

2nd Quarter LaSTEM Advisory Council Meeting Claiborne Building, Iowa Room 4/20/2023



Today's Agenda

9:00 a.m. – 9:10 a.m.	I. Welcome and Roll Call
9:10 a.m. – 9:15 a.m.	II. Approval of 1 st Quarter Meeting Minutes
9:15 a.m. – 9:30 a.m.	III. Competitive Process Overview and Regional STEM Center Recommendations
9:30 a.m. – 9:40 a.m.	IV. Outcomes and Recommendations from Focus Groups - Otey White & Associates/TCI
9:40 a.m. – 9:50 a.m.	V. Discussion of STEM Definition Development
9:50 a.m. – 10:00 a.m.	VI. Summit Update
10:00 a.m. – 10:15 a.m.	 VII. VEX (REC Foundation) Diana Fultz, Director of Regional Operations
10:15 a.m. – 10:30 a.m.	 VIII. Louisiana Department of Education Jamie Mixon, STEM Specialist



Agenda Items



- Approval of 1st Quarter, 2023 Advisory Council Meeting Minutes



RFA Process Timeline

December 2022

2023-26 Regional STEM Center Request for Applications released.

February 2023

All current centers applied to continue; no new applications were submitted.

March 2023

Applications scored and rated by two outside consultants.

April 2023

Feedback provided to directors on individual applications and overall efforts.



STEMX: Advancing high-quality STEM education

We are a national network of STEM education leaders who collaborate to advance high-quality STEM education as a workforce and equity imperative.

Convene STEM education leaders

Advocate for STEM as a national priority







RFA Review (STEMx)



Members

The STEMx[™] network is a multi-state STEM network that provides an accessible platform to share analyze and disseminate quality STEM education tools to transform education, expand the number STEM teachers, increase student achievement in STEM and grow tomorrow's innovators.

The network is composed of leading STEM organizations across the nation.

31 States

40 Organizations



RFA Review (STEMx)



Policy Briefing & Advocacy Day

March 21 – 22, 2023



RFA Review (STEMx)

- Committee Briefing
 - Taylor Ware, Legislative staff for Alma Adams
 - Chips and Science
- Panel Discussion
 - STEMx members
 - Victoria Rubin, House Science Committee
- 47 meetings with Congressional reps





The LaSTEM Advisory Council believes every citizen of Louisiana should have access to Science, Technology, Engineering, and Mathematics (STEM) resources through a Regional STEM Center. The purposes of these Centers include:

- building strong foundations for STEM literacy;
- increasing diversity, equity, and inclusion in STEM; and
- preparing the STEM workforce of the future.



Building Strong Foundations for STEM Literacy

- STEM Talks
- Mobile STEM Labs
- STEM Pathways develop, promote, expand
- Teacher/Industry Experiences
- Professional Development
 - Computer Science
 - EIE
 - Environmental Science
 - STEM Pedagogy
 - STEM Content
 - Engagement strategies

- Environmental Science Curriculum
- Geomatics Flight Plan
- PBL Costal restoration
- Chemistry Road Show
- Engagement with OST programs
- STEM communication strategies
- Freshman Outreach & Mathematics Enrichment (FOrME!)
- EDP training





- Learning Blade
- TEALS
- Brain Food Truck
- Sea Perch Underwater Robotics
- Esports
- Robotics/FLL
- STEM Fest
- Astro Camps
- Young Science Explorers

- Chemistry Road Show
- Ocean Commotion
- Girl Scouts Design Challenge Day
- Touch a Truck
- National Girls Collaborative Project
- Jumpstart Pathways programs
- GSK Science in the Summer
- Carpentry Classes
- CSI mystery camp
- Starbase



Increasing Diversity, Equity, and Inclusion in STEM

- HBCUs
- Justice system, current/former
- Youth with Autism
- ALICE Populations
- Rural communities
- Single moms
- At risk youth
- Expanded access to dual credit science courses through lab kits
- General community outreach events
- Students at alternative schools

