

2024

Annual Report

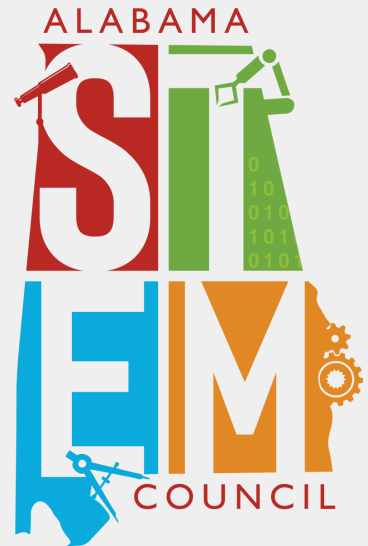


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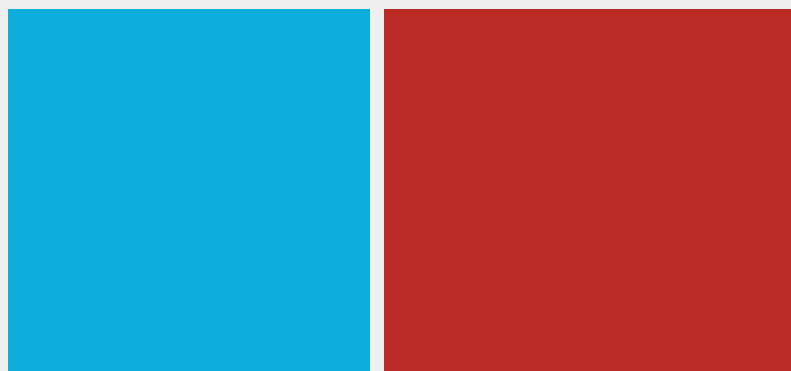
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Letter to Governor

Dear Governor Ivey and Members of the Alabama Legislature,

By establishing the Alabama STEM Council in 2020, Alabama Executive Order Number 721 laid the foundation for Alabama’s solid economic growth in our high-demand, high-growth STEM workforce sectors. Partnering with industry and education, the STEM Council has trumpeted STEM career opportunities, evaluated and promoted our quality STEM educational and community programs, and enhanced the state’s number of certified STEM teachers.

In addition to the duties set forth in the Executive Order, the legislature authorized the STEM Council to evaluate the implementation of both the Numeracy Act and Alabama’s Rural Learning Accelerator (ARLA), a project which delivers quality math instruction to rural schools in need. The relevant data collection, critical analysis, and transparent reporting for both projects is comprehensive, instructive and on-going.

Another key legislative initiative begun in 2022 charged the STEM Council with launching a network of regional STEM EcoSystems, an endeavor that fosters efficient and vibrant collaborations between STEM-oriented non-profits, local industries, and educational organizations. To date, Alabama’s 17 dynamic EcoSystems have strengthened and showcased our state’s rich STEM educational and career opportunities, fostering a heightened interest in STEM careers.

We invite you to explore this report, which highlights the impact of our work and accomplishments in 2024. Our impressive, but lean staff—four full-time and two part-time employees—and our fifty-member Council applaud your support. Although Alabama’s STEM workforce needs are accelerating, we believe our efforts will help build the foundation necessary for Alabama to close the skills gap and become a national leader in STEM.

Sincerely,

Cynthia McCarty

Executive Chairperson

Sheila Holt

Executive Director



Our Mission

The Alabama STEM Council bridges the gap between education and industry and prepares the next generation of problem solvers and innovators. By addressing the STEM teacher shortage, evaluating for impactful mathematics instruction across the state, creating robust ecosystems, and aligning workforce development with industry needs, we are cultivating a thriving future for our state. Building a STEM Ready Alabama.

Data and Evaluation



Bridging the
Workforce
and Education
Gaps



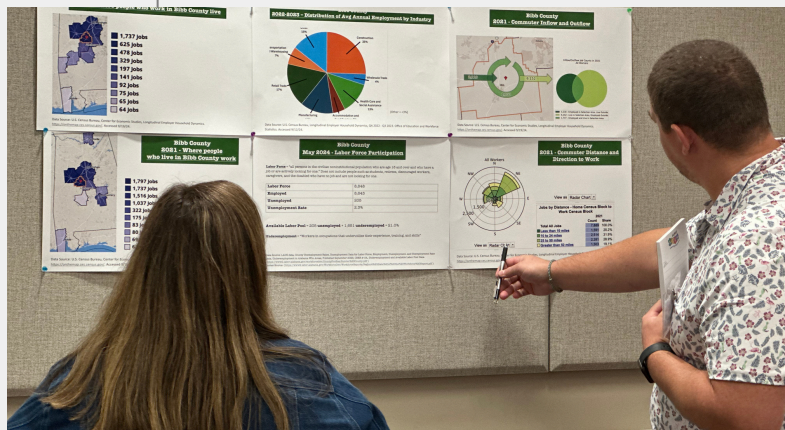
Empowering
STEM
Communities



Building a STEM Ready Alabama...

through Data Analysis and Communication

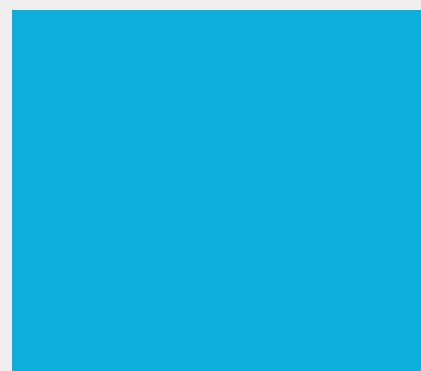
Fostering Innovation and Opportunity with Transparent Data Sharing



Alabama Numeracy Act - Evaluation

The Alabama STEM Council has taken significant strides to ensure the effective evaluation and implementation of the Alabama Numeracy Act, a key legislative initiative aimed at enhancing mathematics education across the state. Following its enactment on April 5, 2022, the Council was tasked with appointing an independent evaluator, as mandated by law, to assess the Act's impact, effectiveness, and adherence to the law's requirements.

