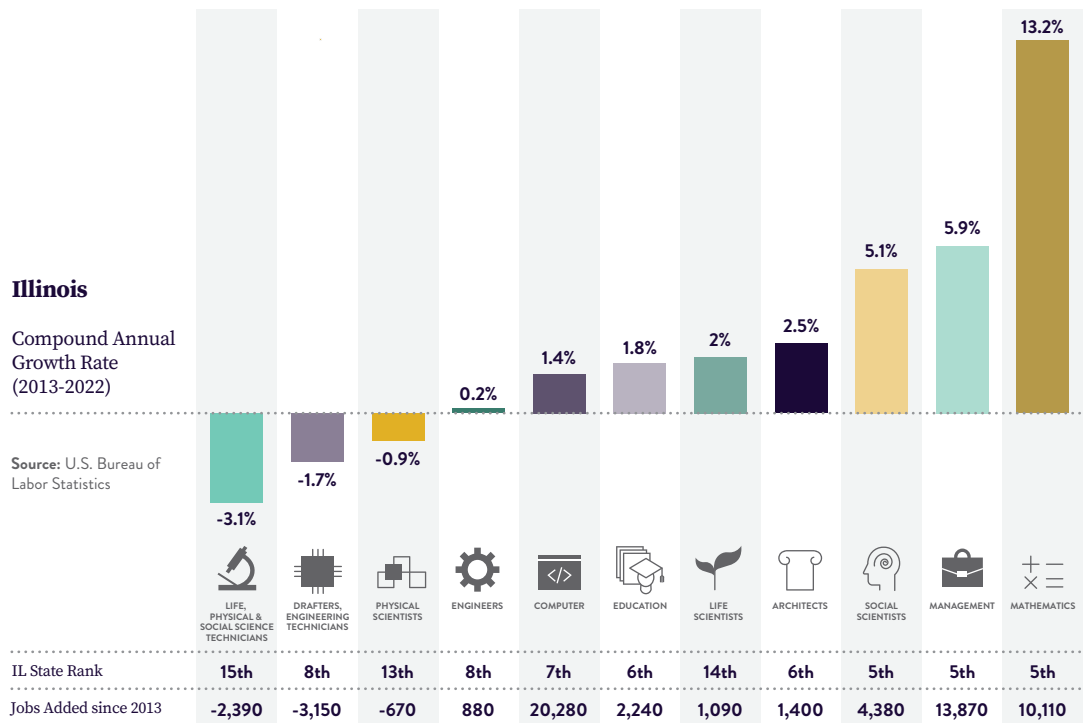


Engineering roles across the state and nationally have also decreased. In Illinois, engineering lost 2,880 roles since 2018 (-1.29% annual growth since 2018) and engineering technician roles decreased by 3,970 during the same period (-4.64% annual growth since 2018). The national five-year cumulative annual growth rate for engineering is -0.19% and -1.60% for engineering technician roles.

Illinois

Compound Annual Growth Rate (2013-2022)

Source: U.S. Bureau of Labor Statistics





▲ *Students visit MxD Factory Floors (Photo Courtesy of Manufacturing x Digital.)*



MANUFACTURING X DIGITAL

MxD's CAPITAL Program

MxD (Manufacturing x Digital) is where innovative manufacturers go to forge their futures. In partnership with the Department of Defense, MxD equips U.S. factories with the digital tools, cybersecurity, and workforce expertise needed to begin building every part better than the last.

[MxD's CAPITAL](#) program is a \$6.2 million federally funded program with the goal to prepare the workforce of today and tomorrow with manufacturing skills. CAPITAL is developing five certification-based workforce training programs focused on the most critical roles in digital and cybersecurity for manufacturing, with in-demand coursework for entry-level and transitional roles.

Launched and located in Chicago, MxD's home state will see the impact of CAPITAL. In Illinois, manufacturing is a key driver of the regional economy. However, the state is not insulated from manufacturing's workforce challenges. Illinois has a high vacancy rate for manufacturing jobs, with Chicago alone having more than 58,000 open positions. CAPITAL aims to provide resources to train and upskill current and future workers to fill these positions.

The industry is driving CAPITAL every step of the way. To date, CAPITAL has engaged more than 200 industry, academic, government, and workforce organizations, including dozens in Illinois, to prioritize the most essential roles and skills within cyber and digital. In addition to soliciting a wide range of perspectives about industry workforce needs through a recent survey, MxD Learn launched the Learn Advisory Committee (LAC), an advisory body tasked with supporting the prioritization of in-demand skills. The LAC reflects a diverse representation across industry, government, academia, and workforce solutions providers who will continue to steer and direct the portfolio of MxD Learn programs.