- Libraries
- Virtual camps fewer restrictions
- Adult learners in camps
- Pre-service teachers
- Non-traditional teacher pathways
- Upskilling/reskilling programs for currently employed
- Pre-K learners
- Homeless students
- Migrant students



Preparing the STEM Workforce of the Future

- Internship programs
- Mentoring programs
- Workforce Summits
- Broadband Workforce Roundtable
- Mechatronics Apprenticeship Program
- Re-Entry Workforce Roundtable

- Summer camps as teacher PD
- Career talks Job Shadowing
- Renewable Energy Program
- Additive Manufacturing Camp
- Pathway programs
- Collaboration with industry partners and economic development organizations



Key takeaways and Next steps:

- The Regional STEM Centers have been highly successful in their first three-year cycle.
- The LASTEM model has received national attention.
- All RSCs were recommended for continuation
- April 20: Council to vote on the recommendation to continue the existing nine (9) Regional STEM Centers for a second three-year cycle.
- May-June: Year 1 Cooperative Endeavor Agreements (CEAs) drafted
- July 1: Year 1 CEA start date



Welcome to Otey White and Associates



SCIENCE - TECHNOLOGY ENGINEERING - MATH

REGENTS

FOCUS GROUP RESULTS

Advisory Council





"We will always have STEM with us. Some things will drop out of the public eye and will go away, but there will always be science, engineering and technology. And there will always, always be mathematics." Katherine Johnson NASA





WHY IS STEM IMPORTANT TO THE FUTURE OF LOUISIANA? 5 REASONS



CAREERS AND TALENT PIPELINE

- Foundation for future careers
- Pipeline of talent for current/future industries and business
- Teaches critical thinking, problem solving, communication and collaboration-valued in all careers

GENTS

TECHNOLOGY ENTREPRENEURS OF TOMORROW

- STEM education nurtures future entrepreneurs
- Tech based companies LA's future economic base

ENGAGES YOUTH IN EDUCATION

- STEM's hands-on experiences keep youth interested
- Provides practical knowledge
- "Think" and "Do" in STEM





WHY IS STEM IMPORTANT TO THE FUTURE OF LOUISIANA? (continued)

PATHWAY TO PROSPERITY IN LOUISIANA

- LA leading the nation in innovation in STEM education
- Can lead the nation in future businesses
- No region is left behind in LaSTEM

EGENTS

RETAIN LA'S TALENTED YOUTH

- Higher salaries
- More opportunities

• Technology • Engineering • Math



0

05

04



WHAT DO YOU SAY ABOUT THE IMPORTANCE OF LASTEM TO LOUISIANA?

Economy is drastically changing-STEM pushes talent through the pipeline to attract and keep companies in our community LaSTEM is literally preparing the future of Louisiana LaSTEM is creating equity, teaching service and developing job opportunities

STEM is the reason your life is easier, it affects everyday life





WHAT DO YOU SAY ABOUT THE IMPORTANCE OF LASTEM TO EDUCATORS?

All students must be proficient in STEM for future careers and life Changes their lives and encourages them to adapt to change

2

Teaches critical thinking, problem solving and collaboration

5

Offers hands on experience that engages students in their education





WHAT DO YOU SAY ABOUT THE IMPORTANCE OF LaSTEM TO COMMUNITY?

All the tools that youth use at Walmart and McDonalds are controlled by robots and apps. STEM let's them control the apps not the other way around

Every future career and job will require knowledge of STEM Builds skills: communication, collaboration, critical skills, thinking, problem solving Keeps you engaged with your children at all ages





WHAT COULD BE IMPROVED? COUNCIL







WHAT COULD BE IMPROVED? COUNCIL

More STEM skills tied to math

"Math always seems to be left out of STEM Initiatives." Integration of science and technology in math curriculums





WHAT COULD BE IMPROVED? REGIONAL DIRECTORS

- Visibility and credibility
- Funding Make it easier to spend your money, reduce rules
- Modify evaluation process more frequent? Self ratings?
- Cohesive branding, not unanimous
- Better follow up to planning sessions need action
- Better data network need markets
- Asset map by region
- Timing of funding missed opportunities
- Regional introduction and presentation at Summit





VISION

LASTEM promotes Science, Technology Engineering and Math programs through a statewide network of regional partners. Together we are building a science-driven future for the state by engaging youth and adults in STEM, developing talent for regional business and industry, and encouraging innovators to pursue their vision. In our region we are...