In 2023, the Human Resources Research Organization (HumRRO) began its evaluation efforts, culminating in the submission of its first annual report in January 2024. These reports, which are publicly accessible on the Council's website, provide critical insights into the ongoing progress and challenges of the Numeracy Act.

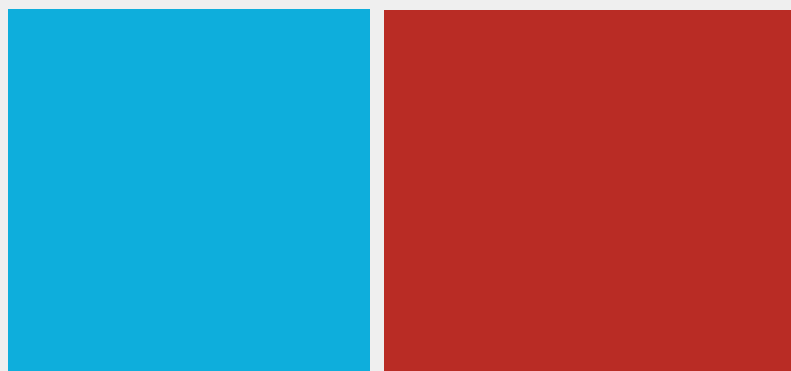


2024 Efforts and Advancements

Throughout 2024, the Alabama STEM Council has prioritized supporting HumRRO in its evaluation of the Alabama Numeracy Act. Key actions and achievements include:

- **Strengthening Data Advocacy:** Through quarterly reports, the STEM Council has served as a proactive advocate for improved data collection and analysis at the school level and within the State Department of Education.
- **Working Group:** A dedicated working group was established to ensure that all directives outlined in the Alabama Numeracy Act are being systematically and comprehensively evaluated by HumRRO.
- **Sustaining Collaboration:** The Council has worked closely with HumRRO to address challenges and refine processes, ensuring the evaluation remains aligned with legislative goals and educational priorities.
- **Transparency:** The Council is committed to providing clear insights into the progress of the Alabama Numeracy Act, leveraging comprehensive reporting to keep stakeholders informed and engaged.
- **Focused Working Groups:** The Council established a dedicated working group to discuss, analyze, and address specific challenges. This group will develop solutions, share best practices, and work toward implementing targeted initiatives within a defined timeframe to improve educational practices and outcomes.

Through focused efforts and collaboration with HumRRO, the Alabama STEM Council is dedicated to fulfilling all components of the Alabama Numeracy Act. In February 2025, the working group will present its findings on the necessary scope for external evaluation, ensuring the Act's objectives are met with precision and accountability.



Alabama Rural Learning Accelerator

The Alabama Rural Learning Accelerator (ARLA) is a groundbreaking initiative aimed at enhancing math and science achievement for students in grades 6-9 in rural communities. This innovative program is a collaborative partnership between UABTeach and partner school districts across Alabama. With the 2023-2024 school year marking its inaugural year under the leadership of the UABTeach team, ARLA has established itself as a critical effort to bridge educational gaps in rural areas.



Schools	Districts	Classes
13	6	32



Students
1400

2024 Efforts and Advancements

The Alabama Rural Learning Accelerator achieved significant milestones in its first full year of implementation, focusing on strategies to improve student outcomes and teacher effectiveness. Key achievements in 2024 include:

- **Widespread Implementation:** ARLA was introduced in 13 schools across 6 districts, reaching a diverse range of communities and classrooms.
- **Innovative Teaching Practices:** Teacher observation protocols, collaborative lesson planning, and co-teaching methods were implemented across 32 classes, directly benefiting over 1,400 students. These practices fostered a collaborative learning environment and encouraged the sharing of best practices among educators.

Looking Ahead to 2025

As ARLA continues to expand its reach and impact, the Alabama STEM Council is committed to ensuring the program's long-term success through rigorous evaluation and data-driven insights. In 2025 the STEM Council will provide comprehensive program evaluation and will partner with an external evaluator to assess the effectiveness of the ARLA program. This evaluation measures student progress, teacher development, and overall program outcomes to inform future improvements.

By prioritizing collaboration and evidence-based practices, the Alabama Rural Learning Accelerator is empowering students and educators to succeed in STEM fields, paving the way for a brighter future in Alabama's rural communities.

Alabama Math and Science Proficiency Dashboard

The Alabama STEM Council is dedicated to communicating STEM-related education metrics for K12 Alabama public school students. To display results of these efforts, the Council developed a data visualization tool that highlights the percentages of Alabama students performing at or above proficiency levels, alongside the demographic profiles of their school systems. This tool empowers educators, parents, and stakeholders with accessible and actionable insights to foster informed decision-making.

Alabama Math and Science Achievement Indicators



This dashboard provides insights into the academic achievement, demographics, and comparative performance in math and science of students enrolled in Alabama's K-12 public education system.

Hover over one of the information topics below, or **select a school system** using the dropdown selector located in the header to gain insights on an Alabama school system.