Fastest growing STEM occupations in Illinois

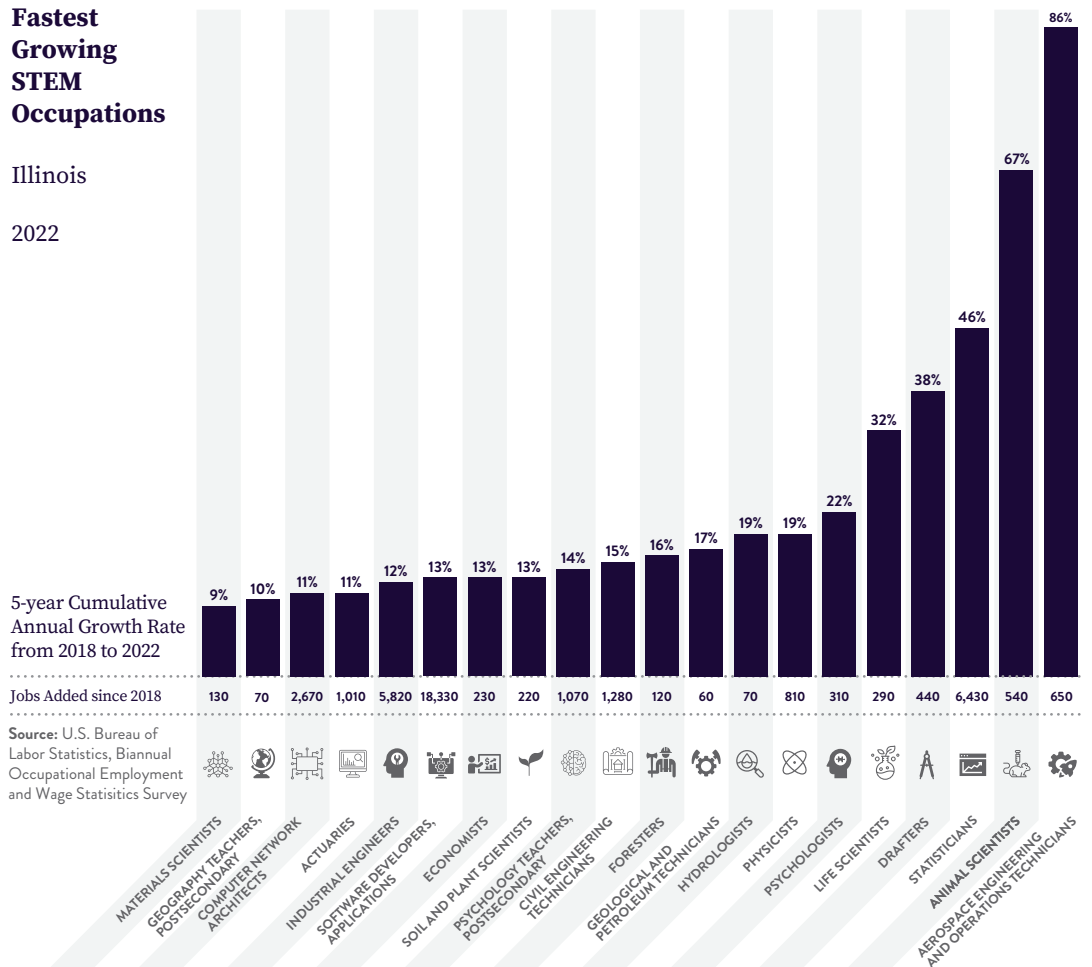
As Illinois experiences a surge in STEM jobs, the fastest growing STEM career occupations³ in the state are Aerospace Engineering and Operations Technicians with 650 jobs added since 2018 (86% increase); Animal Scientists, with 540 jobs added since 2018 (67% increase); Statisticians, with 6,430 jobs added since 2018 (46% increase); Drafters with 440 jobs added since 2018 (38% increase); Life Scientists, with 430 jobs added since 2018 (32% increase).

Nationally, the fastest-growing STEM occupations are happening in other fields. By five-year CAGR (2018-2022), STEM occupations that grew the most nationwide include security analysts (10.9%), social sciences teachers, post-secondary (10.8%), natural sciences managers (10.4%), mining and geological engineers (9.7%), computer and information systems managers (8%), epidemiologists (7.8%), and biological scientists (6.8%).



