SPONSORSHIP PROPOSAL

FIRST California Robotics

FIRST
CALIFORNIA ROBOTICS

WORLD'S LEADING YOUTH-SERVING NONPROFIT ADVANCING STEM EDUCATION

WHO WE ARE

With over 679,000 global student participants per year, *FIRST* is a robotics community that prepares young people for the future..

For 30 years students from all walks of life have developed self-confidence in STEM and valuable, real-world skills through *FIRST* that open pathways to a better future.

Through a suite of team-based robotics challenges and backed by a million-strong global community of students, mentors, educators, coaches, volunteers, alumni, and sponsors in 110 countries, *FIRST* helps young people discover a passion for STEM and develop the skills they need to succeed in today's competitive workforce.

Our **project-based, hands-on *FIRST* programs** introduce students to engineering and coding in an engaging, inclusive, and creative classroom or after-school learning environment where students work collaboratively to solve an annual robotics challenge.

Our **PreK-12 programs** are designed to inspire innovation and help young people build a better future.

A SUITE OF HANDS-ON, STEM LEARNING PROGRAMS

GRADES PRE K - 12

Grades PreK-8 – Ages 4-16

***FIRST* LEGO League** introduces STEM to children through fun, exciting hands-on learning. Participants gain real-world problem-solving experiences through a guided robotics program, helping students and teachers build a better future together. *FIRST* LEGO League's three divisions inspire youth to experiment and grow their critical thinking, coding, and design skills through STEM learning and robotics.

Grades 7-12 – Ages 12-18

***FIRST* Tech Challenge** students learn to think like engineers. Teams design, build, and program robots to compete in an alliance format against other teams. Robots are built from a reusable platform, powered by Android technology, and can be coded using a variety of levels of Java-based programming.

Grades 9-12 – Ages 14-18

***FIRST* Robotics Competition** teams design, build, and program robots starting with a kit of parts and a common set of rules to play in a themed head-to-head challenge. Teams also build a brand, develop community partnerships for support, and work to promote STEM in their local communities.

PROVEN, VERIFIABLE IMPACT

Research proves FIRST drives STEM engagement and outcomes

Engaging in the *FIRST*/*FIRST* California robotics programs is **changing students' lives,** for the better, through **inclusion and community-building**. Students learn from each other by sharing ideas and forming long lasting relationships **far beyond high school.**

FIRST California also provides our students opportunities to continue their education and **enter the workforce via scholarships and internships and workforce development.**

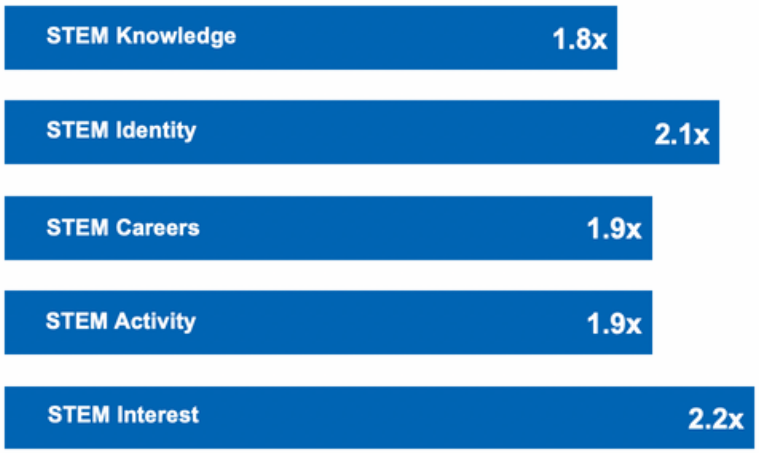
A rigorous Longitudinal Study via Brandeis University

***FIRST* programs are evidence-based**, with over 15 years of external evaluations providing proof of impact on the short-term outcomes and long-term impacts of program participation. More recently, **Brandeis University, Center for Youth and Communities** has been conducting a rigorous Longitudinal Study of the *FIRST* LEGO League, *FIRST* Tech Challenge and *FIRST* Robotics Competition programs.