- What is Proficiency?
- Math Proficiency
- Science Proficiency
- Key Terms
- Data Sources

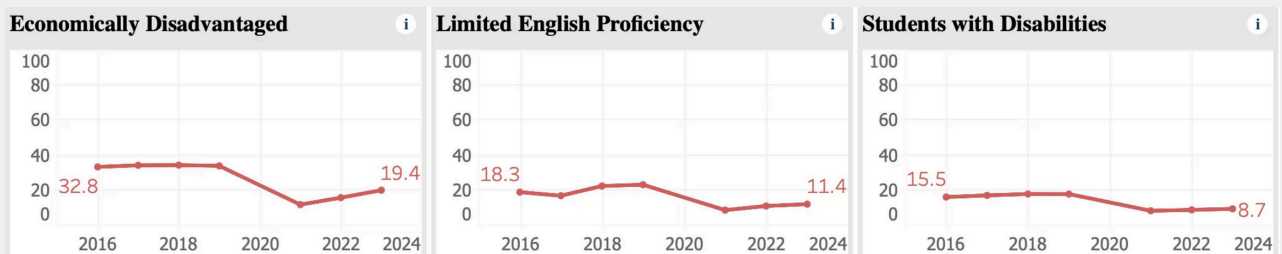
Select a School System:

Student Demographics					School Locations
	Economically Disadvantaged	Limited English Proficiency	Students with Disabilities	Hispanic / Latino	Non-white
Your System	65.0%	6.0%	18.0%	11.0%	43.0%
Difference					

2024 Efforts and Advancements

In 2024, the Alabama STEM Council focused on enhancing industry partnerships, STEM workforce growth, and expanding the utility of the public dashboard, ensuring its relevance and usability for a wide audience. Key advancements included:

- **Updated Data:** Partnering with Associated Research Knowledge Specialists, the Council incorporated data from the 2022-2023 and 2023-2024 school years into the dashboard, offering a more comprehensive and current view of student performance.
- **New User Guide:** A brand-new user guide was developed to help parents and stakeholders easily interpret the dashboard's data and leverage it for advocacy and improvement efforts.
- **Expanded Features:** The dashboard now includes comparative insights on key areas such as:
 - School System Performance
 - Student Demographics
 - Systemwide Proficiency Percentage Comparisons



Looking Ahead to 2025

To sustain and enhance the impact of this program, the Alabama STEM Council has outlined plans for 2025:

- **Continued Maintenance and Updates:** Regular updates to the dashboard will ensure it reflects the latest data and insights.
- **Increased Communication and Awareness:** Expanded outreach efforts will promote the dashboard's use among parents, educators, and community stakeholders, driving greater awareness and engagement with the data.

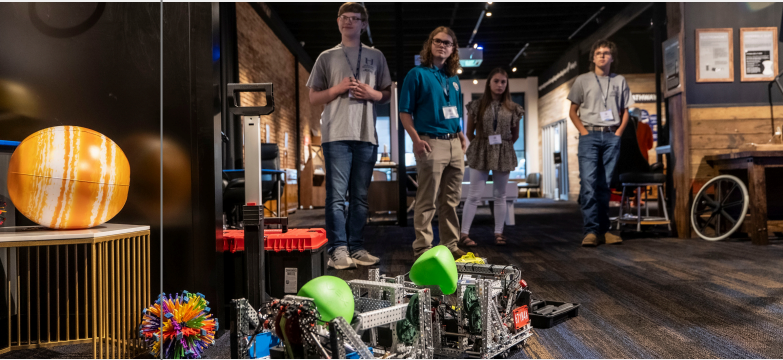
By equipping stakeholders with clear and accessible data, the Alabama STEM Council is fostering a culture of transparency and accountability, driving meaningful improvements in STEM education and workforce readiness statewide.

Building a STEM Ready Alabama...

