ADVISORY COUNCIL

November 28, 2017 | 10:00 a.m.

Welcome & Roll Call

❑ Dr. Joseph C. Rallo, LaSTEM Advisory Council Chair

❑ Vernon Dunn, LaSTEM Advisory Council Program Manager

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- Louisiana graduates of 2017 had an average ACT composite score of 19.5, compared to the national average of 21.0.

- In 2017, 16% of Louisiana graduates met all four ACT college readiness benchmarks* (English, Math, Reading and Science).

  - *In 2017, 26% of Louisiana graduates met the ACT Math college readiness benchmark (22).*

  - *In 2017, 27% of Louisiana graduates met the ACT Science college readiness benchmark (23).*

- In 2017, 26,104 Louisiana graduates (51%) indicated having an interest in STEM majors and/or careers.

  - *Ten percent of Louisiana graduates met the ACT STEM college readiness benchmark (26).*

  - *For 2017, Louisiana graduates meeting the ACT STEM college readiness benchmark had average math score of 27.7.*

*A benchmark score is the minimum score needed on an ACT subject-area test to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses, which include English Composition, Algebra, Social Science, Biology and STEM.

LaSTEM Vision

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.

To be revised and published with revisions

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LaSTEM Goals

(For Review: 1 of 2)

❑ Create a culture that advances STEM excellence and promotes the value of STEM education

❑ Advance the perspective that STEM principles are woven into every aspect of daily life and not to be feared

❑ Increase the STEM literacy of the population such that Louisianians have the ability to compete and excel in the global economy

❑ Promote STEM-oriented integrative and experiential learning activities starting in early childhood and extending through adulthood

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LaSTEM Goals

❑ Improve the size, alignment, level of mastery, and diversity of the pipeline of workers well-qualified for specific high-priority STEM jobs

❑ Develop a comprehensive communication strategy that helps to demystify STEM & build positive perspectives about STEM-intensive careers

❑ Expand access to high quality STEM education and employment opportunities for women, rural populations, under-represented communities and targeted Create a clear set of metrics and an accountability framework to ensure the success and sustainability of the Council's work

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LaSTEM Vote

❑ Louisiana's STEM Vision & Goals

STEM Definition:

❑ STEM includes:

  ❑ *Biology (Biological Sciences), Chemistry, Physics, Computer Science (Information Technology), Engineering, Engineering Technology, Math*

❑ STEM *may* include:

  ❑ *Agriculture, Social Sciences, Business, Technical Programs, etc.*

    ❑ Immigration and Customs Enforcement (ICE) maintains a list of STEM degree fields

    ❑ The LaSTEM Higher Education Subcommittee will review and bring recommendations to the Council

STEM Definition:

For the work of the LaSTEM Advisory Council, Science, Technology, Engineering and Math (STEM) includes Biology (Biological Sciences), Physical Sciences, Computer Science (Information Technology), Engineering, Engineering Technology, and Mathematics.

STEM may include many programs in other fields. The LaSTEM Advisory Council will establish a mechanism for review and approval and will publish an annually updated list of STEM programs by CIP (Classification of Instructional Programs) Code.

To be revised and published with revisions

STEM Literacy:

❑ STEM literacy is ensuring that everything that a student learns requires them to universally apply a set of core cognitive competencies*:

  ❑ *Critical thinking*

  ❑ *Complex problem solving*

  ❑ *Deductive and inductive reasoning*

  ❑ *Problem sensitivity (understanding a problem exists)*

❑ STEM literacy requires that at graduation, a student possesses:

  ❑ *The ability to apply the cognitive competencies to problems arising in the workplace and in daily life*

  ❑ *A baseline knowledge of core concepts in STEM fields*

  ❑ *Proficiency in the use of common technology tools*

  ❑ *A habitual orientation toward adapting to change and learning independently*

*Source: Georgetown Center on Education and the Workforce (GCEW)

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LaSTEM Discussion & Vote

❑ Louisiana's STEM & STEM Literacy Definitions

The Work of the Council

❑ Determine short- and long-term outcomes to demonstrate progress and success:

- ✓ Identify the Vision
- ✓ Identify the Goals
- ✓ Define STEM
- ✓ Define STEM Literacy

The Work of the Council

❑ Determine short- and long-term outcomes to demonstrate progress and success.