Fastest Growing STEM Occupations

Illinois
2022



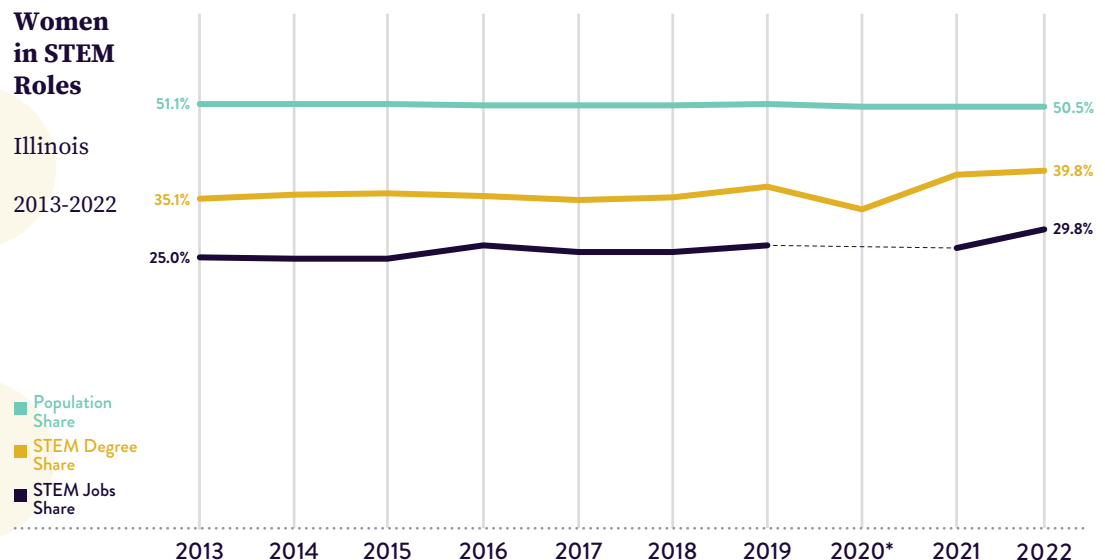
Diversity, Access, and Inclusion in STEM

ISTC collects demographic information about STEM degree recipients in the United States and those who hold STEM positions nationwide. ISTC continues to use the Integrated Postsecondary Education Data System for degree information. To find the demographic breakdown of employees in the United States, ISTC uses the American Community Survey’s Public Use Microdata Sample accessed via the Micro Data Access Tool. This report focuses on three demographic groups in particular: Black Illinoisans, Latinx Illinoisans, and Illinois women in STEM.

Gains and Losses for Diversity in STEM

Women, Black, and Latinx populations remain significantly underrepresented in Illinois, both in STEM degrees awarded⁴ and employment in STEM jobs. Although Illinois is a highly diverse state, degree completions and employment in STEM do not reflect that diversity. In 2022, there were record-high numbers of women completing STEM degrees, Black STEM Employment set record highs in Illinois, and Latinx STEM Employment in Illinois continued on a recovery path trending towards pre-pandemic levels.

Women represent 50.49% of the Illinois population. In 2021, there were 10,648 women who earned a degree in STEM, which represents 39% of all Illinois STEM degree earners that year. The total number increased slightly in 2022 to 10,912, reflecting 40% of the total 27,434 Illinois STEM degrees awarded. This is a record-high counting number of women completing STEM degrees in the state. Illinois is only slightly behind the national average of women STEM degree earners, which was 41.7% in 2022.



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System, U.S. Census Bureau (ACS 1-year estimates)

*Data unavailable due to delay in collection of the 2020 U.S. Census.



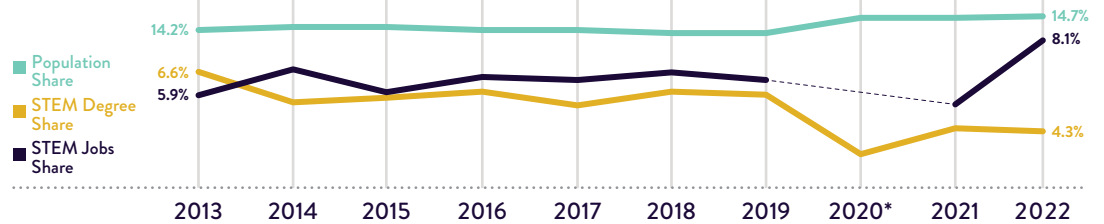
Illinois is surpassing the national average of women employed in STEM. In 2022, Illinois employed 182,422 women in STEM, another record high for the state. Women compose 29.8% of all Illinois STEM employees, which is slightly higher than the national average of 29.55%. This is the first time in ISTC’s collection of this data that Illinois’ employment numbers for women in STEM have surpassed the national average.

When it comes to Black Illinoisans employed in STEM roles, Illinois made significant progress between 2021 and 2022. In 2022, there were 39,276 Black Illinoisans employed in STEM, which is a record-high counting number of Black STEM employees for the state. With this increase, in 2022, Black employees made up 8.05% of all STEM workers in Illinois. For context, in 2011, Black employees made up 7.1% of all STEM workers in Illinois, and in 2021, Black employees made up 5.5% of the STEM workforce, which is the lowest percentage reported in the last decade.