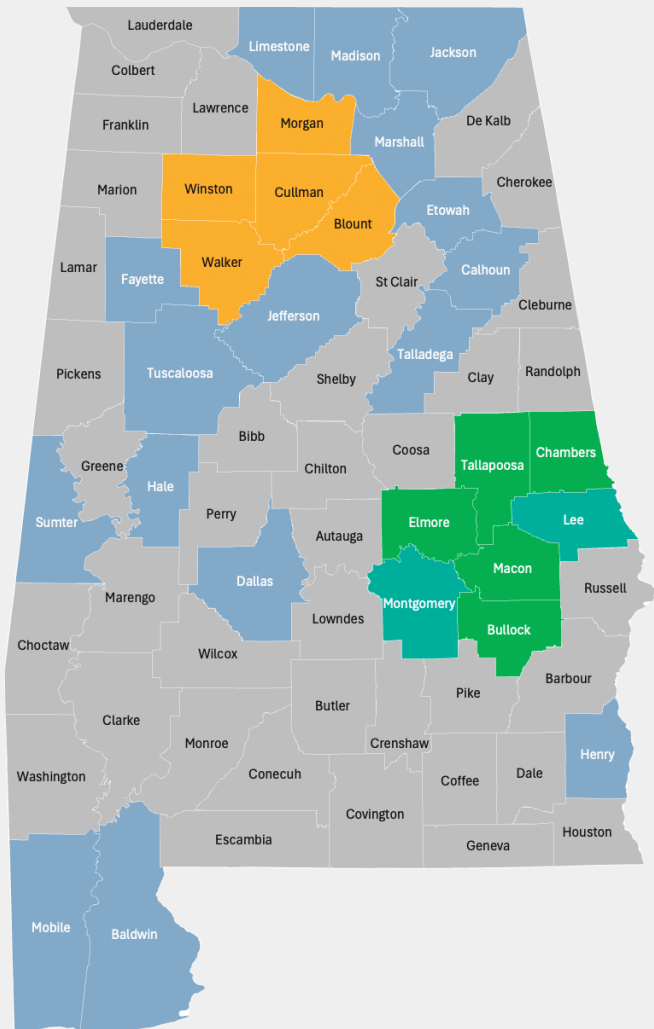
through STEM Workforce

Empowering Alabama's Future with a
Skilled STEM Workforce





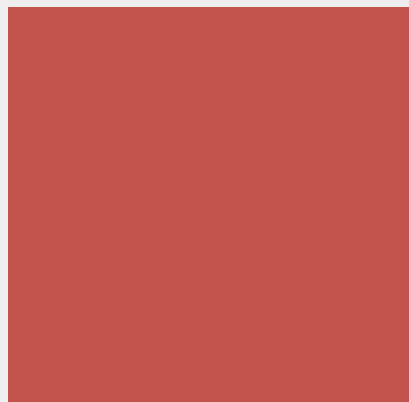
Regional STEM Ecosystems



As Alabama's industries evolve, the demand for a skilled STEM workforce grows. Our approach integrates STEM education and workforce development by funding and supporting Regional STEM Learning Ecosystems (RSLEs). These ecosystems align educational priorities with industry needs, addressing critical skill gaps and ensuring all Alabamians are prepared for the workforce.

28
Counties

210+
Industry Partners



2024 Efforts and Advancements

Fostering Collaborative STEM Ecosystems

STEM ecosystems serve as vital networks, connecting education, industry, and community stakeholders to create environments that promote skill development and career readiness. Regional ecosystems focused on three key areas to drive progress:

Education and Workforce Alignment

Activities:

- Developed a career pathway framework to bridge STEM education with internships, job shadowing, and externship opportunities.
- Trained educators to integrate workforce-relevant skills into their teaching practices, ensuring classroom learning translates to real-world application.

Outcomes:

- Short-Term: Increased student awareness of STEM career possibilities and better-prepared educators to deliver workforce-relevant instruction.
- Long-Term: Strengthened pipelines of skilled STEM professionals to meet the demands of Alabama's industries.

Career Pathways and Exposure

Activities:

- Hosted engaging STEM nights, career fairs, and hybrid workshops to connect students and families with STEM opportunities.
- Created accessible resources, including job simulations and workforce-focused visual materials, to inspire career exploration.

Outcomes:

- Short-Term: Enhanced collaboration between schools and industries, providing students with clear pathways to STEM careers.
- Long-Term: Greater participation in STEM-related fields, leading to a workforce that is well-prepared for future demands.



Industry Partnerships

Driving STEM Success in Regional STEM Ecosystems

The engagement of diverse industries in Alabama's STEM education programs plays a pivotal role in building a skilled and ready workforce.

Sector	Organization	Focus/Action
Energy and Utilities	Alabama Power	Actively participates in community relations and educational programs to build local capacity.
Manufacturing	Honda	Provides leadership in workforce partnership programs.
Manufacturing	New Flyer	Engages in workforce development efforts to meet transportation manufacturing needs.
Manufacturing	Tyler Union and M&H Valve	Focus on human resources involvement to strengthen the manufacturing sector.
Manufacturing	Fab Arc Steel	Specializes in steel fabrication with a targeted approach to training and development.
Automotive	Honda	Plays a significant role in advancing workforce readiness and training programs.
Food Manufacturing	FITCO	Aligns workforce needs with HR management participation.
Engineering and Construction	Yates Construction	Drives workforce development programs in construction and engineering.
Engineering and Construction	Hargrove Engineers	Engages in sponsorship and leadership development while supporting workforce needs.

Sector	Organization	Focus/Action
Economic Development Corporation	Ozard-Dale County EDC	Bridges regional economic development with educational goals.
Economic Development Corporation	Calhoun County EDC	Coordinates business development efforts with educational sectors.
Higher Education	Gadsden State Community College	Aligns academic programs with workforce requirements through leadership engagement.
Higher Education	University of South Alabama	Focuses on employer development and enhancing student experiences.
Non-Profit Organizations	Wiregrass RC&D	Supports informal STEM education programs in local communities.
Non-Profit Organizations	Girls Inc of Central Alabama	Leads youth development programs emphasizing STEM fields.
Non-Profit Organizations	Coosa Riverkeeper and Jefferson County Greenways	Combines environmental advocacy with community-based STEM education.
Government and Related entities	Department of Commerce, SAWDC	Acts as a regional workforce liaison, ensuring sector-wide coordination.
Government and Related entities	Mobile Chamber	Leads workforce and career development programs to strengthen the talent pipeline.

Through these strategic partnerships, Alabama's STEM ecosystems are building a foundation for economic growth, opportunities, and innovation, ensuring the state's workforce is prepared for the challenges of tomorrow.

STEM Teacher Externship Program

The STEM Teacher Externship Program (STEP) connects STEM-related industry partners with STEM and Career and Technical Education (CTE) teachers across Alabama. Participating teachers spend time onsite with local industries, gaining firsthand experiences into how the skills they teach in classrooms translate into diverse career opportunities. This opportunity enables educators to provide students with practical, real-world career insight, highlighting pathways available within Alabama's economy.



Teachers Industry Partners

24

13



“I plan to incorporate real-world examples from Alabama Power and McWane Science Center into my lessons. By showing how professionals apply the same practices we learn in class, I hope to inspire my students to see the value of these skills and explore various STEM career paths.”

