



What is *FIRST*®?

Megan Clark

Program Coordinator, *FIRST*® in Texas

megan.clark@firstintexas.org

FIRST
LEGO®
LEAGUE JR.

FIRST
LEGO®
LEAGUE

FIRST
TECH
CHALLENGE

FIRST
ROBOTICS
COMPETITION

FIRST[®] is

- Changing lives and changing our culture

FIRST® is

Inspiring youth to become science & technology leaders & innovators,
by engaging them in exciting, experiential, Mentor and project-based programs
that teach science, technology, engineering, and math (STEM) skills, inspire
innovation, and foster well-rounded life capabilities.

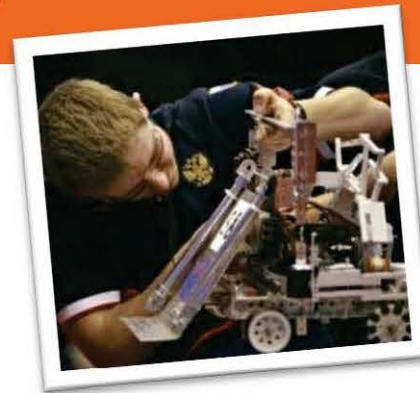
FIRST **LEGO** **LEAGUE JR.**



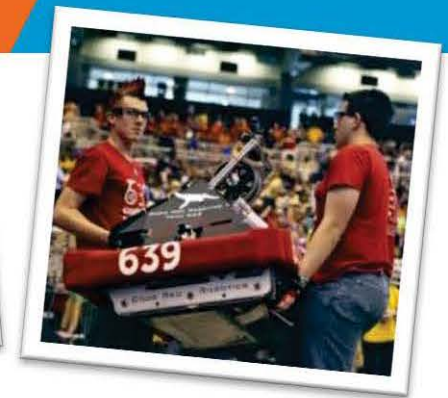
FIRST **LEGO** **LEAGUE**



FIRST **TECH** **CHALLENGE**



FIRST **ROBOTICS** **COMPETITION**



FIRST[®] At-a-Glance 2017-2018

515K+

Students on 59K teams

255K

Mentor, coach, judge & volunteer roles

19M

Volunteer hours

\$80M+

scholarship opportunities from nearly 200 providers

2,900+

official events in 83 countries

65K+

participants at annual *FIRST[®] Championship*



FIRST® Tech Challenge

- **Teams**

- Up to 15 members, 7-12 grade
- 2+ adult mentors
- Multiple teams per school/group

- **Robot**

- 18" x 18", max weight 42 lbs
- Multiple kit options available
 - other materials as desired

- **Season**

- Kickoff: September 8th 2018
- Open build season
- Competitions: October - April



FIRST® Robotics Competition

- **Teams**
 - 10+ members, 9-12 grade
 - 2+ adult coaches/mentors
 - 1 team per school/group
- **Robot**
 - Industrial-sized (150lbs)
 - Standard kit of parts
 - other materials as desired
- **Season**
 - Kickoff: January 5th 2019
 - 6 week build season
 - Competitions: March-April