STEM degree conferrals for Black students did not experience the same increase as seen with Black STEM employees. Black students were less likely than their non-Black counterparts to receive STEM degrees in 2022 compared to 2021. Black students made up 4.41% of all STEM degree conferrals in Illinois in 2021, a figure that fell to 4.28% in 2022. The total number of Black Illinoisans who earned STEM degrees in 2022 was 1,175. Illinois trails the national average of Black STEM degree recipients, which was 5.56% in 2022.

Black Professionals in STEM

Illinois
2013-2022



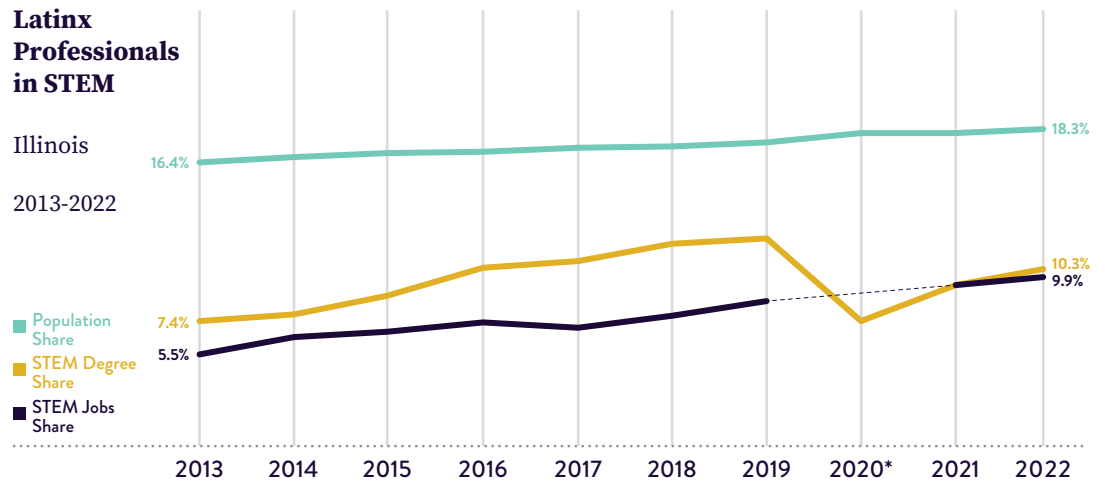
Source: National Center for Education Statistics, Integrated Postsecondary Education Data System, U.S. Census Bureau (ACS 1-year estimates)

*Data unavailable due to delay in collection of the 2020 U.S. Census.

Latinx Illinoisans also recorded record-high numbers in STEM positions in 2022, holding 60,440 jobs. This total represents 9.87% of the total STEM workforce in Illinois for 2022. According to the American Community Survey around 9.78% of the 2022 U.S. STEM workforce identified as Latinx, meaning Illinois is outpacing the national average. Latinx Illinoisans accounted for 10.33% of STEM degree recipients in the state in 2022. While this percentage is higher than each of the prior two years (7.4% in 2020 and 9.4% in 2021), this is lower than the 2019 record high of 12.1%. Nationally, Latinx individuals made up 11.09% of STEM degree earners graduating in 2022.

Latinx Professionals in STEM

Illinois
2013-2022



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System, U.S. Census Bureau (ACS 1-year estimates)

*Data unavailable due to delay in collection of the 2020 U.S. Census.



TALENT RETENTION AND MIGRATION

Understanding students' journeys from academia to the job market is an important factor in assessing the health of Illinois' STEM supply and demand. Talent retention helps to stimulate local economies by stabilizing employment, attracting new business headquarters, and supporting multi-industry models that offer a spectrum of roles and wages.

Over the last ten years, nearly 150,000 students migrated to Illinois as incoming four-year college students and, in 2021, approximately 52.1% of Illinois high school graduates enrolled in an in-state, 4-year university (Illinois Board of Higher Education, National Center for Education Statistics). Additionally, ISTC has collected data on the number of STEM degree recipients who stay or migrate to other states post-graduation. Specifically, ISTC explores two degree tracks: computer and data science and biomedical engineering. Illinoisans receiving degrees in computer and data science made up roughly 15% of all Illinoisans receiving STEM degrees in 2022. The University of Illinois has historically been a major hub of computer science research and in recent years has cemented this status with one of the top graduate software engineering programs in the nation. Additionally, Chicago has long been a major hub of life science research with renowned universities, hospital systems, and research laboratories.

Illinois retains its Data Science Talent graduates

Illinois retains 60.57% of its computer and data science graduates and just under 50% of Illinois' computer and data science graduates start their careers in Chicago. Moreover, Illinois graduates in computer science or data science are more than four times as likely to relocate to Chicago than any other major city to start their careers. Other places outside Chicago where Illinois data and computer science graduates start their careers include Urbana-Champaign, San Francisco, New York City, Seattle and Los Angeles.