- Tandy Petrov, Birmingham City Schools

Hours

384

2024 Efforts and Advancements

In 2024, the STEM Teacher Externship Program successfully built connections between education and industry:

- **Participation:** 13 industry partners hosted teachers from six of Alabama's Workforce Regions.
- **Engagement:** Teachers and their hosts collectively invested 384 hours exploring STEM careers and skills through:
 - Facility touring to understand industry operations.
 - Staff shadowing to gain insights into daily tasks and roles.
 - Identifying how STEM practices are applied in real-world workplaces.
 - Discussing regional workforce needs and gaps.
 - Exploring education and training pathways available for students pursuing STEM careers.

Looking Ahead to 2025

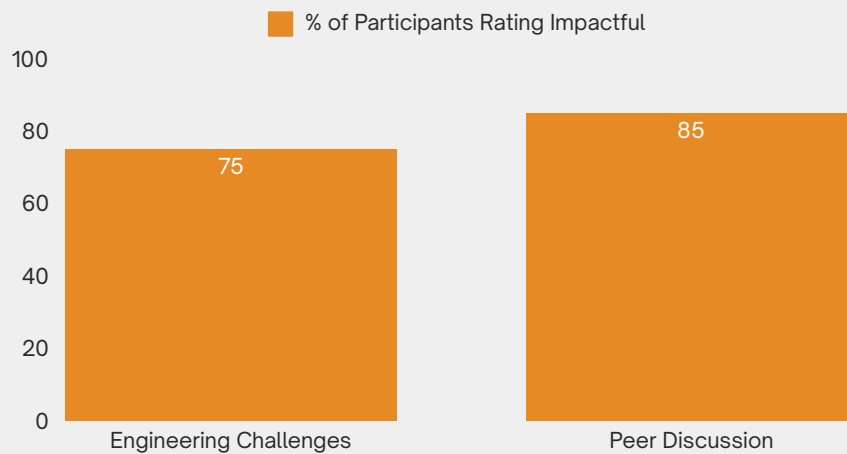
STEP aims to broaden its impact and deepen its alignment with Alabama's workforce priorities:

- **Enhanced Experience:** Clarify expectations for teacher externs and industry partners to help bolster the experience and increase effectiveness
- **Program Expansion:** Strengthen recruitment efforts to bring additional industry partners into the program, extending opportunities to all seven of Alabama's Workforce Regions.

Through programs like STEP, Alabama is empowering educators to serve as bridges between classroom instruction and workforce needs, ensuring students are inspired and prepared for the careers of tomorrow.

Chief Science Officers Leadership Training

Leadership Training Institutes bring together students from workforce regions across Alabama to explore STEM-related opportunities in their communities. These sessions empower students to envision their roles in driving positive growth and provide a platform to discuss workforce opportunities with industry leaders. By amplifying student voices and fostering leadership potential, these institutes inspire innovative solutions for local and regional development and foster more interest in STEM careers.



Schools with CSO Programs

37



" My students were provided with opportunities to engage and have their opinions heard in front of several STEM Leaders in the state. Some were even able to make connections that helped them pursue their future careers."

- Region 4 CSO Advisor

Officers
190+

2024 Efforts and Advancements

The Leadership Training Institutes focused on actionable outcomes and relationship building:

- **Action Plan Development:** Students worked collaboratively to create actionable plans addressing needs identified by Chief Science Officers (CSOs).
- **Workforce Connections:** Facilitated interactions between students and workforce leaders to secure support for action plans and build strong, future-focused relationships with potential employers.

Looking Ahead to 2025

The program will further expand its reach and impact by strengthening student-industry partnerships:

- **Micro-Credentials:** Collaborate with businesses and industries to design certification programs that align with workforce demands, enhancing career readiness for students.
- **Workforce Opportunity Guide:** Develop a comprehensive resource listing businesses and industries making workforce opportunities more accessible to students.
- **Mentorship Programs:** Match CSOs with mentors from Alabama's workforce, providing personalized guidance to help students navigate career paths.
- **Alumni Engagement:** Track CSO graduates in the workforce and connect them with undergraduates to foster mentorship, collaboration, and knowledge-sharing.

Through these programs, Leadership Training Institutes are building a foundation for student-led innovation and preparing Alabama's future workforce to thrive in STEM careers.

Building a STEM Ready Alabama

through STEM Education

Increasing Availability of STEM
Education to Enhance Alabama's
Future



Regional STEM Learning Ecosystems

The focus on STEM education is directly preparing Alabama's future workforce by aligning educational goals with industry needs and addressing critical skill gaps by ensuring a growing and reliable pipeline. Through the funding of Regional STEM Learning Ecosystems (RSLEs), stakeholders collaborate to strengthen the upcoming pipeline of students with the skills needed to thrive in the modern workforce. These efforts particularly target underserved areas, ensuring a consistent pipeline of skilled workers for Alabama's industries. By fostering industry and student partnerships, this program strengthens the workforce to meet local, regional, and statewide demands.

Funding Spent
1.8 million



Educators
180+

2024 Efforts and Advancements

This year saw key milestones in the development and implementation of the RSLEs program:

- **Funding Support:** The creation of Regional STEM Learning Ecosystems was made possible through the STEM Learning Ecosystem Incentives.
- **Focus on Community Needs:** Efforts prioritized addressing the specific industry and workforce opportunities within Alabama's diverse communities.
- **Collaboration Enhancement:** Design Studio workshops and stakeholder meetings identify industry needs offering collaboration with community stakeholders to address strategies to meet them.

Looking Ahead to 2025

Looking forward, the RSLEs program will:

- **Bridge STEM Industry Education Gaps:** Continue efforts in underserved regions to increase workforce pathways awareness and access to STEM education to achieve lasting community impact.
- **Refine Through Data:** Use comprehensive analysis of skill gaps, program participation, and stakeholder feedback to improve strategies and ensure measurable outcomes.