    ❑ *Next: Set short- and long-term <u>targets</u>*

❑ Develop strategies and policies that move us toward success

❑ Establish an accountability framework and funding structure to ensure success and sustainability

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PK-12 Workgroup Update

Primary Focus of the PK-12 Workgroup

Children from Birth to Grade 8; Parents; Pre-service Educators; Certified Educators; University Educators, and Other Partners

(Note: High School Students are being discussed by the Higher Education Workgroup)

PK-12 Workgroup Update

✓ Identification of questions by PK-12 Workgroup members that need to be answered regarding STEM and PK-12 education

✓ Addition of questions that need to be answered based upon input from PK-8 Visionary Group at October LaSTEM Advisory Council meeting

✓ Creation of 3 smaller subgroups to deeply examine the workgroup questions pertaining to the following three areas:

   Subgroup 1: Pipeline of Teachers

   Subgroup 2: Integrative and Experiential Learning

   Subgroup 3: Access to High Quality STEM Education

PK-12 Workgroup Update (Cont.)

❑ **(December 2017)** Identification of "Short-Term Outcomes" and "Potential Funding" by subgroups for each question assigned to each subgroup

❑ **(January 2018)** Review of all Short-Term Outcomes, prioritization of Short-Term Outcomes, identification of steps to implement Short-Term Outcomes, and identification of completion timelines

❑ **(Spring 2018)** Completion of Priority Short-Term Outcomes, identification of Long-Term Outcomes, identification of steps to implement Long-Term Outcomes, and identification of completion timelines

PK-12 Workgroup Update (Cont..)

❑ Input from LaSTEM Advisory Council

    ❑ *What additional questions need to be asked by the PK-12 Workgroup?*

    ❑ *What are some "Short-Term Outcomes" that should be considered by the subgroups for the questions that have been generated by the PK-12 Workgroup   members?*

STEM Showcase

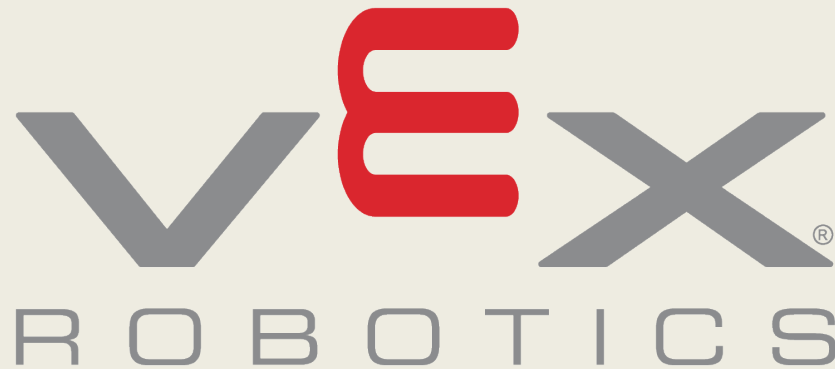❑ CSRA, Louisiana Tech, Bossier Parish Community College & Northwestern State University Partnership

Capacity Building & Sustainability Efforts

❑ Fundraising for LaSTEM- Senator Hewitt

Other Business

❑ VEX Robotics Grant Opportunity

Wrap Up

❑ Send feedback, suggestions and questions to lastem@regents.la.gov

❑ Next meeting: **Wednesday, December 13ᵗʰ** at **10:00 a.m.**

Topics include:

- Updates from Higher Ed Workgroup
- Feedback forms

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