

**LOUISIANA SCIENCE, TECHNOLOGY, ENGINEERING  
AND MATHEMATICS (LaSTEM) ADVISORY COUNCIL  
STATUS REPORT TO THE LOUISIANA  
SENATE AND HOUSE COMMITTEES ON EDUCATION**



**LOUISIANA BOARD OF REGENTS**

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## Executive Summary

ACT 392 of the 2017 Regular Session, authored by Senator Sharon Hewitt, commissioned the Louisiana Science, Technology, Engineering, and Mathematics Advisory Council (LaSTEM). Under the auspices of the Louisiana Board of Regents, the LaSTEM Advisory Council is tasked to do the following:

- Coordinate and oversee the creation, delivery, and promotion of STEM education programs;
- Increase student interest and achievement in the fields of STEM;
- Ensure the alignment of education, economic development, industry, and workforce needs; and
- Increase the number of women who graduate from a postsecondary institution with a STEM degree or credential.

The Council is chaired by the Commissioner of Higher Education and comprised of 29 members including presidents from Louisiana State University, University of Louisiana, Southern University, and Louisiana Community and Technical College System, Superintendent of Education, representatives from the Louisiana Association of Independent Colleges and Universities (LAICU) and its ten-member colleges and universities, representative from the Louisiana Board of Elementary and Secondary Education (BESE), presidents from various teacher and educator associations, appointees from the Governor's Office, Louisiana Department of Economic Development (LED), and faculty, president from the Louisiana Workforce Investment Council, members of the Louisiana House and Senate, and business representatives.

As required by Act 392, this report provides an update on the work of the Council, emerging initiatives, and recommendations for legislation and policy changes. The LaSTEM Council was required by law to meet every month for the first year, beginning in September 2017, and did so until October 2018. The Council began quarterly meetings beginning in February 2019. An executive leadership team of representatives from the Louisiana Board of Regents, Louisiana Department of Education (LDOE), Louisiana Economic Development (LED), and Senate met

monthly beginning in September 2019 and throughout 2020 to handle all business between quarterly meetings. This year of hard work and success, outlined in this report, culminated with the annual Louisiana STEM Summit in October 2020. This summit was held virtually due to the COVID-19 health crisis. This event was a success bringing together approximately 400 attendees from across the state representing all constituencies with an interest in STEM and STEM education.

## List of Acronyms

<b>BESE</b>	State Board of Elementary and Secondary Education
<b>LDOE</b>	Louisiana Department of Education
<b>LaSTEM</b>	Louisiana Science, Technology, Engineering and Math
<b>LAICU</b>	Louisiana Association of Independent Colleges and Universities
<b>LED</b>	Louisiana Economic Development
<b>RSNC</b>	Regional STEM Network Center
<b>STEM</b>	Science, Technology, Engineering, and Mathematics

## **Part I: Introduction**

This report, filed pursuant to Act 392 of the 2017 Regular Session of the Louisiana Legislature, highlights the significant progress that the LaSTEM Advisory Council made in 2020. The law provides a list of tasks for the LaSTEM Advisory Council, including:

- Create a comprehensive, statewide STEM plan that has clear objectives to guide the development of STEM education and STEM career opportunities and aligns elementary, secondary, and postsecondary STEM curricula, programs, initiatives and activities;
- Coordinate all state STEM education-related programs and activities;
- Create a new STEM culture and promote activities that raise awareness of STEM education and STEM career opportunities;
- Integrate employers and educators by engaging business and industry, employers, professional and community-based organizations, STEM education stakeholders, and career and talent programs and activities;
- Encourage industry and business entities to provide funding, resources, and technical assistance to elementary, secondary, and postsecondary schools to promote interest in STEM discipline courses and career opportunities;
- Connect STEM education resources, initiatives, and programs regionally and throughout the state;
- Establish an information clearinghouse, to be housed at the BoR, to identify and provide best practice resources for both the secondary and postsecondary educational systems and to review and acquire STEM education-related instructional materials;
- Empower STEM teachers and provide support for high-quality professional development for teachers of STEM subjects;
- As appropriate, join and participate in a national STEM network and collaborate with other states in STEM education program development; and
- Establish a competitive grants program to fund robotics competitions to provide students at all appropriate grade levels opportunities to improve STEM skills by participating in events sponsored by science and technology development programs.