Short Term Goals

- Enhanced student awareness of STEM careers and better educator preparation.
- Improved collaboration between schools and industries.
- Strengthened community involvement and increased visibility of the ecosystem.

Long Term Goals

- A robust pipeline of skilled STEM professionals entering the workforce
- Increased participation in STEM-related jobs and career-readiness programs
- Broad access to STEM opportunities, fostering economic growth

Through these education efforts, Alabama is building a robust STEM-ready workforce that will drive economic growth and innovation across the state.



UTeach Alabama

7
Sites



UTeach Alabama is funded by the Alabama Commission on Higher Education (ACHE) via the Education Trust Fund. The Alabama STEM Council partners with ACHE to provide assistance with recruiting, monitoring, evaluating the programs. During the 2023-24 academic year, the new UTeach Alabama programs completed their first full year of implementation. They introduced courses for their inaugural cohort of students, established partnerships with local K-12 schools, organized field experiences, and trained mentor teachers to support aspiring STEM educators.

350+
Undergraduates

2024 Efforts and Advancements

In its first year, the UTeach Alabama program achieved several milestones:

- **Student Recruitment:** 369 undergraduate STEM majors were recruited into the seven UTeach Alabama programs, with current enrollment reaching 501 students across UTeach courses statewide.
- **New Pathways:** The University of West Alabama introduced an online Alternative-A Certification and Graduate pathway based on the UTeach model.
- **Student Feedback:**
 - 94% of UTeach Alabama students reported benefiting from their participation in UTeach courses.
 - 55% stated they would not have considered teaching without the presence of a UTeach program on their campus.
- **UABTeach:** The longest standing program in the state successfully graduated 100 students since its inception in 2017. Overall the program has over 50 active teachers in Alabama school systems providing high quality STEM education to K12 students.

Looking Ahead to 2025

The UTeach Alabama program is poised for significant achievements in 2025, including:

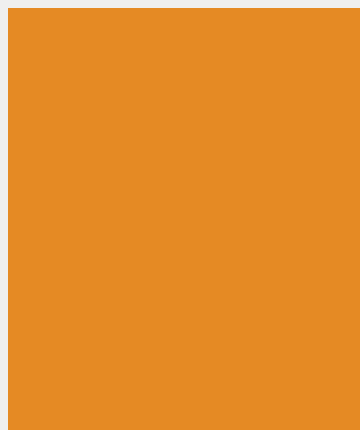
- **First Graduates:** Three UTeach Alabama sites—Athens State University, Auburn University, and the University of West Alabama—are on track to produce their first graduates in the spring of 2025.
- **Expanded Partnerships:** UABTeach will launch introductory UTeach courses at Lawson State Community College, fostering a unique partnership to further broaden access to STEM teacher preparation.

By developing innovative pathways and creating opportunities for aspiring STEM educators, the UTeach Alabama program is building a stronger STEM teaching workforce and ensuring Alabama students are inspired and equipped for success in STEM fields.

Building a STEM Ready Alabama

through STEM Communities

Strengthening Alabama's Future Through Connected STEM Communities



Regional STEM Ecosystems

Regional STEM Learning Ecosystems are transforming workforce development by pioneering innovative programming and fresh problem-solving approaches. By uniting local stakeholders with industry leaders, these ecosystems foster dynamic collaborations that rethink how talent pipelines are built—especially in underserved and rural areas. Engaging businesses in Stakeholder Meetings ensures that workforce strategies are not only responsive but also proactively aligned with evolving industry demands. This streamlined effort expands access to STEM resources, creates a business and industry talent pipeline, and nurtures a diverse, highly skilled workforce primed for in-demand careers.



Stakeholders

770+

Regional STEM Learning Ecosystems

17

STEM Fests & STEM Family Nights

4

"My family and I truly enjoyed the STEM event... after-school hours. It was thrilling to see families here on a Friday night, taking time to learn, laugh and grow together. As a homeschooling family, it was great to connect with new learning resources."

- Eboni Walker (Parent)



2024 Efforts and Advancements

In 2024, groundbreaking efforts redefined access to STEM opportunities, emphasizing innovative, community-driven solutions—especially in underserved and rural areas.

- **STEM Family Nights:** Sparking curiosity through interactive, hands-on experiences, empowering parents as active partners in their children's STEM learning journey.
- **STEM Fest Field Trip:** provided students with immersive, real-world STEM applications, forging direct links between classroom learning and future careers.

By making STEM education tangible and locally relevant, these initiatives ignited new pathways for exploration and growth. These bold, collaborative efforts seamlessly integrate education, families, and industry, laying the groundwork for a resilient, future-ready workforce.

Looking Ahead to 2025

The program remains dedicated to forging powerful connections between communities, STEM education, and workforce pathways through bold, future-focused initiatives.

- Expanding STEM Family Nights, especially in rural and underserved areas, more families will engage in dynamic, hands-on learning experiences, strengthening their role in the local STEM ecosystem.
- A strategic push for long-term sustainability in outreach programs will ensure that local ecosystems continue preparing future generations for high-demand STEM careers.
- Sustained collaboration between families, educators, and industry leaders will drive adaptability, keeping community-driven programs aligned with Alabama's evolving workforce needs.

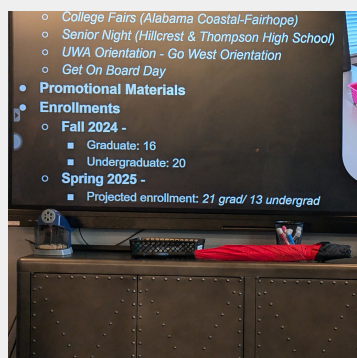
By deepening these efforts, the program is building a statewide STEM network that empowers students and families while fostering thriving, resilient communities—fully equipped to compete and innovate in a rapidly advancing global economy.