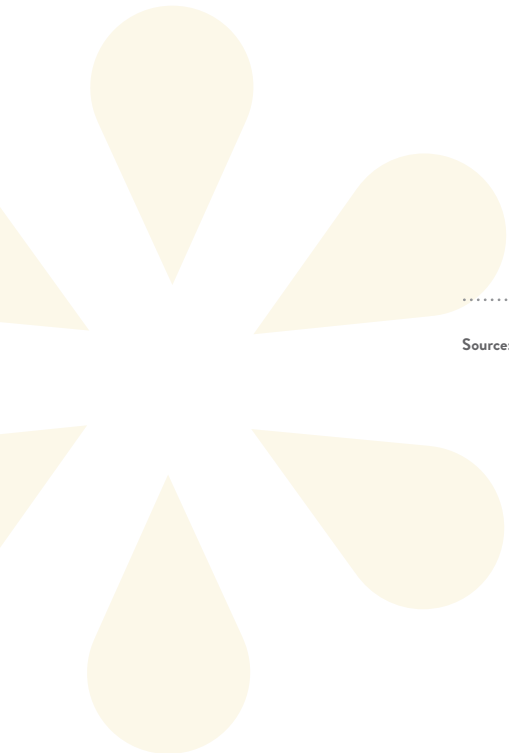
Retention of Computer and Data Science Graduates from Illinois Schools

Top 6 Cities

2013-2023



Source: LinkedIn



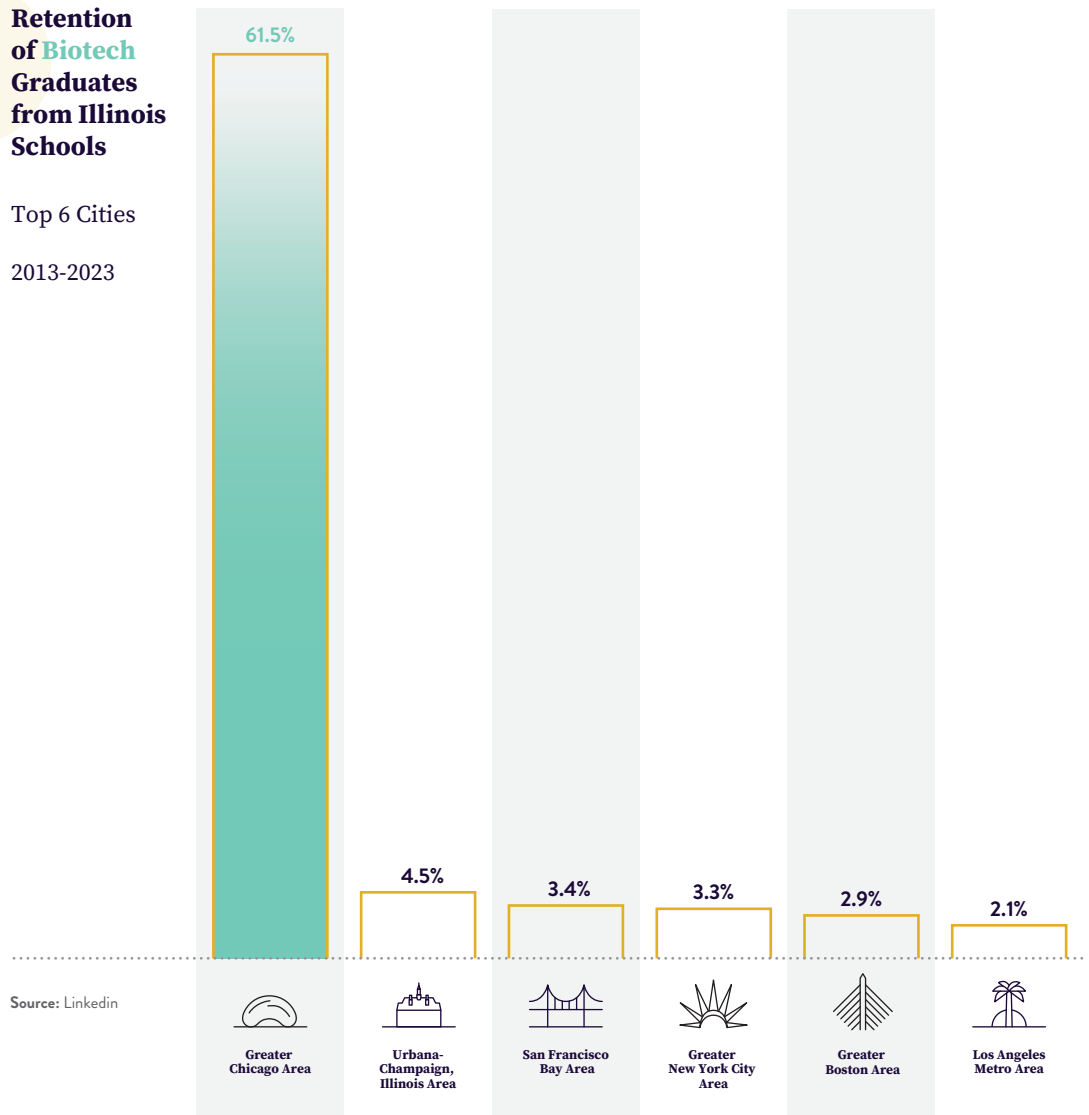
Illinois retains its Biomedical Technology Talent graduates