SUPPORTING MESSAGING

Louisiana leads the nation	
STEM education	



Every future career requires STEM education

STEM engages youth with hands-on activities

5

6

Louisiana's Pathway to Success

STEM learning promotes problem solving, critical thinking, collaboration and communication

This is mission work



1

2

3





Our journey begins...





The Changing Landscape of 21st Century Education

Technology is changing the way that the workforce creates and accesses information. Same is true for today's modern classroom.



What is 21st Century Learning and Where Do You Begin?

- Interactive learning does not always mean technology alone.
- Learning must be an interaction between the educator, the information, and the audience.
- Buzz words are simply tools. Think of them like a pencil.
- In the 21st century, connecting information and outcomes is critical to growing our future workforce.
- The role LASTEM plays in education-workforce pathways provides us with opportunities to provide innovative solutions and teacher support.

(AI Generated Image)

- According to a 2020 IBM study, human knowledge is doubling every 11-12 hours.
- How can educators remain content experts? Can we keep up with 'knowledge half-life'?
- The ability to facilitate the ownership of information is becoming more important in this accelerated learning environment.

1900	1945	1982	2020
Knowledge loubling every century	Knowledge doubling every 25 years	Knowledge doubling every 12-13 months	IBM predicts knowledge doubling every
			11-12 hours

The Changing Face of STEM

• SMET/METS is created

• National Science Foundation created the acronyms to connect relevant programs of study with rapidly emerging career opportunities.

2010

2012

• STEM is born

• METS/SMET rearranged to STEM, making it more memorable and relevant to workforce.

- Rhode Island School of Design championed the inclusion of the Arts to better prepare future graduates for workforce.
- Highlighting the importance of *creative and critical thinking* in the STEM fields.

• STEM is further defined as 'hands-on', applied learning, K-grey education

- 'STEM Education: A Primer', STEM education was defined as: Teaching and learning in the fields of STEM. It typically includes educational activities across all grade levels—from pre-school to post-doctorate—in both formal (e.g., classrooms) and informal (e.g., afterschool programs) settings.
- Act 392 establishes LaSTEM and Education-Workforce Pipelines
- 2017 LaSTEM Advisory Council developed the working vision as: To create a STEM culture in Louisiana where every citizen is prepared to be successful in their daily lives and Louisiana is positioned as the go-to state for STEM talent.

2017

• Regional STEM Centers are operational across nine regions in Louisiana

The Definition of STEM Across America

STEM – Science, Technology, Engineering and Mathematics. The goal of STEM and STEAM schools is to foster intellectual. entrepreneurial and technical talent and **K–12 STEM education** encompasses the processes of critical thinking, design thinking. This is vital to Ohio's future analysis, and collaboration in which students integrate the processes and economic growth and prosperity, which concepts in real world contexts of science, technology, engineering, and depends on an aligned education system to mathematics, fostering the development of STEM skills and competencies support the state's economic development for college, career, and life. efforts and that helps all Ohio students become innovators and inventors, self-reliant and logical thinkers and technologically proficient problem solvers. **STEM education** provides opportunities for students to engage in authentic experiences in the classroom that are linked to local and global communities. **STEM education** in Florida is focused on generating new STEM (Science, Technology, Engineering, and ideas, concepts and theories Mathematics) education is a method of hands-on teaching and that address real-world learning where students learn to apply academic content by challenges and spur scientific creatively solving real-world problems with innovative design-based breakthroughs. thinking to prepare students for future career opportunities.