UTeach Alabama

The UTeach Alabama program is revolutionizing STEM education by expanding into community colleges, unlocking new opportunities for students who may not have previously considered STEM teaching careers. This groundbreaking and first of its kind initiative creates an innovative pathway for community college students to step into STEM education, equipping them with the skills to inspire and shape the next generation of learners. Lawson State and Calhoun Community College are at the forefront of this movement, pioneering the adoption of UTeach and demonstrating a bold commitment to reimagining STEM education pathways.

Across seven UTeach Alabama sites, deep-rooted partnerships with K-12 schools, immersive classroom experiences, and strategic collaborations with local stakeholders are driving transformative change. These efforts are not only addressing regional STEM education gaps but also forging stronger connections between education, industry, and communities—ensuring a dynamic, future-ready workforce built on innovation and engagement.

Mentor
teachers
209



“I enjoy the material taught and find it very useful for both education and my life overall. My peers, professors, and other members of the program team are also very welcoming and understanding. It is a joy to learn and engage with them.”

- Auburn University Student

Schools partnering
for field experiences

80

2024 Efforts and Advancements

In 2024, UTeach Alabama expanded its reach and impact by forging new partnerships and integrating community colleges into its vision for workforce development.

- **Statewide Classroom Engagement:** Alabama schools partnered with UTeach students to provide immersive, hands-on teaching experiences.
- **Mentorship Network:** 209 teachers served as mentors, guiding UTeach students in refining their teaching skills
- **Community College Expansion:** Lawson State Community College joined the initiative, incorporating the UTeach model and opening new doors for students pursuing STEM teaching careers.
- **Cross-pollination:** Three UTeach Alabama sites collaborated to establish regional STEM Learning Ecosystems, including the AlaWest STEM Learning Ecosystem, led by UWA Teach.

These bold initiatives underscore UTeach Alabama's commitment to advancing STEM education, empowering future educators, and building a strong, interconnected STEM community poised for long-term success.

Looking Ahead to 2025

In 2025, UTeach Alabama will further solidify its role in shaping Alabama's STEM education landscape, with an amplified focus on community college engagement. The program will work to:

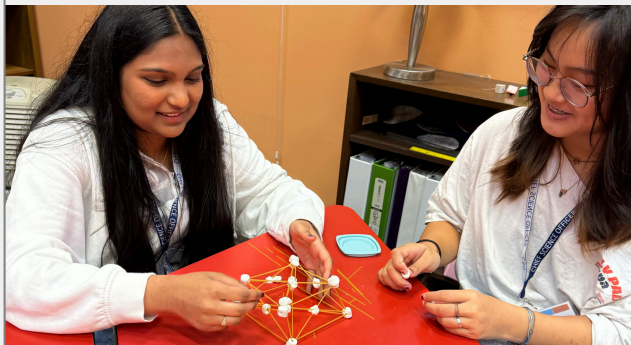
- Expand the integration of UTeach into additional community colleges, building on the success of programs at Lawson State and Calhoun Community College.
- Strengthen collaborations with education-focused organizations and industries to create more internship opportunities for students.
- Continue partnering with schools and community stakeholders to meet regional STEM education needs.

Through these programs, UTeach Alabama aims to develop a robust pipeline of highly skilled STEM educators. By preparing educators, supporting communities, and leveraging partnerships, UTeach Alabama will ensure the state remains a leader in STEM readiness and workforce development.

Chief Science Officers

The Alabama Chief Science Officers (CSOs) are driving innovation and community impact by designing and executing strategic action plans that directly address local challenges. These young leaders, spanning grades 6-12, identify key issues, mobilize their peers and community stakeholders, and spearhead transformative projects that strengthen STEM engagement across the state.

By amplifying student voices, the CSO program empowers participants to lead with confidence, enact meaningful change, and explore real-world pathways to STEM careers. Through hands-on leadership and problem-solving, CSOs are not only shaping their communities today but also building the skills and connections needed to thrive in Alabama's evolving STEM workforce.



Number of Action Plans

17



"The thing I enjoyed the most is being able to connect with other people through a subject I love".

- 23-24 Chief Science Officer

Schools
37

School Year 23-24 Action Plans

In 2024, Alabama's Chief Science Officers (CSOs) led a wave of innovative action plans, transforming STEM awareness, engagement, and education within their communities. Through dynamic, student-driven initiatives, CSOs brought STEM concepts to life, inspiring learners of all ages to explore their potential in science, technology, engineering, and mathematics.

- Science Demonstrations & Fairs: STEM Nights at schools featured hands-on experiments, igniting curiosity and discovery.
- Robotics & Technology: Robotics sessions introduced students to engineering and coding fundamentals, while dedicated STEM Night events showcased interactive robotics demonstrations.
- Physics & Engineering Concepts: Presentations on gravity and black holes offered a deeper look into complex physics, while airfoil experiments provided a platform for public speaking and STEM communication skills.

By leading these immersive, high-impact projects, Alabama's CSOs are not just expanding STEM engagement—they are shaping the future of STEM leadership, equipping students with the skills and confidence to thrive in an evolving technological landscape.

School Year 24-25 Action Plans

Looking ahead to 2025, Alabama's Chief Science Officers (CSOs) are set to intensify their impact with bold, community-driven initiatives that educate, inspire, and advocate for transformative change.

