

OVERVIEW

MORE THAN ROBOTS

ORGANIZATION OVERVIEW & FIRST® PROGRAMS

FIRST was founded by inventor and entrepreneur Dean Kamen in 1989 to equip America's youth with the skills and knowledge to succeed in a technology-concentrated world. The acronym FIRST stands for "For Inspiration and Recognition of Science and Technology." FIRST is More Than Robots and our programs prepare young people for the future through a suite of inclusive, team-based robotics programs for ages 4-18 (PreK-12). FIRST participants are guided by a signature set of Core Values to conduct research, fundraise, design, build, and showcase their achievements. Our thrilling, sports-like challenges build their self-confidence and collaborative problem-solving skills and have a proven and lasting impact on STEM learning and interest. By incorporating hands-on robotic projects with math, science, and engineering principles, we seek to inspire young people to further explore new and developing technologies and develop leadership and communication skills.

Founded in 2005, FIRST Nevada is a 501(c)(3) non-profit organization promoting *FIRST*[®] PreK-12 robotics programs and STEAM education initiatives in Nevada. Our mission is to inspire young people to become science and technology leaders, by engaging them in exciting mentor-based programs that build science, engineering and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.

In its State Strategic Plan for STEM, the Nevada STEM Advisory Council established priorities and goals to ensure that all of Nevada's students have access and opportunities to gain a high-quality STEM education. One of the key strategies recommended in the plan is to identify and fund evidence-based, high-quality formal and informal STEM practices and programs. To accomplish this strategy, the Governor's Office of Science, Innovation and Technology (OSIT) developed a Nevada-specific rubric to evaluate and identify high-quality STEM programs. Based on longitudinal studies and the proven impact of *FIRST* programs on its participants, the OSIT and the Nevada STEM Advisory Council added *FIRST* programs to this highly vetted list of recommended <u>STEM programs for our state.</u> Inclusion in the OSIT STEM list for Nevada shows the importance and impact of our programs for Nevada's youth.

To familiarize you with our programs, please click the video links below to see the excitement of our STEAM events and competitions with our Nevada teams, coaches, and mentors.









ROBOTICS

FTITION

Increased School Engagement by FIRST[®] Participants

FIRST[®] Alumni in

Alumni in a STEM

field career

professional

as a student or

STEM Careers



FIRST[®] LEGO[©] League



FIRST[®] Tech Challenge



FIRST[®] Robotics Competition

21st Century Work/Life Skills Gained by *FIRST*[®] Participants



STUDY SHOWS POSITIVE STUDENT IMPACT

FIRST robotics programs work! The lives of our students are changing for the better by participating in these engaging STEM programs with opportunities available for them to continue their education and enter the workforce via scholarships, internships, and workforce development programs.

Evidence from the ongoing <u>FIRST Longitudinal Study</u>, conducted via a multi-year partnership with Brandeis University, demonstrates that *FIRST* is meeting our mission and goals to increase the number of young people interested in STEM – and *FIRST* alumni's interest extends beyond their participation in the program to their educational and career choices.

- *FIRST* participants show significant gains in workforce skills such as teamwork, communication, and problem-solving.
- *FIRST* students are three times more likely to show an increase in STEM interest than comparison group students. Positive impacts are evident for all *FIRST* students regardless of race, gender, income, or community type.
- Compared to their peers, *FIRST* female alumni are more likely to take coursework in engineering (3.7x more) and computer science (5.3x more).
- Young women in *FIRST* have significant gains in all STEM areas including interest, career interest, activity, knowledge, and identity compared to their non-participating peers.
- *FIRST* female alumni are more likely to declare majors in engineering and computer science than their peers.
- 59% of *FIRST* female alumni are more likely to declare majors in engineering and computer science than their peers.

FIRST NEVADA IMPACT REPORT



[click above to view or download]

Fin years of evaluation data shows that with participation in FIRST,[®] team members are more interested in doing well in school, taking a more challenging math and science course, and more interested in going to college.



STANDARDS ALIGNMENT, MEETING EDUCATIONAL STANDARDS

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 Teachers Association
- ITEEA International Technology Engineering Education Association
- ISTE International Society for Technology in Education
- Partnership for 21st Century Learning
- CASEL Collaborative for Academic, Social and Emotional Learning

FIRST 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 be easily downloaded for use in the classroom. The curriculum complements the handson training and workshops offered each season as well as virtual webinar training for teachers, coaches, and students in Nevada. Read about our curriculum at <u>info.firstinspires.org/curriculum</u>.





OVERCOMING BARRIERS TO PARTICIPATE TODAY & BEYOND

Our overarching goal is to establish robotics teams in every school in Nevada, with additional funding crucial for expanding our reach and ensuring equitable access in the remaining school districts. This financial support will also aid in providing necessary training, expanding events, and competitions to benefit all teams. The availability of funding will enhance accessibility and resources, facilitating the establishment of a FIRST program in the remaining school districts across the state. This involves supplying essential tools, training, robotics equipment, and resources to support students, teachers, and schools in developing sustainable programs. Our broader focus is on fostering sustainability and growth throughout Nevada by inspiring the next generation of science and technology leaders. While additional funding will help expand our reach and ensure equitable access for students statewide, our primary commitment is to provide comprehensive support, training, and essential resources.

Our dedication goes beyond establishing robotics programs; it involves creating sustainable initiatives that provide students, teachers, and schools with the essential tools and training needed for the long-term success of a *FIRST* program statewide. Emphasizing the sustainability of our programs is crucial to ensuring accessibility for all students, aligning with our primary focus on making our programs accessible to all students in Nevada.

<u>FIRST is committed to Equity. Diversity, and Inclusion.</u> A vital part of our strategic intent is to serve an inclusive and diverse audience, reflecting the population of the communities we serve, and FIRST Nevada is committed to ensuring our programs reach all districts statewide regardless of demographic and access to resources. Funding support will help close the gaps in accessibility for our underserved students and ensure accessibility in all of our schools.

Ensuring all students have the opportunity to succeed into the future, *FIRST* offers a Scholarship Program with more than \$80 million in scholarship opportunities to *FIRST* alumni from 200 *FIRST* Scholarship Providers as well as internship opportunities for *FIRST* participants.

Exploring, developing and implementing strategies to become more inclusive and ensure access to our programs to all students (as well as access to key supports) is critical for *FIRST* to reach its goal and mission. All young people should have the opportunity to become science and technology leaders. *FIRST* will remove barriers to program participation for underserved, underrepresented students. Pursuant to that end, *FIRST* Equity, Diversity, & Inclusion is a concerted, organized effort to develop strategies to make its programs more accessible and inclusive.

INFORMATION

For more information about FIRST Nevada, including details about our programs, sponsorship and support options, as well as volunteer opportunities, please contact Angela Quick via email at aquick@firstnevada.org.





"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."

– Dean Kamen, FIRST Founder

MISSION

To inspire young people to be science and technology leaders and innovators, by engaging them in exciting mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self confidence, communication, and leadership.

IMPACT

FIRST participants cultivate self-confidence within STEAM, form meaningful friendships, and acquire practical, applicable skills that pave the way for a brighter future. *FIRST* programs have a track record of fostering students' enthusiasm for pursuing education and STEAM-related careers, as well as igniting their potential to emerge as leaders and innovators across diverse industries.



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FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY

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