The Changing Face of STEM

- What's next?
 - The Council will welcome all stakeholders to provide input on a definition of STEM for Louisiana
 - LaSTEM staff will report back at the 3rd quarter meeting with a draft definition for Council discussion/consideration
 - Definition in place by the end of the calendar year

2023 LaSTEM Summit Update

- October 17, 2023, CAJUNDOME and Convention Center
- Theme: STEM Today, Success Tomorrow
- Presentation slots are filled
 - 6 presentation breakout rooms
 - 5 workshop breakout rooms
 - 1 panel room
- Exhibitors and sponsors are invited to contact LaSTEM staff for more information
- Keynote: Mark Perna,
 - Answering Why: Unleashing Passion, Purpose, and Performance in Younger Generations
- General registration will open later this spring.

Inspiring students, one robot at a time.

OUR MISSION

The Robotics Education & Competition (REC) Foundation's global mission is to provide every educator with competition, education, and workforce readiness programs to increase student engagement in science, technology, engineering, math, and computer science.

ROBOTICS EDUCATION & COMPETITION FOUNDATION Inspiring students, one robot at a time. Presented by |

Diana Fultz Director of Regional Operations

Vision

We see a future where every student designs and innovates as part of a team, overcomes failure, perseveres, and emerges confident in their ability to meet global challenges.

Robotics World Championship ENDLESS POSSIBILITIES

World's Largest Robotics Competition with over 4,000 teams

40,000+ attendees

Largest Robotics Competition Web Viewership

Coming back to Dallas, Texas

ROBOTICS EDUCATION & COMPETITION FOUNDATION Inspiring students, one robot at a time.

Registration

Over 301 teams registered for VRC, VIQC, VEX U or ADC

Events

The RECF event partners hosted **32** events during the season.

Teams from **106** Organizations and **46** cities participated during the season.

Build a Ecosystem for Support

Sometimes it takes a village.....

ROBOTICS AND STEM SHOULD BE ABOUT BUILDING EVERYONE WITHIN THE COMMUNITY UP AND VALUING EACH PERSON'S VOICE AND OPINIONS.

- JADEN BALDWIN, VEX ROBOTICS MENTOR

We believe that robotics and STEM are for everyone, and strive toward an inclusive robotics community that is reflective of the diverse world we live in, and the one we want to leave behind.

- Host New Coach workshops
- Host events
- Volunteer at Events

- Host Key Volunteer Workshops
- Help Recruit
 Volunteers

Louisiana State Championships

Students excel in robotics when given an opportunity to perform in competitions.

An event worthy of Champions!

34 teams will represent Louisiana in the 2023-2024 VEX Worlds Championship Between April 24- May 5th.

Tournaments

1. In-Person Tournaments

ST. MARY'S

2. In-Person Leagues

3. In-Person Skills

4. Live Remote Skills (LRS)

ROBOTICS EDUCATION & COMPETITION FOUNDATION Inspiring students, one robot at a time.

Day of the Event

Common Tournament Activities

Team Check-in & Pit Setup Inspection Practice Event Meeting Opening Ceremonies Queuing Qualification Matches, Robot Skills, & Judging Final Matches Awards

Who is the Event Partner (EP)?

The Event Partner (EP) acts as the coordinator of a planning team that organizes REC Foundation program events, whether they are tournaments, leagues, scrimmages, and/or workshops. The EP is the leader who acts as the liaison between the REC Foundation and the planning team that runs an event.

The EP agrees to uphold:

- <u>Commitment to Event Excellence</u>
- Qualifying Criteria
- <u>Code of Conduct & Student Centered Policy</u>
- All game rules and regulations

Key Volunteers 2. Judge Advisor

3. Judges

1. Head Referee

4. Tournament Manager

ST. MARY'S International School

12 2 3

ROBOTICS EDUCATION & COMPETITION FOUNDATION Inspiring students, one robot at a time.

Take a look inside!