The Council and Subcommittees developed this broad-based charge from Act 392 into three goals that guide the work of the Council and creation of the Regional STEM Network Centers (RSNC).

The LaSTEM goals are:

- **LaSTEM Goal 1:** Build strong foundations for STEM literacy by ensuring that every American has the opportunity to master basic STEM concepts and to become digitally literate.
- **LaSTEM Goal 2:** Increase diversity, equity, and inclusion in STEM and provide all Americans with lifelong access to high-quality STEM education, especially those historically underserved and underrepresented in STEM fields and employment.
- **LaSTEM Goal 3:** Prepare the STEM workforce for the future—both college-educated STEM practitioners and those working in skilled trades that do not require a four-year degree—by creating authentic learning experiences that encourage and prepare learners to pursue STEM careers.

The Council set ambitious and purposeful goals and intends to begin the establishment of Louisiana RSNCs and Regional STEM Network Directors throughout the 2021 calendar year. The following section will focus on the great success that the LaSTEM Advisory Council has achieved in its third full year.

## **Part II: A Successful Year of Engagement in STEM Education in Louisiana**

### **Advisory Council Meetings**

During the 2020 quarterly meetings, the LaSTEM Council explored and discussed RSNCs and Regional STEM Network Directors. In addition, the LaSTEM Council hosted STEM organizations and STEM champions who presented the exciting ongoing work and opportunities for growth and development around the state. These presentations and discussions occurred at the following quarterly meetings:

- **February:** Girls Who Code Organization
- **May:** LaSTEM Goals and America's Strategy for STEM
- **October:** LDOE Jumpstart Pathways
- **November:** Coursera and Artificial Intelligence for All (AI4All)

### **Subcommittees and Workgroups**

As discussed in the 2019 status report, the work of the Council is largely divided into three subcommittees and working groups as needed. The subcommittees are PK-12 Education and Teacher Training, Postsecondary – High School, and Workforce. All workgroup and subcommittee efforts are overseen and coordinated by the LaSTEM Program Administrator, Dr. David Lafargue. Subcommittees have identified and defined SMART objectives and steps and timelines for implementation. Many objectives are complete while others are ongoing.

The RSNC/Director workgroup was created in November 2019. This workgroup was tasked with assessing the establishment process of the Louisiana STEM Network consisting of nine RSNCs and nine Regional STEM Network Directors, providing input to create a Request For Application (RFA), and presenting a final RFA to the LaSTEM Advisory Council in early 2020, which is discussed later in this report.

### **STEM Activities and Accomplishments**

The third year of work for the LaSTEM Advisory Council included both successes of the Council itself and of the entities that make up the 29-member group. The following sections will highlight that work and the organizations and agencies that were vital to its success.



## **Adoption of America's Strategy for STEM Education Goals**

The LaSTEM Advisory Council revisited the LaSTEM Goals, created in the summer of 2018, during the February 2020 LaSTEM Advisory Council meeting. The discussion centered around alignment to the goals identified in the report titled, *Charting a Course for Success: America's Strategy for STEM Education*, which is the Federal Government's five-year STEM strategic plan released in December 2018. A recommendation was made to align the goals of LaSTEM to the goals found within the nation's five-year strategic plan. The LaSTEM Program Administrator was tasked with creating a crosswalk of LaSTEM's original goals to the goals found within the five-year strategic plan. The original LaSTEM goals were as follows:

- **LaSTEM Goal 1:** Create a culture that advances STEM excellence; promotes the value of STEM education; advances the perspective that STEM principles are woven into every aspect of daily life; and increases the STEM literacy of the population such that Louisianans have the ability to compete and excel in the global economy.
- **LaSTEM Goal 2:** Promote STEM-oriented integrative and experiential learning activities starting in early childhood and extending through adulthood.
- **LaSTEM Goal 3:** Improve the size, alignment, level of mastery, and diversity of the pipeline of workers well-qualified for specific high-priority STEM jobs, particularly expanding access to high-quality STEM education and employment opportunities for women, rural populations, people with special needs, underrepresented communities, and other target populations.
- **LaSTEM Goal 4:** Remove barriers that prevent education systems from recognizing STEM coursework for diploma requirements and postsecondary opportunities and responding to emerging STEM needs.
- **LaSTEM Goal 5:** Create a clear set of metrics, an accountability framework, and a funding and sustainability protocol to ensure the success of the Council's work.

The proposed goals found in America's Strategy for STEM Education are as follows:

- **LaSTEM Goal 1:** Build strong foundations for STEM literacy by ensuring that every American has the opportunity to master basic STEM concepts and to become digitally literate.
- **LaSTEM Goal 2:** Increase diversity, equity, and inclusion in STEM and provide all Americans with lifelong access to high-quality STEM education, especially those historically underserved and underrepresented in STEM fields and employment.
- **LaSTEM Goal 3:** Prepare the STEM workforce for the future—both college-educated STEM practitioners and those working in skilled trades that do not require a four-year degree—by creating authentic learning experiences that encourage and prepare learners to pursue STEM careers.

A crosswalk between the original and proposed goals was presented to the LaSTEM Advisory Council during the quarterly meeting in May 2020. The proposed goals found within the Federal Government’s five-year STEM strategic plan was approved to serve as the primary goals of LaSTEM.

### **Regional STEM Network Centers**

The gathering of regional stakeholders and discussions on creating RSNCs was the primary focus of the LaSTEM activities in 2020. The Louisiana Regional STEM Network is envisioned to be a system of STEM leadership entities strategically positioned across Louisiana, similar to the Regional Labor Market Areas (RLMAs) identified by the Louisiana Workforce Commission, whereby communities, parishes, multi-parish regions and the State can achieve improved STEM education, opportunity, and advancement. It is expected and hoped that some current and developing STEM activities will span one or more STEM Regions. Regions will share information, work together, and be interconnected by coordination of resources which can also provide a gateway to other networks and initiatives. The Regional STEM Networks and Centers are connected with and serve the statewide LaSTEM Advisory Council.

The workgroup created in November 2019 was tasked with assessing the creation and implementation for the Regional STEM Network of Louisiana. The outcome from the extensive work of the Regional STEM Network Center/Director workgroup and the leadership team, with

feedback from regional and statewide stakeholders, led to the creation of the RSNC Request For Application (RFA). The intent of the RFA was to solicit applicants interested in becoming one of the nine RSNCs. In February 2020, the Council reviewed and approved the RFA later released in March 2020.

Funding was requested to implement and partially fund each region as part of a cost-sharing strategy totaling one million dollars. Funding was received in the fall of 2020 to begin this process. Applications were received and reviewed from each of the nine regions. One candidate from each of the nine regions was selected as the entity approved to proceed to the final phase of contractual agreements. Each entity is currently in the final phase or beginning the preliminary tasks to setup the RSNC and staff.

It is anticipated that all nine regions will finalize the implementation of the RSNC and hire a director throughout the months of February and March in 2021. This network is vital to the success of bridging the gap of STEM pathways in Louisiana. Additional information can be found on the [LaSTEM website](#).