Biomedical technology graduates overwhelmingly stay in Illinois after graduation. The state retains 70.6% of biomedical and biotechnology graduates upon completion of their degree. Sixty percent of these graduates start their careers in Chicago. Illinoisans are 6x as likely to move to Chicago than any other major city if they major in biomedical engineering or biotechnology. Other top cities for Illinois biomedical graduates include Urbana-Champaign, San Francisco, New York City, Boston, and Los Angeles.



Retention of Biotech Graduates from Illinois Schools

Top 6 Cities
2013-2023



LOOKING FORWARD

Based on data shared throughout this report, ISTC has identified three priority calls to action that collectively create a cross-sector strategy for advancements within STEM education and Illinois' workforce.

- 1) Foster interdisciplinarity within STEM to optimize skill-building across all levels of education.**
- 2) Create more opportunities for experiential learning and reskilling to improve representation in STEM.**
- 3) Continue to align education and workforce development programs with state priorities for funding and partnership opportunities.**

ISTC is proud that many partners are already working diligently within these spaces. Continued efforts can help build Illinois' STEM foundation to scale, strengthen the state's performance at local and national levels, and create opportunities for current and future generations of STEM talent. Below are examples of this work in action and suggestions to further supplement the work that is already underway.

..... • **Foster Interdisciplinarity within STEM to optimize skill-building across all levels of education**

Interdisciplinarity in STEM is defined as an approach by which students learn the interconnectedness of the disciplines of STEM and other subject areas. Students analyze real-world problems by gathering ideas from STEM disciplines and integrating these ideas into a more comprehensive analysis (Chiu and Li, 2023). This approach has become more popular as engineering and technology have been introduced to younger age groups in the United States. Developing leadership, critical thinking, and task management skills in STEM coursework can be assisted through this integrated programming and project-based learning.

The University of Chicago has long been a leader in providing students opportunities for interdisciplinary research and projects. Their [Interdisciplinary Scientist Training Program](#) (ISTP) is designed to prepare the next generation of physician-scientists. University of Chicago Medical Students interested in pursuing a PhD, can specialize in one of many different research pathways within the School of Biological Sciences, the School of Physical Sciences, or the Pritzker School of Molecular Engineering. Students are given the opportunity to design a custom program with the approval of the ISTP Curriculum Committee that can focus on one field or integrate two classical disciplines. Examples provided by the university include combining biology and human genetics, structural biology and immunology, or developmental biology and microbiology.

The University of Illinois' Grainger College of Engineering and several other schools at the university have collaborated to create a first-of-its-kind opportunity, the [Computer Science+X degree program \(CS+X\)](#). This program has been phased into the university's curriculum over the last several academic years to allow students to pair computer science with other specialities, such as anthropology, chemistry, geography, mathematics, and statistics, among others.

CS+X introduced a CS+Education curriculum and welcomed its first cohort in the fall of 2023. The CS+Education program is a great model for training future teachers to prepare the next generation of STEM talent. In 2021, the Illinois legislature passed a bill requiring school districts to develop Computer Science curricula and learning standards for K-12 students. This is a great example of policy that is responding to demands in the workforce and setting new standards for learning. U of I's CS+Education program is an example of complementary programming that can ensure long-term success of the bill's goals.

Data provided in this report offers insights that can inform similar policy and programmatic decisions within STEM education. Specifically, ISTC recommends efforts toward interdisciplinary approaches that can optimize skillbuilding and thereby expand applications of STEM talent within the workforce. This begins in the classroom and ISTC recommends consideration from K-12 through higher education.

ISTC develops and facilitates several STEM training and support programs for K-12 students including, Mentor Matching Engine (MME), STEM Challenges, The 6 X 3 Project, and Teacher Externships. These programs have supported thousands of students and teachers across an average of 50 schools in 13 counties every year for the past 10 years. ISTC K-12 education programming provides students with real-world, hands-on STEM projects with major companies, pairing them with mentors who are leaders in their fields. Ultimately, this K-12 programming encourages students to further pursue certifications, degrees, and/or careers in STEM by providing exposure to diverse role models and various pathways into STEM.