Select a role to view courses:

CERTIFICATIONS

Drive Team - Head Referee - Event Partner - Judge

https://certifications.vex.com/

Volunteers

1. Field Resetters

2. Queuing

3. Inspector

4. Scorekeepers

5. Emcee

6. Check In

ROBOTICS EDUCATION & COMPETITION FOUNDATION Inspiring students, one robot at a time.

REC Foundation Library

Resources for Coaches, Teams, Volunteers...

Q Search the REC Library

REC Library — Teams Event Partners Volunteers Students & Parents

Teams

Resources for Competition Teams and Coaches

Event Partners

Host your own robotics event.

Volunteers

Help out at a local event.

Students & Parents

Certifications, scholarships and more.

Why Robotics?

- Engages students in accessible STEM activities
- Develops communication and cooperation skills
- Develops education and employment skills
- Employers recognize robotics students
- Because it's fun!

VEX Robotics Students Increased in STEM Careers

As a result of their participation in the program

Contact Us

+903.401.8088

➤ support@robotevents.com

Stay Connected

- facebook.com/RECFoundation
- twitter.com/rec_foundation
- ☑ instagram.com/recfoundation

THANK YOU

LOUISIANA DEPARTMENT OF EDUCATION

Believes

LaSTEM Advisory Council Meeting April 20, 2023

LDOE's STEM Collaboration

- Louisiana's STEM Initiative
 - History

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L Believes

- Overview and updates on LDOE's key STEM efforts
- Current collaboration structures and future opportunity

LDOE's Goals and Priorities

SIX CRITICAL GOALS

Students enter kindergarten ready.

Students will achieve mastery on third-grade assessments and enter fourth grade prepared for grade-level content.

Students will achieve mastery on eighth-grade assessments and enter ninth grade prepared for grade-level content.

Students will graduate on time.

Students will graduate with a college and/or career credential.

Students will graduate eligible for a TOPS award.

EDUCATIONAL PRIORITIES

Ensure every student is on track to a professional career, college degree, or service.

Remove barriers and create equitable, inclusive learning experiences for all children.

Provide the highest quality teaching and learning environment.

Develop and retain a diverse, highly effective educator workforce.

Cultivate high-impact systems, structures, and partnerships

Louisiana's STEM Initiative

Louisiana's High School STEM Pathways

1. PARTNER

Schools partner with one or more of our pathway providers. Providers bring knowledge, curriculum, teacher training, and implementation support. Schools bring eager students, exceptional teachers, and effective leaders.

2. TRAIN

Teachers attend intensive, high-quality training. Teachers learn to effectively teach pathway courses and may earn certificates or graduate credit.

3. LEARN

Students take 4-8 rigorous pathway courses. Content includes pathwayspecific hard skills, universal soft skills, and workplacebased experiences.

4. SUCCEED

Completers leave with a head start on college and/or their career, typically with industry based credentials, college credits, employability skills, and workplace experience.

Louisiana STEM Pathways

STEM PATHWAY BRIEF PRE-ENGINEERING

OVERVIEW

The Louisiana pre-engineering pathway provides a pre-engineering program for both TOPS University and TOPS Tech diploma-seeking high school students. Through hands on projects and interaction with industry professionals, the curriculum prepares students to compete in the 21st century by engaging them in understanding the fundamentals of engineering in the classroom as well as in the workplace. Students will understand the careers available to them in the field of engineering as well as learn key skills such as teamwork, oral and written technical communication, and work ethic that will serve them well whether they pursue an advanced degree or immediately join the workforce.

College Ready	Career Ready
Aerospace Engineering Biological Engineering Chemical Engineering Civil Engineering Computer Engineering Computer Science Construction Management Electrical Engineering Industrial Engineering Mechanical Engineering Petroleum Engineering	 Mechanical Drafter Mechanical Engineering Technician Architectural and Civil Drafter Surveying and Mapping Technicians Computer Programmer Computer Integrated Manufacturing

CREDENTIALS INCLUDED

Students who successfully complete the four required courses may be prepared to attain the Autodesk Inventor Certified User Advanced credential (Statewide Advanced IBC).