FIRST® Challenges & Skills

Technical

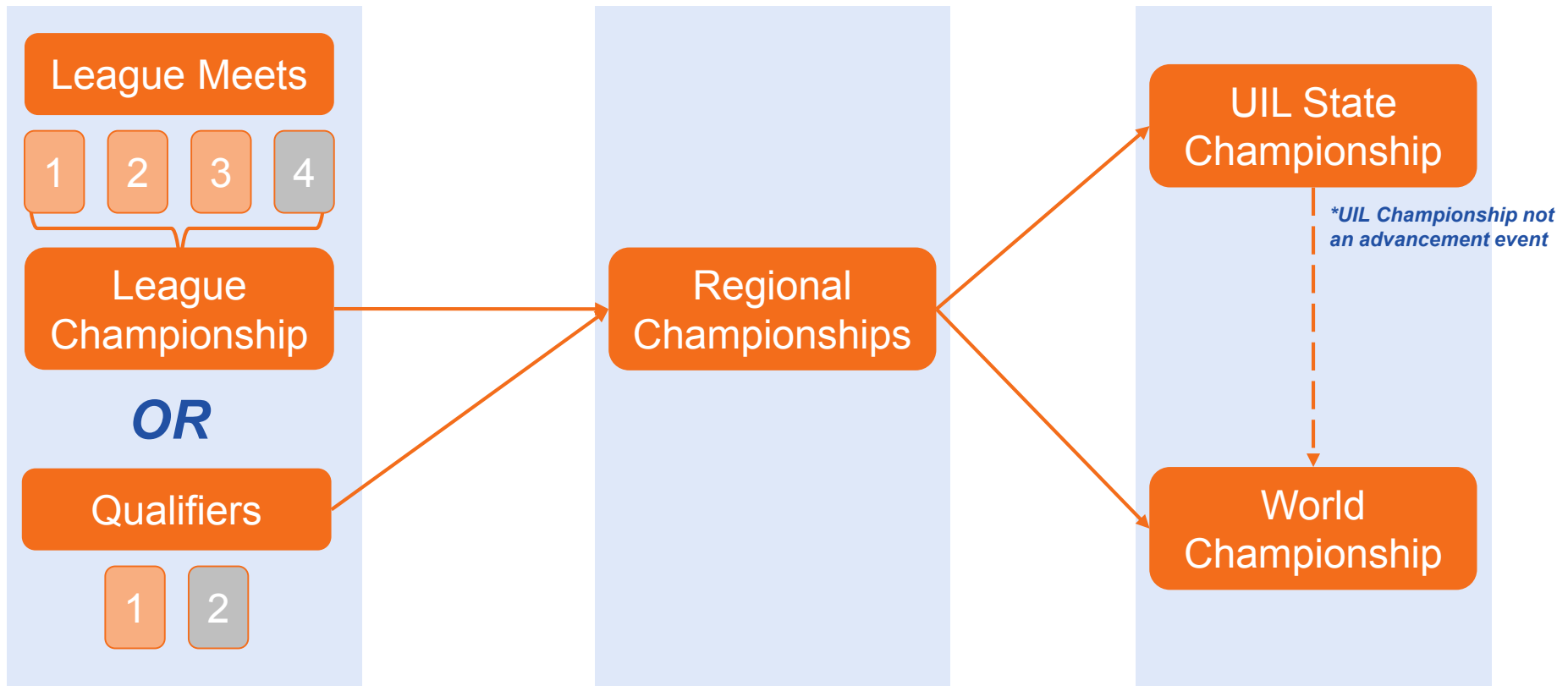
- Mechanical Design
- CAD
- Programming
- Electronics & Wiring
- Pneumatics
- Machining & Manufacturing
- Iteration
- Physics & Math
- Engineering Notebook

Non-Technical

- Outreach
- Fundraising
- Business Plan
- Marketing & Branding
- Presentations/Public Speaking
- Team Spirit
- Website
- Writing (Awards)
- Scouting & Strategy

FIRST® : Competitions

FIRST® Tech Challenge



FIRST® : Competitions

FIRST® Robotics Competition



FIRST® & UIL: Competitions

- Any/all teams must compete in ***FIRST***® regular season competitions regardless of their composition (homeschool, scouts, grade levels, etc.)

FIRST[®] & UIL: Eligibility

- ***To be UIL eligible:***
 - All members must be full time students at a UIL eligible school
 - Meet all Texas laws and school district policies
 - Majority of the team must be high school students
 - No UIL school size tier system
 - 8 hour rule? That's a state law!

FIRST[®] Rookie Costs

FIRST[®] Tech Challenge

- Rookie Team: **\$1,500 - \$2,000**
 - Registration: **\$275**
 - Kit & Electronics:
\$725 - \$1,000
 - Local Event Registration:
\$250-\$400

FIRST[®] Robotics Competition

- Rookie Team: **\$10,000 - \$25,000**
 - Registration: **\$5,000**
 - Includes Standard Kit of Parts & Registration for 2 District Events

Additional costs in Rookie Total:

- Materials, tools, travel, food, team shirts and other optional items will vary
- Registration fees for state & world championship events

FIRST® in Texas Funding: Grants

Texas Workforce Commission:

- Eligibility requirements: All students must be between 9th – 12th grades and must be living in the state of Texas

FIRST® **Robotics Competition:** Up to \$5,000 Rookie Grant

FIRST® **Tech Challenge:** Up to \$1,525 Rookie Grant

Other grants available through **FIRST**® in Texas and **FIRST**® from Dell, NASA, Rackspace, 3M, National Instruments, Qualcomm, etc.

