

MARS Equity Action Plan

Executive Summary

MARS Team 2614 was established in 2008 by five student members of a champion FIRST LEGO® League team to continue the exploration of Science, Technology, Engineering, and Mathematics (STEM) education. MARS participates in robotics competitions under the umbrella organization, For Inspiration and Recognition of Science and Technology (FIRST), founded in 1989 to inspire young minds to participate in science and technology, while building both professional and life skills, promoting self-confidence, and increasing knowledge. FIRST provides programs for youth in grades K–12. MARS competes in the FIRST Robotics Competition (FRC), serving students in grades 8–12 and between the ages of 14–18. In addition, MARS sponsors and mentors teams in other FIRST programs: FIRST Tech Challenge (FTC), grades 7–12; FIRST LEGO League Challenge (FLL-C), grades 4–8; and FIRST LEGO League Explore (FLL-E) grades 2-4.

The MARS program consists of youth from North-Central West Virginia who dedicate themselves to a rapidly expanding, statewide robotics network. Through close partnerships with West Virginia University, NASA's Katherine B. Johnson Independent Verification and Validation (IV&V) Facility, 4-H, Scouts of America, United Way, local school systems, and numerous corporate sponsors, MARS provides engaging educational opportunities and services to youth throughout the state. Since its inception, MARS members have received many accolades, winning a variety of awards and earning berths to the FIRST Championship for fourteen out of fifteen years. In 2017, MARS won the FIRST Championship Chairman's Award, entering the FIRST Hall of Fame and securing a place at the FIRST Championship until 2027. Using robotics as a foundation, MARS encourages West Virginia students to pursue post-secondary education. Maintaining this mission is important because as of 2018, 52.6% of West Virginia high school graduates enrolled in higher education institutions according to a report from the West Virginia Higher Education Policy Commission. The team is extremely proud that 100% of MARS graduates have graduated high school and pursued post-secondary education, many with a full or partial scholarship.

Summary of Action Plan

The successful implementation of this Equity Action Plan is a top priority for MARS. Continuing steps and activities include: serving youth in rural and underserved areas in West Virginia, creating a safe and welcoming environment for LGBTQ+ students, using the Hybrid Model to increase the safety and accessibility of our STEMcrafts for demographics that may typically be left out, and providing menstrual products at all MARS facilities and events to promote menstrual equity.

MARS recognizes the vulnerabilities associated with trying to remove barriers for underserved communities without strong engagement activities. MARS prioritizes this issue by using a hybrid (both physical and digital) approach to community outreach and the development of technical programs designed to instill superior practical life skills in students. MARS will also take an engaged stance on maintaining menstrual equity, providing more STEM access to youth with disabilities, and LGBTQ+ inclusivity by establishing a diversity committee.

Summary of Early Accomplishments

Since its founding in 2008, MARS has initiated outreach programs to introduce youth in rural and underserved areas to STEM. Among these outreach initiatives are being invited to and attending school STEM nights, working alongside other community organizations such as local Girl Scout and Scout BSA troops, attending and having booths at local fairs and parades, and our system of Hybrid Outreach with STEMcrafts. MARS has also previously worked with the deaf and blind schools and hopes to continue working with them along with similar organizations in the future. Hybrid Outreach was introduced in 2021 and has included sending STEMcraft kits to schools with instructions on their construction alongside step-by-step videos walking through how to build each STEMcraft. These videos also explain the technical concepts behind each STEMcraft. MARS also allows participants to drive past robots at outreach events in safe, controlled environments to create excitement around STEM in a hands-on manner.

MARS has also worked to create a safe, welcoming environment for LGBTQ+ students. As a team based in West Virginia, this has become incredibly important as the state features the highest per capita rate of transgender youth in the United States, but is often ranked as one of the most hostile towards LGBTQ+ individuals. To protect their privacy, MARS does not release data based on the gender of students on the team. MARS does this to highlight the

unimportance of gender, especially for those that may not simply fall under “male” or “female” labels. The team application also includes a section for students to include what pronouns they use. In the 2022-2023 season, every MARS student and mentor has received Safe Zone Training from the WVU LGBTQ+ Center on how to be an active ally and use inclusive language. MARS hosts WVRoX, a biennial off-season robotics competition, and ensured the event location included gender-neutral restrooms. MARS also includes its inclusivity statement on the MARS website: “MARS welcomes all people without regard to race, ethnicity, religion, national origin, sex, gender identity, sexual orientation, ancestry, abilities, economic or family status, life situation, veteran status, or philosophy. MARS strives to be an inclusive environment for all individuals by advocating for and providing equal treatment to all.”

Equity Action Plan

Focus Area #1 – Efforts to Serve Rural and Underserved Communities in West Virginia

Barrier to Equitable Outcome(s)

Youths living in rural or underserved communities face digital and economic barriers and lack opportunities to pursue STEM.