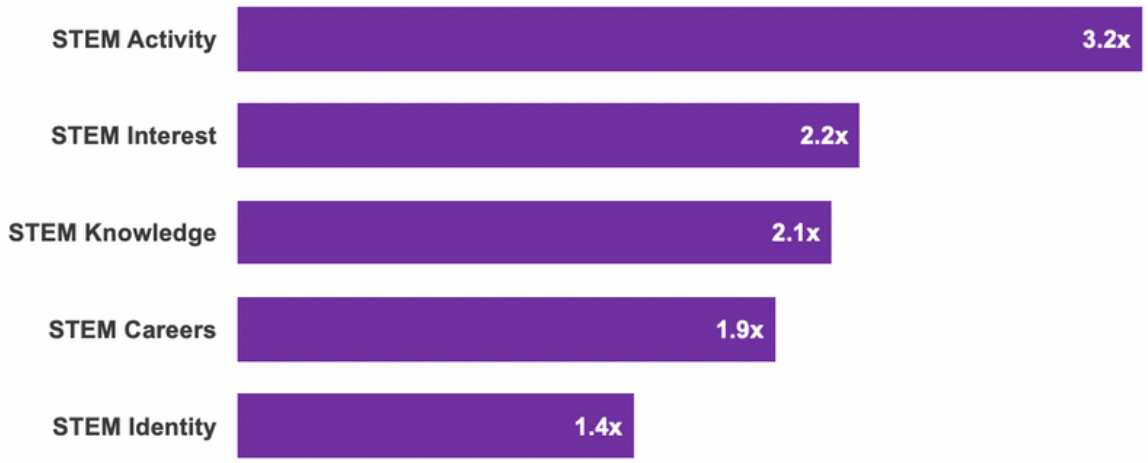
STUDY SHOWS *FIRST*'S POSITIVE LONG-TERM STUDENT IMPACT

The **Brandeis University study** is designed to track new participants in *FIRST* and a comparison group of students recruited from the same schools, to assess changes in STEM attitudes, interests, intentions, and behaviors.

***FIRST* students 2X more likely to show increase in STEM-related attitudes**



***FIRST* female students more likely to show significantly higher levels in STEM outcomes.** *In most cases, the gains for females were significantly larger than those for males.*



***FIRST* students from underrepresented communities show positive significant STEM impacts**

Outcomes	Girls and Young Women	Economically Disadvantaged	Underrepresented Racial Groups	Urban	Rural
STEM Interest	+	+	+	+	+
STEM Activity	+	+	+	+	+
STEM Careers	+	+	+	+	+
STEM Identity	+	+	[+]	+	+
STEM Knowledge	+	+	+	+	+