FIRST® in Texas: Grant Application

- One application for all **FIRST**® in Texas grants
- Opens mid-August
 - <http://firstintexas.org/grants/apply/>
- **For new teams:** register with *FIRST* first!
- Apply when you receive your temporary (or permanent once you pay) team number

FIRST® in Texas: Grant Application

Data that team coaches will need to complete the application:

- Team Number & Program (each team must apply separately)
- Two (2) Contacts (email & phone)
- School(s)/ISD(s) or Organization
- Rookie season
- Highest & lowest student grade levels
- Team demographics (including race/ethnicity, gender, & socio-economic level)
- Adult volunteers & mentors information

If teams receive a grant award:

- Team Shipping & Billing Address
- W-9 w/ tax ID (EIN)
- Team Roster on School Letterhead

FIRST® in Texas: Grant Application

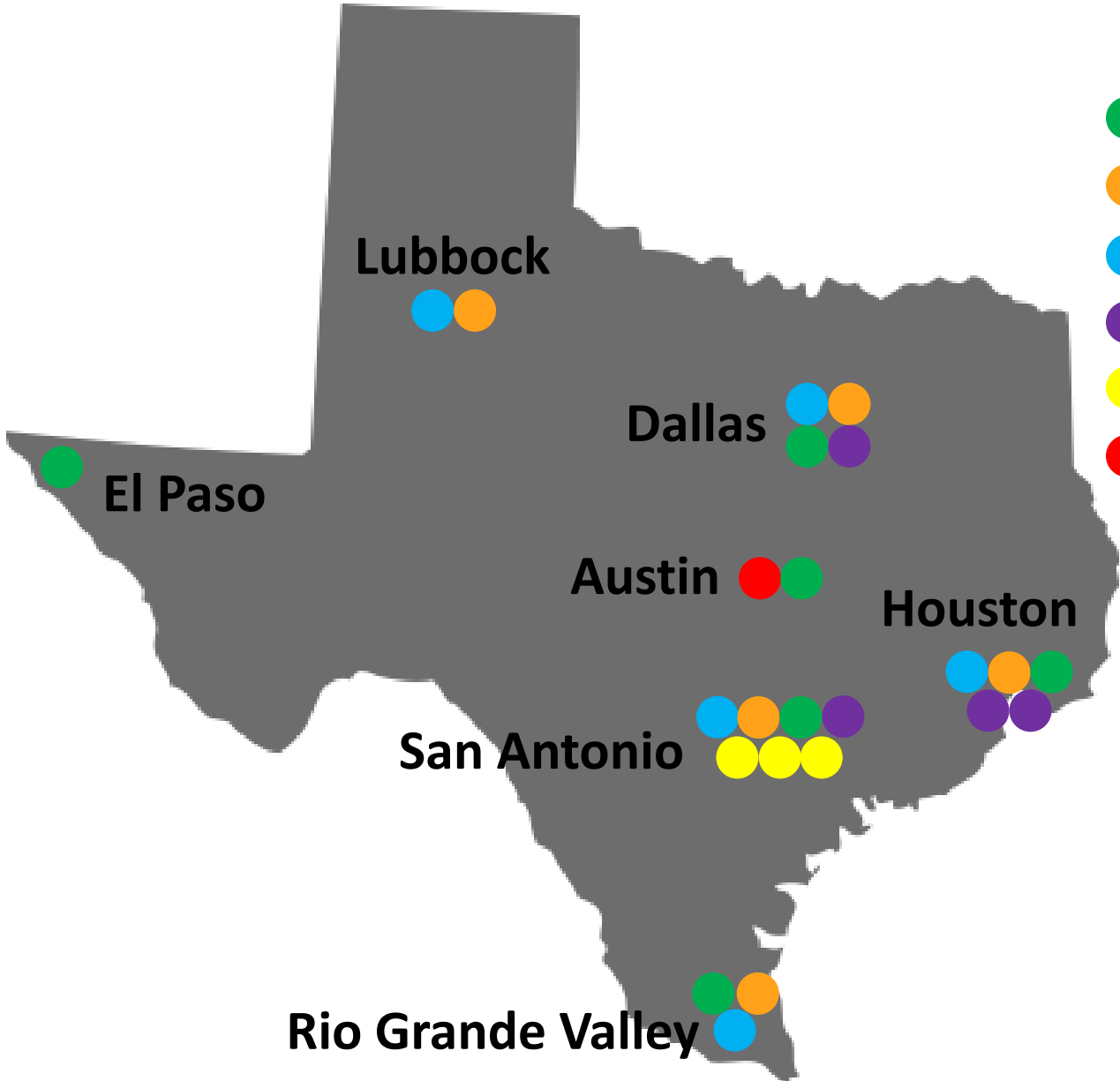
FIRST® ***in Texas Mission:***

Increase STEM accessibility for low-income and underrepresented students

- Applications will be scored more highly when teams include larger numbers of:
 - Females
 - Students eligible for reduced price or free lunch
 - Students from Title I schools
 - Under-served minority students