- Revitalizing the Cahaba River: CSOs will tackle environmental challenges affecting the Cahaba River, proposing actionable solutions to improve its health and advocating for policies that protect the river from harmful practices.
- STEM Expo: A STEM Expo will be hosted for elementary and middle school students, featuring hands-on demonstrations designed to teach essential research and scientific skills in an engaging, interactive environment.
- STEM Competition: A community boat race will challenge participants to apply STEM skills to build and race non-engine, homemade boats, combining fun with practical problem-solving.

Through these innovative, locally-focused projects, Alabama's CSOs are not just inspiring the next generation of STEM leaders—they are also driving meaningful solutions to local challenges, reinforcing the powerful role of youth in shaping a brighter, more sustainable future.

Financial Highlights

Total Funding
\$9,700,000.00

The Alabama STEM Council is funded through allocations from the Alabama Education Trust Fund, managed by our fiscal agent, Alabama Industrial Development Training in the Department of Commerce.

Education Trust Fund Description	Amount Allocated	Amount Spent	Purpose & Program
Alabama STEM Council	\$1,000,000.00	\$1,000,000.00	<ul style="list-style-type: none"> Operating Costs Alabama Numeracy Act Evaluation STEM Externship Program Chief Science Officers
Regional STEM Hubs	\$5,000,000.00	\$1,800,000.00	Planning and Designing of 18 Regional Ecosystems
Remote Learning Hubs	\$2,000,000.00	\$2,000,000.00	Support for the Alabama Rural Learning Accelerator and its evaluation
STEM Teacher Recruitment	\$1,700,000.00	\$800,000.00	ACHE funded and STEM Council support for 7 universities and colleges implementing the UTeach Program

Who We Are

The Alabama STEM Council's purpose is established by

The Council's leadership during the reporting period was provided by its 9-member Executive Committee, chaired by Dr. Cynthia McCarty, Jacksonville State University, Professor Emeritus. The Executive Committee members represented various Congressional Districts and sectors across Alabama, with their roles as follows:

- Cynthia McCarty, Jacksonville State University, Professor Emeritus (Executive Director)
- Terry Burkle, Executive Director, Baldwin County Education Coalition (CD 1)
- Dawn Morrison, Computer Science State Administrator, Alabama State Department of Education (CD 2)
- Charisse Stokes, Executive Director, TechMGM (CD 3)
- Vicki Karolewics, President, Wallace State Community College (CD 4)
- Kelly East, Vice President For Educational Outreach, Hudson Alpha (CD 5)
- Adrienne Starks, Founder and CEO, STREAM Innovations (CD 7)
- Kathryn Lanier, Director of STEM Education Outreach, Southern Research (At-Large)
- Charles Nash, Senior Vice Chancellor Emeritus, University of Alabama System (At-Large)

The Executive Committee has been instrumental in guiding the strategic direction of the Council, convening multiple times throughout the year to ensure its continued success and impactful initiatives.

The full Council, representing five key sectors—STEM industries, K-12 and higher education, career and technical education (CTE)/post-secondary training, informal STEM education, and public officials—meets regularly to share progress, exchange ideas, and collaborate on transformative efforts to enhance STEM opportunities, impact workforce development, and drive STEM advancements across Alabama.

Operational Support

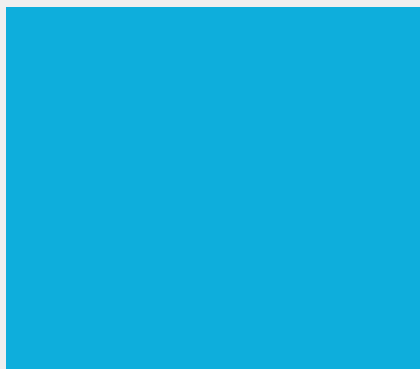
The STEM Operations Team managed the Council's daily functions and advanced its mission. Team members included:

- Sheila Holt, Executive Director
- Lawrence Cooper, STEM Programs Manager
- Suzy Gatewood, Ecosystems and Chief Science Officer Support
- Rene McNeal, STEM Ecosystems Coordinator
- Liz Mohr, STEM Project Support
- Jeremy Underwood, Communications Manager
- Marie Wilson, STEM Programs Support

Acknowledgments

We extend our heartfelt gratitude to our partners for their collaboration and support, including the Governor of Alabama, the state legislature, and key stakeholders across business, industry, and education sectors. Their collective efforts have been instrumental in advancing STEM education and innovation across Alabama.

As we reflect on the progress made, we look forward to continuing these impactful partnerships to Build a STEM Ready Alabama.



Thank You

As we conclude this year's report, we reflect with pride on the progress we have achieved in advancing STEM education, research, and workforce development across Alabama. Our journey has been marked by innovation, collaboration, and an unwavering commitment to empowering the next generation of problem-solvers and change-makers.

Looking ahead, we are filled with hope for the future. We envision an Alabama where STEM opportunities are accessible to all, where our schools, universities, and businesses are interconnected to nurture a thriving ecosystem of innovation. Together, we can inspire and equip our students to lead in tomorrow's technology-driven world and drive economic growth across our state.

We extend our deepest gratitude to Governor Kay Ivey, Lt. Governor Will Ainsworth, State Superintendent Dr. Eric Mackey, Alabama Commission on Higher Education, state legislators, the members of the Alabama STEM Council, industry partners, educators, students, and all stakeholders who have been instrumental in our success. Your dedication and belief in our mission make our progress possible.

To those who share our vision, we invite you to join us in shaping the future. Your support—whether through advocacy, funding, or partnership—will amplify our impact and help us realize our ambitious goals. Let us continue working together to ensure Alabama becomes a national leader in STEM excellence.

Thank you for the opportunity to serve this mission. Together, we are building a brighter, more innovative future for Alabama.