Action and Intended Impact on Barrier

In the past year, MARS has focused outreach events in Preston county, and half of our events have serviced people living in Preston county. To further our STEM outreach in West Virginia, we are expanding this focus to include Wetzel, Marion, Harrison, and Taylor counties. MARS will continue utilizing and modifying our Hybrid Model of Outreach in order to make STEM more accessible for all. This will include creating free digital editions of our storybooks that will be available on the MARS website. Past storybooks have worked to introduce kids to STEM concepts, but the latest addition targets FLL-E-age students and introduces FIRST Core Values, along with the cooperative spirit behind MARS’s Tucker Teams Help Desk.

MARS is becoming involved in the creation of an FRC Appalachian Alliance of Outreach with Dark Side Robotics, PARTs, Girls of Steel, GACO, and other Appalachian FRC teams. For this purpose, “Appalachian” will include teams in Pennsylvania, West Virginia, western Maryland, western Virginia, western

North Carolina, eastern Kentucky, eastern Tennessee, northern South Carolina, northern Georgia, and northern Alabama. The Appalachian Alliance of Outreach (AAO) will host monthly conferences so teams across Appalachia may share outreach methods, ideas, and reach a greater goal of spreading STEM outreach throughout the region. The demographics these teams do STEM outreach with are very similar, and outreach techniques from other Appalachian teams may translate better than those used by a team in New York or California.

MARS is initiating an FLL website for those in West Virginia. The website is in collaboration with Dark Side Robotics and PARTs, and would be a hub of information for parents, coaches, and students. It would include an FLL virtual help desk, information for students to find FLL teams in their area, contacts for the FRC teams in West Virginia, coaching resources, and a calendar of FLL events in the state. The website eliminates the longstanding issue of these resources not being available when people search for FLL in West Virginia. As an extension of this collaboration, MARS intends to work with Dark Side Robotics and PARTs in targeting more STEM outreach in Southern West Virginia and starting more FLL teams in the region. For rookie FRC teams, MARS has created an FRC Skills video series that we will begin publishing on the MARS youtube in 2023.

Tracking Progress

Short Term Success

Short term success for outreach includes tracking the number of outreach events held both digitally and physically, the number of STEMcraft kits distributed, starting new FIRST LEGO League teams, and publishing the FRC How To skill videos on the MARS YouTube channel. Short term success in this situation is defined as what MARS accomplishes during one calendar year.

Long Term Success

In this situation, long term success is defined as projects and goals MARS accomplishes that expand beyond a year and making the best, most strategic decisions to expand access to STEM education in West Virginia. Long term success for outreach includes monitoring not only the number of new FIRST LEGO League teams MARS has started but the number of teams being maintained. It also includes the creation of the FLL Help Website and the FIRST Appalachian Alliance of Outreach — a collaboration of FRC teams in Appalachia, working to spread STEM education throughout the region.

Accountability

The Outreach & Public Relations Subteam will continue leading efforts in STEM outreach (though all MARS students participate in outreach initiatives) by using the Hybrid Model of outreach and expanding the number of schools, libraries, and youth organizations with whom they work. Outreach & Public Relations will also utilize the MARS Outreach Data Capture Sheet to compare data from previous years and the current year on the number of youth receiving STEM education and the area in which outreach efforts have expanded.

Focus Area #2 – Creating a Safe and Welcoming Environment for LGBTQ+ Students

Barrier to Equitable Outcome(s)

West Virginia has the highest per capita rate of transgender youth, yet the state is one of the most hostile toward LGBTQ+ individuals. LGBTQ+ youth in the state can face many economic and social barriers. MARS aims to create an equitable and inclusive environment for all of its students and mentors.

Action and Intended Impact on Barrier

To make MARS a more inclusive space for LGBTQ+ students and mentors, we will continue providing Safe Zone Training with the WVU LGBTQ+ Center every three years. This will ensure that as students cycle through the team, they will receive training and mentors will be mindful of inclusive language as it is apt to change over time.

MARS is also working towards eliminating microaggressions — indirect, subtle, or unintentional discrimination against members of a marginalized group — and initiating a no-tolerance policy. Educating students and mentors on actions they may not be aware are microaggressions aids in eliminating the problem. If a team member is using discriminatory language, a team mentor or the Diversity Committee will intervene and discuss the issue with the offending party. These incidents are treated on a case-by-case basis. If the incident continues to escalate, the issue will be handed over to the Board of Directors. These issues can be reported through an anonymous reporting form created by the Diversity Committee.