Create more opportunities for experiential learning and reskilling to improve representation in STEM

Underrepresentation of women as well as Black and Latinx talent continues to be a challenge within STEM. Despite making up more than a third of the Illinois population Black and Latinx Illinoisans makeup under 15% of STEM graduates and just under 18% of STEM employees. Women make up about 40% of STEM graduates from Illinois universities,



but only 29% of STEM jobs are held by women. Beyond more inclusive tactics in the classroom, ISTC recommends workforce development programming that can provide underrepresented STEM learners real-world opportunities, such as internships and apprenticeships, to reduce attrition rates from degree conferral to the workforce. The National Association of Colleges and Employers ([NACE](#)) conducted surveys in 2021 and 2022, which both concluded that women, Black, and Hispanic talent were underrepresented as paid interns compared to white, male counterparts. According to NACE, having internship experience is a significant consideration when choosing between two otherwise equally qualified applicants. Short-term, project based work, also referred to as “micro-internships,” can offer similar skill- and resume-building opportunities that are attractive to both talent and employers (National Association of Colleges and Employers, Internship and Co-op Survey Report, April 2021, NACE Webpage). A 2021 survey of micro-internship participants concluded that micro-internships help create new pathways for talent who historically experience barriers-to-entry. The survey also concluded that micro-internships may support higher employee retention rates by allowing emerging talent to essentially sample different roles with low risk prior to long-term commitments, which helps to better identify skill-matches and personal interests (Parker Dewey, Micro-Internship Destination Survey 2021, February 2022, Survey Summary).

Micro-internship programs like Parker Dewey’s ‘Career Launchers’ offer pathways to careers for students who are unsure about their fit in a given industry. STEM Employers can aid in their retention by utilizing these project based learning according to Parker Dewey’s 2021 ‘Career Launcher’ survey ([Parker Dewey 2021 Micro-Internship Destination Survey](#)). Their model is uniquely suited for businesses struggling to find new employees who are the right skill-fit. Career Launchers gives companies the time they need to ensure that a new hire has the correct knowledge to perform the role well. Additionally, ISTC recommends developing skilling and reskilling programs for talent pursuing careers via nontraditional pathways or making career changes. These programs should align with statewide industry priorities and trends.


Nonprofit organizations are already addressing this issue through new programs focused on workforce and talent development. MxD is a nonprofit organization specialized in digital manufacturing and cybersecurity. MxD has partnered with over 200 industry and workforce organizations to prepare for the launch of MxD Learn, a virtual platform that offers online training courses and recruiting services. This program

exemplifies an easy-access approach to skilling and reskilling that can support career transitions into new technologies or areas of increasing demand.

As part of the Federal Government's [Good Jobs Challenge](#), a major component of the Biden Administration's American Rescue Plan Act (ARPA) signed in March of 2021, Cook County was granted \$18.5M for workforce development. Some of these funds were devoted to the [Chicago Cook Workforce Partnership](#) and other non-profits attempting to provide job opportunities in high-growth industries to people with disabilities and justice-involved individuals. Two ISTC partners, P33 and World Business Chicago, are workforce development partners of the Chicago Cook Workforce Partnership, with P33 focusing on healthcare employment opportunities and World Business Chicago acting as a cross-sector advisor on this major project. Efforts are ongoing to facilitate a fundamental change to the way that apprenticeship programs recruit and retain workers who are disabled or have been involved with the justice system.

Several efforts are underway to revitalize the Chicago STEM economy and a major injection of \$160M to the University of Chicago Bloch Hub Engine should assist in that revitalization. The Bloch Hub is one of 31 original awardees of the EDA's [Technology Hubs Program](#). It is a coalition of Chicago academic, non-profit, and industry leaders attempting to prepare the country for a leap to a quantum economy. Their teams are conducting research on how to integrate quantum physics into the technical design and features of products across industries such as information technology, software engineering, and healthcare. Part of the winning proposal includes efforts to promote access to careers in quantum information sciences and technology (QIST) by partnering with [i.c stars Chicago](#) and other community organizations. There are a number of other civic institutions in the city contributing to the disruption of longstanding diversity gaps within STEM with programming such as Hire360's TakeCharge Pre-Apprenticeship program in tandem with ComEd; Illinois State's SUPERCHARGE program sponsored by the NSF; and MxD's CAPITAL Learning program.