STEM PATHWAY

URSES:	ART	M	MATH	84	SCIENC
		-		-	

LSU Track	PLTW Track Required Courses (4)		
Required Courses (4)			
Course Title		Course Title	Course Code
Intro to Engineering Design (LSU Partnership)	110801	PLTW Intro to Engineering Design	110802
Intro to Computational Thinking for STEM (LSU Partnership)		PLTW Principles of Engineering	080109
Robotics (LSU Partnership)	150780	PLTW Engineering Design and Development	110862
Engineering Design and Development (LSU Partnership) OR	110861	Computer Integrated Manufacturing OR	110850
Principles of Engineering (LSU Partnership) 1		PLTW Civil Engineering and Architecture OR	110841
		AP Computer Science Principles	061177

CORE CO

Additional Courses (choose an additional 4)	WARD SHE SHOW	
Course Title	Course Code	Carnegie Credits	5-Point Scale
Engineering Economy (LSU Partnership)	144200	1	
Principles of Engineering (LSU Partnership)	110864	1	
Engineering Design & Development (LSU Partnership)	110861	1	
Programming for Engineers (LSU Partnership)	344300	1	
Data Manipulation and Analysis (LSU Partnership)	080532	1	
Robotics: Advanced (LSU Partnership)	150731	1	
PLTW Engineering Essentials	110859	1	
PLTW Aerospace Engineering	110831	1	
PLTW Civil Engineering and Architecture	110841	1	
PLTW Digital Electronics	110821	1	
PLTW Environmental Sustainability	312098	1	
PLTW Computer Science Essentials	061100	1	
Computer Integrated Manufacturing (1 credit)	110850	1	
AP Computer Science Principles	061177	1	
M AP Computer Science A	061175	1	~
M AP Calculus AB	160327	1	~
M AP Calculus BC	160328	1	~
Statistical Reasoning OR	165031	1	
AP Statistics	160352	1	1
Biology II OR	150302	1	

MOTION AND STABILITY: FORCES AND INTERACTIONS

Performance Expectation Clarification Statement		Define a simple design problem that can be solved by applying scientific ideas about magnets. Examples of problems could include constructing a latch to keep a door shut or creating a device to keep two moving objects from touching each other.			
1.	Asking questions and defining problems: Asking questions (science) and defining problems (engineering) in 3-5 builds on K-2 experiences and progresses to specifying qualitative relationships. Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost.	TYPES OF INTERACTIONS Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, their orientation relative to each other. (UE.PS2B.b) DEFINING AND DELIMITING ENGINEERING PROBLEMS	PATTERNS Patterns can be used as evidence to support an explanation.		
2	Developing and using models	Possible solutions to a problem are limited by available			
3	Planning and carrying out investigations	materials and resources (constraints). The success			
4	Analyzing and interpreting data	the desired features of a solution (criteria). Different			
5	Using mathematics and computational thinking	proposals for solutions can be compared on the basis			
6	Constructing explanations (for science) and designing solutions (for engineering)	of how well each one meets the specified criteria for success or how well each takes the constraints into account (UE ETS14 a)			
7.	Engaging in argument from evidence	account (oc.e.t.o.m.a)			
8	Obtaining, evaluating, and communicating information				

Louisiana High School STEM Pathways: Expanding Offerings and Scaling Opportunity

Since 2018, participation in high-quality STEM pathway coursework has expanded statewide.

L Believes

*data obtained from 2018-2022 course code usage reports

Scaling High-Quality Science and Engineering

Since the adoption of the Louisiana Student Standards for Science in 2017, the Department has made great strides in supporting teachers, schols, and systems in making high-quality science and engineering a reality for all students. Highlights of our ongoing work include the following:

- identifying <u>high-quality materials</u> and <u>high-quality professional learning</u>
- providing <u>guidance</u>, resources, and <u>funding opportunities to support decision</u> <u>making and implementation efforts</u> at the local level
- developing a <u>Science Content Leader</u> specialized distinction to build local leadership capacity

STEM Diploma Seal for Graduates

Students who successfully complete four required courses from a STEM Pathway earn a Silver STEM Diploma Seal.

