Louisiana Believes

The Louisiana STEM Initiative

DEPARTMENT of EDUCATION

Purpose

After today's presentation, you will know what Louisiana's STEM Pathways are, why they were developed, and what benefits they offer for your students.

Agenda

I.   Overview of the STEM Pathways model
II. Summary of the available STEM Pathways
III. Discussion with STEM Pathway students

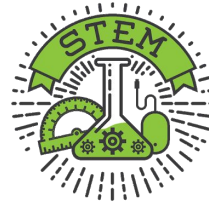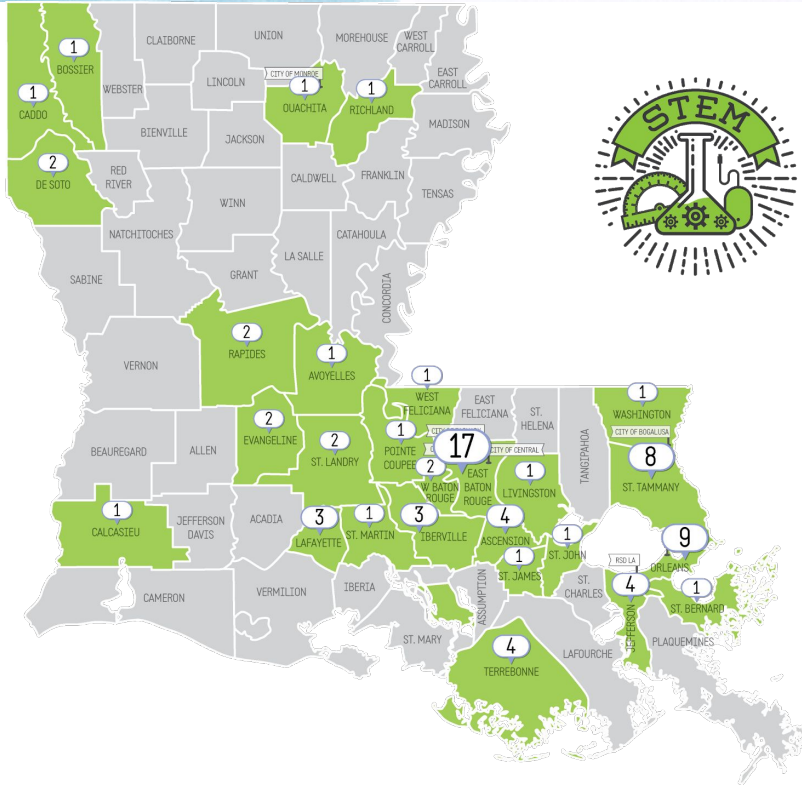# Pathways to College and Career

What are the STEM Pathways?

- Vital
  - Nearly half of all new jobs in Louisiana over the next five years will be STEM jobs.
- Highly engaging for students
  - Project-based curricula infused with practical applications of math and science
- Rigorous
  - 4-8 courses focused on a specific STEM field
- Easy to market
  - Students and parents *want* this opportunity

Pathways to College and Career

What are the STEM Pathways *not*?

- Only for TOPS University students
- Only for math/science teachers
- Static

Current Participation

2020–2021
STEM SCHOOLS

💬 NUMBER OF STEM
SCHOOLS IN EACH PARISH

This year:

- 41 districts and charters
- 82 schools
- More than 3,000 students
- More than $1.5 million in CDF funding

Louisiana High School STEM Pathways

Environmental Protection and Sustainability

LSU Biomedical Sciences

LSU Computing

LSU Digital Design and Emergent Media

LSU Pre-Engineering

PLTW Pre-Engineering

NICERC Cyber Security

Xavier University Pre-Pharmacy

Environmental Protection and Sustainability

- The EPS pathway is undergoing major revisions.

- Will pilot a revised version in 2020-21.

- Expect a full roll-out in 2021-22.

LSU Biomedical Sciences

- Course design and professional development provided by LSU.

- Immerses students in biomedicine.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:
  - Intro to Computational Thinking,
  - Comparative Anatomy & Physiology,
  - Conservation Biology, and
  - Forensic Science.

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LSU Computing

- Course design and professional development provided by LSU.

- Curriculum provides computer science and computational thinking experiences.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:
    - Intro to Computational Thinking,
    - Data Manipulation and Analysis,
    - Interactive Computing, and
    - AP Computer Science A/P.

LSU Digital Design and Emergent Media

- Course design and professional development provided by LSU.

- Designed with a 21st century approach to media production.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:

  - Intro to Computational Thinking,

  - Digital Storytelling,

  - Digital Image and Motion Graphics, and

  - Sound Design.

LSU Pre-Engineering

- Course design and professional development provided by LSU.

- Prepares students to compete in the 21st century workplace.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:

  - Intro to Computational Thinking,

  - Intro to Engineering Design,

  - Robotics, and

  - Programming for Engineers.

PLTW Pre-Engineering

- Course design and professional development provided by Project Lead the Way.

- Engages students in compelling, real-world challenges.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:

  - Principles of Engineering,

  - Intro to Engineering Design,

  - Robotics, and

  - Discipline-specific engineering courses (civil, aerospace, etc.).

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NICERC Cyber Security

- Course design and professional development provided by the National Integrated Cyber Education Research Center.

- Combines science, engineering, and mathematics.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:
    - Cyber Literacy,
    - Cyber Science,
    - Cyber Society, and
    - AP Computer Science A/P.

Xavier Pre-Pharmacy

- Course design and professional development provided by Xavier University of Louisiana.

- Combines natural sciences and industry practice instruction.

- Prepares students for immediate entry into the workforce or college.

- Coursework includes:

  ○ Survey of Pharmacy,

  ○ Medical Terminology,

  ○ Dual enrollment science courses, and

  ○ Pharmacy Technician.

STEM Diploma Endorsements

Graduating seniors who complete a STEM Pathway are eligible for a diploma endorsement (seal).

- Completing the four core courses in a pathway earns a silver seal.
- Completing the four core courses plus four more from the additional courses list earns a gold seal.

Students

- Students from a few STEM Pathway schools are here today.

- We'll hear from them and then have a few minutes to talk with them in small groups.

- Suggested discussion topics:
  - How has your STEM Pathway influenced your future plans? What opportunities do you foresee this Pathway providing?
  - Why is STEM important to *you*?
  - How did you decide to start a STEM Pathway?
  - What are you most looking forward to in your STEM Pathway?

Next Steps

To bring a pathway to your district or school:

1. contact us for more details about pertinent pathways,
2. identify the right pathway for your school,
3. contact the pathway provider,
4. choose the right teacher and arrange training, and
5. identify students.

Contact Information

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