The reality of the STEM (science, technology, engineering and mathematics) environment in Louisiana is that it suffers from a fragmented K-12 education effort. In New Orleans specifically, schools lack adequate resources to educate a skilled workforce even though hundreds of STEM-sector positions remain vacant. Only 19 percent of 8th-grade students in Louisiana meet math and science proficiency levels. Meanwhile, a staggering 2.8 STEM-sector jobs are available per job-seeker in the state. Given that 80 percent of jobs created over the next decade—and over half of the 30 fastest-growing occupations—will require substantial math and science proficiency, how will the local workforce compete?

The School of Science and Engineering at Tulane University plays a vital role in the educational success and economic longevity of the Gulf South region. The Center for K-12 STEM Outreach is at the heart of this mission. With support from dedicated donors, the center works to:

- Boost awareness and interest in STEM fields
- Improve STEM literacy
- Expand knowledge of K-12 teachers
- Provide access to STEM education for all K-12 students
- Increase students’ commitment to STEM fields

**Leading the Way**

Established in 2006, the Tulane University Center for K-12 STEM Outreach has helped educate and inspire over 6,200 middle and high school students and teachers. From courses and workshops for students to professional development for teachers, the center offers diverse activities during the academic year and through the summer.

**Tulane Science Scholars Program** provides hands-on educational opportunities and course credit to 10th-12th-grade students who have exceptional talent in science and mathematics. Neuroscience, physics and computer science summer courses were recently added.

**Girls in STEM at Tulane (GIST)** gives 5th-7th-grade girls opportunities to work with women role models in STEM fields through workshops developed by Tulane faculty. Held for the first time in 2013, GIST was modeled after a successful program at Yale that encourages girls to pursue careers in science.

**Core Element** aims to improve student achievement and interest in STEM subjects by providing training and resources to local K-12 teachers through a partnership with Tulane. Since 2007, Core Element has provided year-round professional development to 181 elementary school, 102 middle school and 126 high school teachers.

**The Perry Initiative** is a national program that encourages high school girls to enter the female-deficient fields of engineering and orthopedics. By partnering with Tulane, workshops and presentations from medical and engineering professionals and faculty are offered on campus annually.
Now is the perfect time to invest in STEM education in New Orleans. The city has emerged in recent years as a national hub for startup companies and an incubator for entrepreneurs. In fact, Louisiana now ranks seventh in the nation in entrepreneurial activity—up from 24th in 2001. As a leading national research university, Tulane is driving the regional STEM innovation movement with the goal of educating the next generation of entrepreneurs, engineers and scientists who stay in New Orleans to start companies in STEM fields and work in 21st-century jobs.

“The programs are effective platforms for teaching students how to apply science and technologies such as physics, electronics and computer science. Tulane’s involvement increases the likelihood that they will pursue STEM educations and careers.”

Richard Mayer
Member, School of Science and Engineering Board of Advisors
Retired Senior Technology Associate, Dow Chemical Company

Louisiana and Beyond

The Center for K-12 STEM Outreach provides critical year-round administrative support, such as event management, training and service learning activities, to regional and national programs.

- **Greater New Orleans Science and Engineering Fair** is held annually in February. Open to all 6th–12th-grade students in Jefferson, Orleans, Plaquemines and St. Bernard parishes, category winners are eligible to compete for state honors at the Louisiana Science and Engineering Fair held at Louisiana State University and international honors at the annual Intel International Science and Engineering Fair—the world’s largest international pre-college science competition.

- **FIRST® LEGO® League** offers middle school students opportunities to design, build and compete with a robot constructed of LEGOS. Students also create and deliver a 5-minute research presentation on the competition’s annual challenge theme.

- **FIRST® Robotics Competition** is referred to as “the varsity sport for the mind” for high school students. Teams of at least 25 students work together to raise funds, design team brands and program robots to perform prescribed tasks in a rigorous, arena-based competition.

The Right Place at the Right Time

Now is the perfect time to invest in STEM education in New Orleans. The city has emerged in recent years as a national hub for startup companies and an incubator for entrepreneurs. In fact, Louisiana now ranks seventh in the nation in entrepreneurial activity—up from 24th in 2001. As a leading national research university, Tulane is driving the regional STEM innovation movement with the goal of educating the next generation of entrepreneurs, engineers and scientists who stay in New Orleans to start companies in STEM fields and work in 21st-century jobs.

**For more information** on how you can support the Tulane University Center for K-12 STEM Outreach, please visit [tulane.edu/sse](http://tulane.edu/sse) or contact Professor Michelle Sanchez at sanchez@tulane.edu or (504) 865-5088.