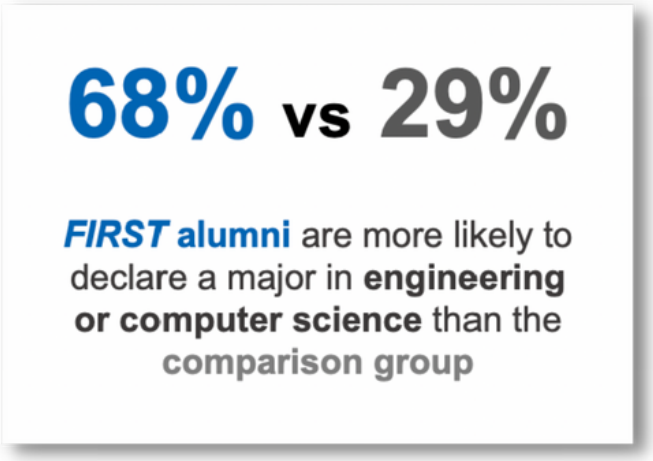
FIRST'S IMPACTS PERSIST INTO COLLEGE

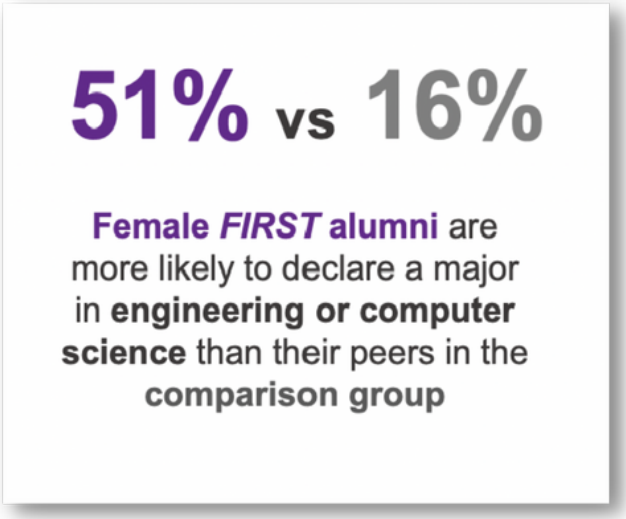
***FIRST* alumni are significantly more likely to pursue college pathways into Engineering and Computer Science.**

They are more likely to be interested in majoring in computer science, engineering, and robotics; to take computer science and engineering courses, and to declare a major in computer science or engineering.

By year 4:

- *81% declare a major in STEM*
- *68% in engineering or computer science.*

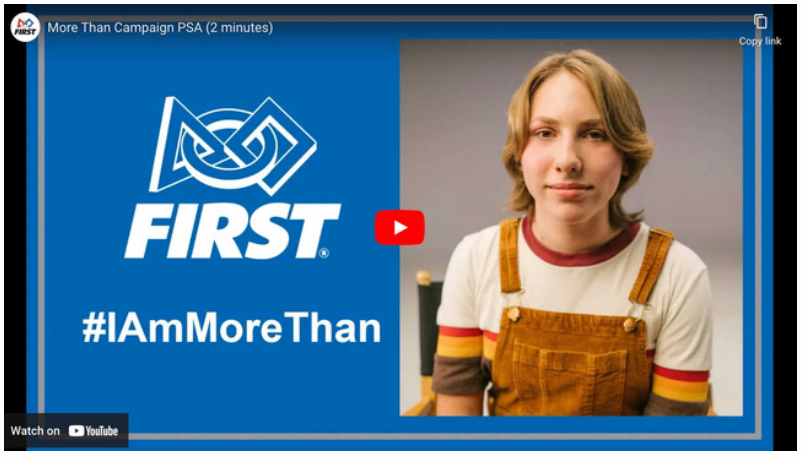




FIRST IS MORE THAN ROBOTS

Our participants gain the confidence — and community — to build their future. We launched our **More Than** campaign to dismantle labels for kids and promote self-esteem through STEM.

Watch our MORE THAN campaign.



Watch the 2022 Disney+ documentary, "More Than Robots." to get a deeper understanding of the transformative FIRST experience for participants,

FIRST IS MORE THAN ROBOTS

Life Skills & Social Emotional Development

FIRST programs stand apart in the STEM world of offerings due to our incorporation of the *FIRST* Ethos of Gracious Professionalism® and Coopertition® and commitment to the *FIRST* Core Values. In this incredible time of change, it is more important than ever that we engage students to practice empathy, understand self-assessment, manage behavior and emotions, and build social awareness and responsible decision-making in addition to other, more academic topics of education.