FIRST[®] in Texas: Resources

- ***Workshops***
 - Sustainability & Fundraising
 - Social Media & Marketing
 - Student Diversity Recruitment
- ***Mentor Match System***
 - <http://firstintexas.org/resources/mentors/>
- ***Other Resource Links***
 - <http://firstintexas.org/resources/>



Organizers:

- FLL/FLLJr. Partners: **6**
- FTC Partners: **5**
- Regional Directors: **5**
- Senior Mentors: **4**
- VISTAS: **3**
- *FIRST* in Texas

Teams (2017-18):

- FLLJr.: **378**
- FLL: **1,481**
- FTC: **659**
- FRC: **162**



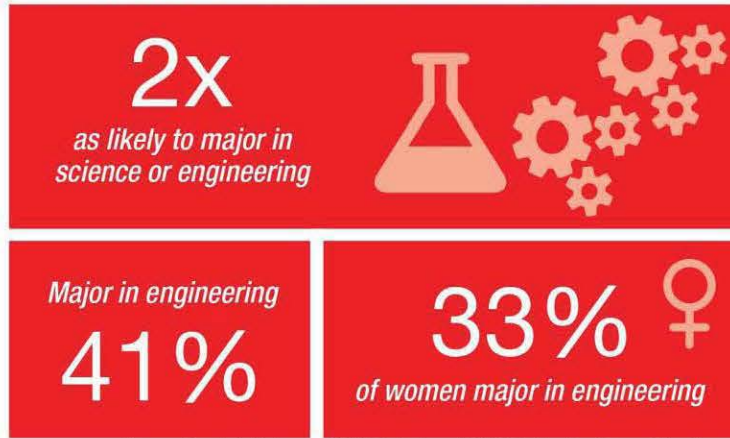
FIRST® Impact: More than Robots

- ***STEM Awareness, Skills and Intent***
 - Increase the number of youth who pursue post-secondary education and careers in STEM-related fields and industries
- ***Innovation and Entrepreneurship***
 - Inspire youth to become leaders and innovators in their field and society
- ***21st Century Work-Life Skills***
 - Enable youth to develop valuable, real-world skills applicable to all career choices and outcomes
 - Ethos of Gracious Professionalism® and Coopertition®

FIRST® IMPACT

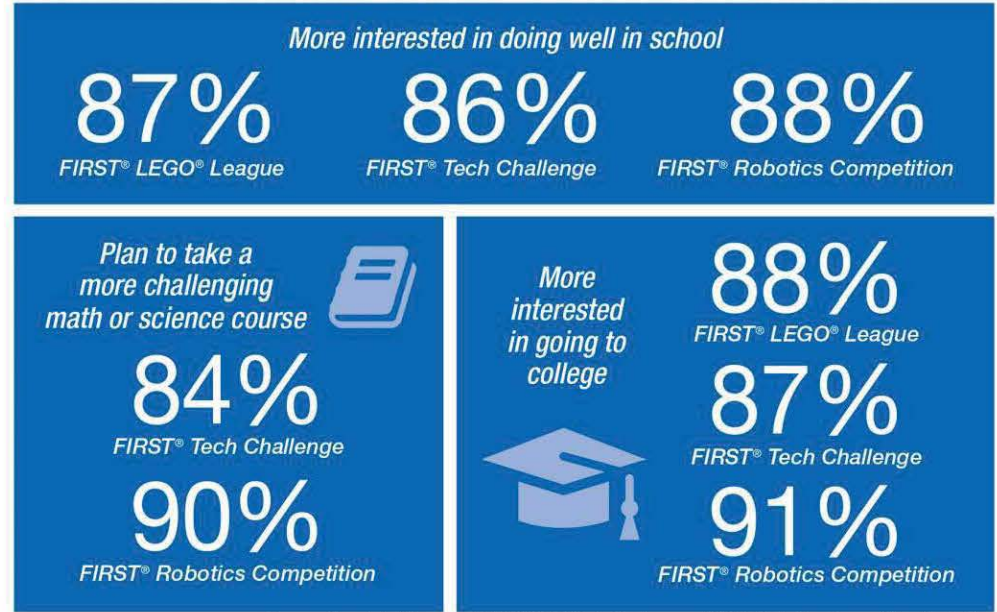
10 years of evaluation data indicates that with participation in **FIRST**,® team members are:

STEM MAJOR CITED BY FIRST PARTICIPANTS



Source: Brandeis University, 2005 Evaluation of FIRST® Robotics Competition Alumni

SCHOOL ENGAGEMENT INCREASES FOR FIRST PARTICIPANTS



Source: Brandeis University, 2011 FIRST® Tech Challenge – FIRST® Robotics Competition Evaluation and 2013 FIRST® LEGO® League Evaluation

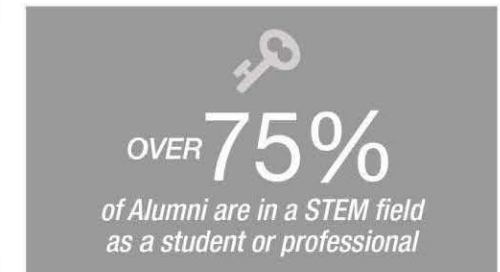
21ST CENTURY WORK-LIFE SKILLS GAINED BY FIRST PARTICIPANTS



REV 1/17

Source: Brandeis University, 2011 FIRST® Tech Challenge – FIRST® Robotics Competition Evaluation and 2013 FIRST® LEGO® League Evaluation

FIRST ALUMNI IN STEM CAREERS



Source: FIRST, 2015 FIRST Alumni Survey



FIRST® Scholarship Program

Providing over \$80 million of scholarship opportunities from nearly 200 providers



Florida Tech



Rensselaer
why not change the world?®



Michigan Tech



Northeastern

Olin College



UNIVERSITY of
ROCHESTER Kettering
UNIVERSITY

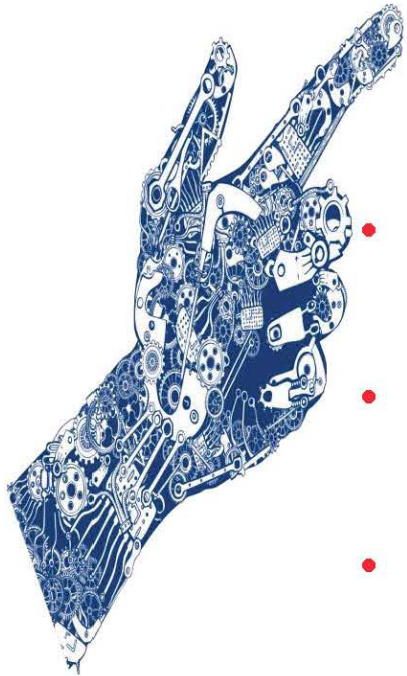


WPI Yale



FIRST® Alumni are in demand:

- ~ **10%** of the 2016 incoming Freshman class at **Massachusetts Institute of Technology (MIT)**
- **10%** of the 2016 incoming Freshman class at **Milwaukee School of Engineering (MSOE)**
- **14%** of the 2016 incoming Freshman class at **Worcester Polytechnic Institute (WPI)**
- **36%** of the 2016 incoming Freshman class at **Olin College of Engineering**
- **21%** of the 2015 incoming Freshman class at **Kettering University**
- **30%** of the 2015 incoming Freshman class at **Capitol Technology Institute**



FIRST® UIL Robotics Events

- UIL Robotics State Championship – **FIRST**® Division
 - When: April 4th – 6th 2019
 - Where: Palmer Events Center, Austin TX
 - More Info: www.firstintexas.org/uil
- Additional **FIRST**® events during fall & spring throughout Texas
 - April 2019: World Championship in Houston!
 - Visit www.firstintexas.org/events

Start a **FIRST**® Team

- Visit the **FIRST**® in Texas Website:
 - www.firstintexas.org/resources
- Visit the **FIRST**® Website:
 - www.firstinspires.org
- Email **FIRST**® in Texas:
 - info@firstintexas.org

FIRST[®] is #morethanrobots

- This isn't a Robot