Students who successfully complete the four required courses *and* four additional pathway courses earn a Gold STEM Diploma Seal.

LSU Track			PLTW Track		
Required Courses (4)	Course	Requ	aired Courses (4)		Course
Course Title	Code	Cours	e Title	- 21	Code
Intro to Engineering Design (LSU Partnership)	110801	PLTW Intro to Engineering Desi	gn		110802
Intro to Computational Thinking for STEM (LSU Partnership)	061140	PLTW Principles of Engine	ering		080109
Robotics (LSU Partnership)	150780	PLTW Engineering Design and (Development		110862
Engineering Design and Development (LSU Partnership) OR	110861	Computer Integrated Manufac	turing OR		110850
Principles of Engineering (LSU Partnership)	110864	PLTW Civil Engineering and Arc AP Computer Science Principle	hitecture OR s		110841 061177
Additional	Courses (c	hoose an additional 4)		en anteres	
Course Title	-	Course Code	Carnegie Credits	5-Poin	nt Scale
Engineering Economy (LSU Partnership)		144200	1		
Principles of Engineering (LSU Partnership)		110864	1		
Engineering Design & Development (LSU Partnership)		110861	1		
Programming for Engineers (LSU Partnership)	144300	1			
Data Manipulation and Analysis (LSU Partnership)		080532	1		
Robotics: Advanced (LSU Partnership)		150731	1		
PLTW Engineering Essentials		110859	1		
PLTW Aerospace Engineering		110831	1		
PLTW Civil Engineering and Architecture		110841	1		
PLTW Digital Electronics		110821	1		
PLTW Environmental Sustainability		312098	1		
PLTW Computer Science Essentials		061100	1		
Computer Integrated Manufacturing (1 credit)		110850	1		
AP Computer Science Principles		061177	1	S .	
M AP Computer Science A		061175	1		1
M AP Calculus AB		160327	1		1
M AP Calculus BC		160328	1	,	1
Statistical Reasoning OR		165031	1		
AP Statistics		160352	1		1
Biology II OR		150302	1	2.	

Class of 2023 STEM Endorsements

This year's graduating class has earned the following STEM diploma endorsements.

570

silver STEM seal endorsements <section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header>

*as reported by LEAs and verified through course code use

Improving STEM Teaching and Learning through Micro-Credentials (2019-2025)

Through a grant from U.S. Department of Education, we are working to design and test an assessment series for teacher competencies in STEM.

partners	LDOE, Bloomboard, RAND, and LSU
key goals	 Develop, pilot, and refine a scalable, competency-based set of assessments for Louisiana teachers. Implement and study the assessments with a randomly selected sample. Improve teaching and student learning through implementation. Improve, spread, and sustain the model.
 1:	

Updates from the STEM EIR Study

18 STEM micro-credentials

on teacher competencies such as: Technical Reading & Writing Skills Project-Based Learning Computational Thinking

24 teachers

attempted one or more micro-credentials

1,680 students

impacted by teachers participating in micro-credentials

Louisiana's STEM Initiative at LDOE

Louisianans' educational journeys crescendo with high school experiences and continue as students:

Persist through Graduation.

Explore and define a plan for the future.

Accelerate journey to

Build a feasible path career readiness, and to post-secondary education.

Louisiana's STEM Initiative

The Department's ongoing partnership with LaSTEM can be characterized by three main structures:

- direct guidance, resources, and assistance for schools, systems, and families to support high-quality STEM opportunities Pre-k-12
- ongoing collaboration with the LaSTEM Council, leadership, and regional centers to support joint initiatives and thought partnering for continuous improvement
- fueling synergistic activities that contribute to the overall STEM ecosystem

New Business and Adjournment

- LaSTEM sponsorship opportunities available
- Call For Summit sponsors and exhibitors now open!

Available Council members, Directors and their teams, stay to meet with Otey White and Associates.