The examples provided demonstrate creative use of partnerships, state and federal funding, and engagement that can serve as models for future policies and programming. ISTC recommends utilizing data trends within the STEM Talent Report to assess existing programs and inform the development of new programs that offer experiential learning and reskilling opportunities. Programs that align with industry needs and have minimal barriers to entry can improve STEM talent attrition rates



from degree conferral to the workforce and create new pathways to STEM careers. By providing access to these opportunities at scale, Illinois can continue to work toward a more representative STEM workforce.

Continue to align education and workforce development programs with federal and state priorities to increase funding and partnership opportunities

The Illinois Department of Commerce and Economic Opportunity (DCEO) has identified six industries for targeted growth, which include Advanced Manufacturing; AgriBusiness and Food Manufacturing, Transportation-Distribution-Logistics (TDL); Life Science and Biotechnology; Energy; and Business-Professional Services. STEM education and STEM jobs are critical to each of these industries. Aligning education and workforce development programs with these priority areas can help secure state provided funding needed to improve existing and implement future programming.

The Illinois Works Pre-Apprenticeship Training Program started with a \$10M funding round in FY22 and \$15M in FY23, and will scale up to \$25M in FY24. This program is a community based initiative and funding is allocated to non-profit organizations to develop free services providing skills training and recruitment for apprenticeships. As of 2023, 29 nonprofit organizations were participating and DCEO estimated 1,300 participants would utilize the services. DCEO hopes to expand this to over 50 nonprofits and over 2,000 participants in 2024. Program evaluations suggest that more than 80% of participants identify as underrepresented and about 25% of applicants are justice-involved individuals. To date, this funding opportunity and collaborative effort is a great example of aligning cross-sector priorities and effectively implementing at scale.

The Apprenticeship Education Expense Credit was passed as part of a larger bill in 2019, as a means of incentivizing to employers apprenticeships through tax credits. This program has not demonstrated as much impact. Participating employers are eligible for up to \$3,500 in refunds per apprentice, with that cap rising to \$5,000 per apprentice if that employee is from an underserved community or if the business is located within an underserved community. According to the program's annual report, during calendar year 2022, just 4 entities submitted applications to receive funding through the program. This suggests a need to better promote this opportunity to employers and/or assess the value this program brings and any disincentives to participating.

National funding has also been leveraged to support Illinois' STEM efforts. The United State's Economic Development Administration's (EDA) [Recompetes Pilot Program](#) was launched in 2023 as an effort to create employment opportunities in economically distressed communities. Funding will be distributed in two phases; Phase 1 funds will be used for strategy development and Phase 2 funds will be used for implementation. Phase 1 finalists were announced in December 2023, which includes a grant team led by Richland Community College in Illinois. This proposed project requested \$50M in federal funding to stimulate the manufacturing sector within 11 census tracts in Decatur, Illinois by expanding the community college's technical training program, EnRich. ISTC partner, Archer Daniels-Midland (ADM), and TCCI Manufacturing are also part of the grant team, demonstrating the applicability and importance of cross-sector partnerships.

The EDA also awarded \$450,000 in funding to [the Springfield Economic Empowerment Project \(SEEP\)](#) to hire staff dedicated to implementation planning for new employment-focused economic development programming. SEEP is an alliance of partners including Lincoln-Land Community College, The Springfield Project, Springfield-Sangamon Growth Alliance, and the Community Foundation that work toward revitalizing distressed communities through free education and training that create pathways to higher-wage employment opportunities.

These state and federal funding programs are vital pathways toward implementing workforce development at scale. ISTC strongly recommends continued alignment between universities, nonprofits, and the private and public sectors in order to identify the high priority needs, shape policy and funding opportunities, and determine the best stakeholders to participate in implementation.

CONCLUSION

The Illinois Innovation Index is intended to serve as a resource to ISTC's partners and the statewide innovation ecosystem. The data within this STEM Talent Report provides a snapshot of Illinois's STEM talent supply in relation to demand in the workforce as reflected by STEM degree conferrals and industry employment trends. This data can catalyze further research and investigations into understanding why certain trends have emerged and projecting future scenarios.

ISTC encourages the use of this report and subsequent data to inform decisions regarding new policies and programming that promote STEM education and talent development across the state, specifically with intentionality toward inclusivity and economic growth. With continued effort and strategic collaboration, Illinois can create a robust network of tools and resources designed to produce a representative pipeline of STEM talent, stimulate the state's economy, and lead impactful advancements in innovation.



**ILLINOIS
SCIENCE &
TECHNOLOGY
COALITION**

The Illinois Science & Technology Coalition (ISTC) is a member-driven nonprofit that measures, connects, and advocates for Illinois' innovation economy. Created by the State of Illinois 30 years ago, we create powerful links between the state's universities, industry, startups, and government to strengthen our economy and talent pipeline through data collection, policy advocacy, and programs.

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ILLINOIS

Innovation
Index