### **LaSTEM Annual Summit**

The 2020 LaSTEM Annual Summit was held on October 28-29, 2020. The purpose of this event was to showcase many of the dynamic Science, Technology, Engineering and Math programs Louisiana has to offer and the talented individuals invested in this work. Approximately 400 stakeholders across Louisiana participated in this year's event. Commissioner of Higher Education, Dr. Kim Hunter Reed, delivered opening comments along with Senator Sharon Hewitt. A keynote session along with eight STEM sessions spanned the successful two-day event. The Whitehouse's Senior Policy Advisor and Assistant Director for STEM Education, Cindy Hasselbring, delivered the keynote speech on the topic of the nation's five-year STEM Strategic Plan and alignment of Louisiana. The eight STEM sessions focused on existing and potential initiatives of a Regional STEM Network that will optimize communication, resources, and support for STEM efforts in Louisiana. The topics for these sessions were as follows:

Integrating STEM into PreK-16

- [STEM Ecosystems – Leveraging and Connecting Partners for Effective STEM Integration PreK-16](#)
- [Building a Community Around STEM](#)

#### Workforce Partnerships

- [Virtual Innovation and Industry Partnerships](#)
- [Innovation and Collaboration through Workforce Partnerships](#)

#### Afterschool STEM and Community Programs

- [Re-Thinking STEM Outreach & Engagement: Building Capacity through Building Community](#)
- [Diversity Initiatives, Community Partnerships, and Family Engagement](#)

#### Innovative STEM Pathways Connecting PreK-16 and the Workforce

- [Is This Our Sputnik Moment?](#)
- [STEM Collaboration for Innovative Louisiana Stakeholders \(SCILS\)](#)

Presentations and video recordings can be found on the [LaSTEM website](#).

Feedback from this event indicated a clear appreciation for the quality and content discussed along with the effectiveness and convenience of the virtual platform. Plans for the 2021 annual summit have begun and should prove to be a highly anticipated event. The 2021 annual summit will provide an opportunity for stakeholders to discuss and inform others on the progress and future of STEM in Louisiana.

## **Part III: Policy/Funding Recommendations and Summary**

### **Regional STEM Network Centers and Directors**

As seen from the 2019 report filed in January 2020, the recommendation to support the creation and implementation of the Regional STEM Network was successful. The evolving expansion of the Regional STEM Network will grow in its effectiveness and need for additional support. This progress will consist of self-evaluations from regional stakeholders resulting in identifying existing and future demands of STEM related occupations. Innovative solutions and resources to meet these needs will be the focus of the Regional STEM Network and the LaSTEM Advisory Council in 2021.

It is recommended Louisiana maintain and build upon the support provided. This request is not only to continue the support of the Regional STEM Network, but specifically, the additional resources needed for programs and best practices to bridge the gap in STEM literacy, education, training, and workforce opportunities throughout the nine regions of Louisiana.

### **Summary**

As part of Act 392 of the 2017 Regular Session of the Louisiana Legislature, the ongoing work of the LaSTEM Advisory Council continues to advance STEM efforts in Louisiana. Events and presentations such as the statewide LaSTEM Annual Summit and STEM topics, presented to the LaSTEM Advisory Council, have allowed champions for STEM to discuss regional and statewide needs, showcase best practices, and network with key stakeholders. The progress and implementation of the Regional STEM Network was a success resulting from collaborations among educational, community, and economic partnerships with support from the Council. The achievements in raising awareness and promoting STEM pathways for Louisiana would not have been possible without the collective efforts of those involved and the Council's coordination.

Leadership provided by the LaSTEM Advisory Council, the executive leadership team, working groups, and subcommittees continues to lay the foundation of an effective, efficient, and fully functional Regional STEM Network. This network is vital towards the sharing of resources, communicating best practices, raising awareness throughout communities,

strengthening educational and business/industry partnerships, meeting the needs of tomorrow's workforce, and elevating Louisiana as a leader in STEM. It is the hope and desire of the LaSTEM Advisory Council that all stakeholders understand and support the value of the LaSTEM initiatives and the long-lasting impact for Louisiana throughout 2021 and beyond.