"Many FIRST alumni say that the robots were great, and learning new skills helped them, but what impacted them the most was the emphasis on Core Values and being 'good, smart people doing good, smart things,'

Students are not just learning STEM skills, but experiencing the challenges of teamwork, setting goals, and coping with the frustrations that come with worthwhile endeavors. On the path to competition, FIRST team participants learn about themselves and others to become leaders and participants in their communities. - Caroline Hanson, a long-time educator, FIRST coach

Belonging and a Sense of Family

What we hear so often when asking participants what they love about *FIRST* is that they feel that "*FIRST* is family". This is not surprising considering the amount of time students and mentors spend together in the safe and welcoming environment of their after-school robotics clubs. Its a safe-haven to connect and grow with each other - *often times spending more time with teammates than their parents!*

EQUITY, DIVERSITY & INCLUSION

Equity, diversity, and inclusion (EDI) is a strategic priority for our organizations. **Our goal is to serve a population of students that represents the demographics of the communities we serve** and to be deliberate and strategic in reaching the communities we are not currently serving in the state. We are reaching more students by extending our curriculum options to schools, providing professional development, offering flexible classroom bundles and additional support.

We have our eyes on growth around low-income schools and neighborhoods that may continue to struggle even after the pandemic ends. As schools and parents may deal with the financial impacts of this crisis for the next several years, these types of enrichment programs are likely to be some of the first cuts. We would like to ensure these students do not continue to fall further behind in their access to STEM-related programming.

Training and Resources

As part of our commitment to creating a diverse, inclusive, and equitable *FIRST* community, we have partnered with leading organizations to create free EDI Trainings for all participants - students, mentors and volunteers.

JOIN OUR ENERGY-INSPIRED ROBOTICS SEASON: *2022-2023*

This is the moment to get energized to innovate. From the machines that move us to the food that sustains us to the wireless technologies that connect us, energy plays an essential role in keeping our world running.

During our 2022-2023 robotics season, ***FIRST*® ENERGIZE**℠ presented by Qualcomm, our teams will reimagine the future of sustainable energy and power their ideas forward. Innovation can't wait.

Visit https://info.firstinspires.org/first-energize-season *for details.*

STANDARDS & ALIGNMENT

FIRST aligns to goals for learning outcomes with 21st century students

FIRST has completed an external analysis and mapping of all *FIRST* programs' educational standards and *FIRST* aligns to goals for learning outcomes with 21st century students.

FIRST Content is aligned to the following:

- Common Core – Math & English Language Arts
- NGSS – Next Generation Science Standards
- CSTA – Computer Science Teacher Association
- ITEEA – International Technology Engineering Education Association
- ISTE – International Society for Technology in Education
- Partnerships for 21st Century Learning
- CASEL – Collaborative for Academic, Social and Emotional Learning

A pilot *FIRST* Robotics Competition High School program in Ventura County school district has received **UC A-G elective credits** for their year-long courses.

Additionally, students who participate the second to third years are eligible to receive Honors Credits, and they are working with the California Department of Education to have any student who participates all four years of high school eligible for UC A-G Lab credits.

The robotics programs are articulated with the local community colleges and every teacher has a CTE credential. The hope is this pilot program will be duplicated throughout the State in the future.

CURRICULUM FOR EDUCATORS

***FIRST* curriculum is developed using a project-based learning method.** Students gain knowledge and skills by working towards goals through the investigation of solutions and engagement in a complex question or problem to solve. Content is designed to meet specific STEM learning objectives through connected learning principles. This allows *FIRST* content to be embedded or integrated to promote learning in a variety of context.

Providing relevant and real-world project-based learning opportunities can **increase student interest** and shifts the responsibility for learning gains to the student as they work to acquire the knowledge to solve the problem. Strong interest results in **greater motivation** to struggle through difficult concepts and a **growth mindset**, as well as greater **retention of content** due to the connection of rigorous and relevant activities during learning. The connection to **real world problems, career exploration and technical skill building** prepares students for their future in the 21st Century workforce.

Curriculum is in PDF format and can easily be downloaded for use in the classroom. The curriculum complements the hands-on training and workshops offered each season as well as virtual webinar training for teachers, coaches, and students in California.
https://info.firstinspires.org/curriculum