MARS is also committed to adding students' and mentors' pronouns to the name tags worn by team members at WVRoX and competitions. MARS members are strongly encouraged to include their pronouns in any official emails when signing off. When introducing themselves, MARS members are strongly encouraged to include their pronouns. Ensuring that everyone asks and shares their pronouns whether they are cisgender or transgender creates a more welcoming environment for team members to express themselves.

Tracking Progress

Tracking progress with LGBTQ+ inclusivity efforts includes counting the number of Safe Zone Trainings, the number of MARS team members who attend the Safe Zone Trainings, and making new buttons that include student's and mentor's pronouns. MARS is adding a section to our Student Travel Handbook addressing LGBTQ+ concerns when traveling, particularly those of transgender students. This will emphasize binding safety for trans masculine and nonbinary team members, who may feel inclined to wear chest binders for extended periods of time and overnight in order to eliminate feelings of gender dysphoria (binding for extended periods of time can have serious health repercussions and cause permanent rib damage).

Accountability

MARS will guarantee that these actions are implemented through the creation of a Diversity Committee. This committee will feature one mentor and four students, one from each subteam, along with three additional student representatives from any subteam. Students will apply for a position on the diversity committee when the general election for MARS officers takes place. The student leadership council will then decide on committee members. The student leadership council will also appoint one student as the Diversity Committee Lead. Including a mentor will allow them to hold other mentors accountable. The diversity committee will not only focus on LGBTQ+ concerns, but those of other minorities as well in order to make MARS an inclusive space for all.

Focus Area #3 – Using the Hybrid Model to Increase the Safety and Accessibility of STEM for Those with Disabilities

Barrier to Equitable Outcome(s)

Youth with disabilities and motor issues are often left out when it comes to opportunities to be introduced to STEM.

Action and Intended Impact on Barrier

MARS aims to introduce more youth with disabilities and motor issues to STEM. We will work with Therapy Services by providing them with STEMcraft kits. We also plan to move further in hosting outreach events for the youth Therapy Services works with.

In the past, MARS has worked with the deaf and blind school in establishing several FIRST LEGO League Challenge teams. While MARS has not worked with the deaf and blind school since 2017, we hope to reestablish this connection and the FLL-C teams operating through the school.

MARS also hopes to collaborate with the West Virginia Division of Rehabilitation Services (DRS) — a state agency that serves West Virginians of all ages with disabilities. The DRS works closely with disabled students to provide them with opportunities for possible careers, piquing students' interests in those careers, and preparing them for those careers. MARS would provide STEMcraft kits through the DRS, which has more than 30 offices throughout West Virginia. The Second District of their offices includes Monongalia and the surrounding counties where MARS is primarily based.

Those with disabilities or motor issues are often overlooked and do not receive the same opportunities as those that are non-disabled. MARS intends to show all youth how fun STEM can be, helping ignite new passions and showing that everyone can have a future in STEM.

Tracking Progress

Tracking progress for increasing STEM outreach to youth with disabilities or motor issues will include counting the number of outreach events done with Therapy Services using the Hybrid Model. MARS is also contacting the deaf and blind school and the West Virginia Division of Rehabilitation Services to establish connections to work with more disabled youth. If successful in this endeavor, the number of outreach events, and potentially the number of FLL-C teams formed, will be tracked.

Accountability

The implementation of a diversity committee will not only handle LGBTQ+ inclusivity efforts but ensure that those with disabilities are accommodated,

receive equal opportunities, and that inclusive language is being used. MARS is also looking into solutions to make our facilities more accessible for those with disabilities.

Focus Area #4 - Menstrual Equity

Barrier to Equitable Outcome(s)

Students have little to no easy access to free menstrual products during competitions and practices.

Action and Intended Impact on Barrier

For the 2023 FIRST FRC competition season, MARS has become FIRST Menstrual Equity Ambassadors. This program was started by another FRC team — Space Cookies Team 1868 — to provide menstrual products in both men's and women's restrooms (as well as gender-neutral restrooms, if they are provided) at the competition arena. In the 2023 season, MARS is providing menstrual products at the Miami Valley Regional and the Smoky Mountains Regional.

MARS is committed to providing menstrual products at both of its meeting locations. This will include contacting and working with West Virginia University to provide menstrual products in both their men's and women's restrooms. MARS will also start working with Morgantown High School's Student Health & Safety Club, which is partnered with Planned Parenthood, to supply menstrual products. Providing team members with safe menstrual products will allow them to feel more comfortable while attending practices and events.

Tracking Progress

MARS will track the number of menstrual products that it is purchasing, how often we are restocking them, and where we are restocking them. This will aid in budget planning for menstrual products as well as knowing where we need to focus on restocking items.

Accountability

The MARS diversity committee will designate one of its members to manage the stocking and distribution of menstrual products and maintain relationships with organizations such as the Student Health & Safety Club. MARS will also

host a Menstrual Equity training with Planned Parenthood for all of its team members to attend.