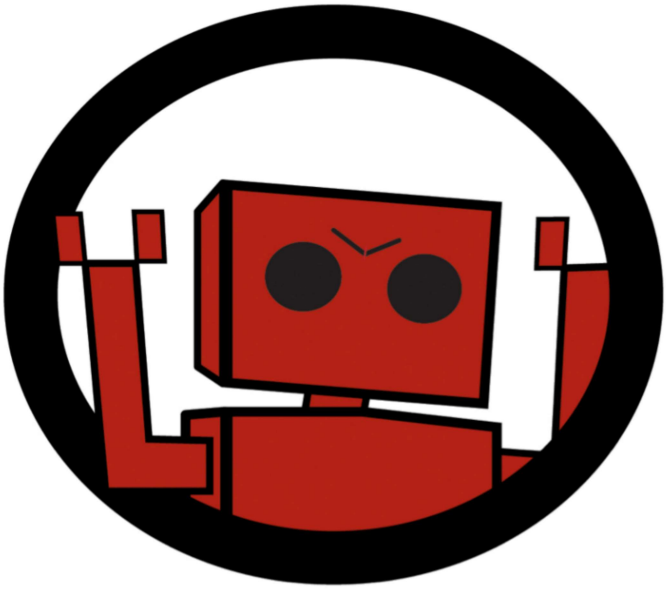
Mountaineer Area RoboticS

MARS 2614



Equity Action Plan

2023-2024

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 (WVU), NASA's Katherine B. Johnson Independent Verification and Validation (IV&V) Facility, 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, now the Impact 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 2022, 46.4% 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 97% pursued post-secondary education, many with a full or partial scholarship.

Summary of Action Plan

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 in West Virginia, and promoting inclusivity for individuals that are LGBTQ+, neurodiverse, and originating from different cultural/ethnic/religious backgrounds by maintaining 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 Boy Scouts of America 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 School for the Deaf and Blind 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. 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 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.”

In collaboration with the West Virginia University Department of Native American Studies, MARS has published an Indigenous Land Acknowledgement Statement on the MARS Website alongside the inclusivity statement: "MARS, and the presence of the buildings it uses, resides on land that is the ancestral territory of the Massawomeck peoples. With the statewide STEM outreach MARS provides, this includes the ancestral territories of the Shawnee, Lenape (or Delaware), Cherokee, and Haudenosaunee (or Iroquois--the Seneca, Cayuga, Onondaga, Oneida, Mohawk, Tuscarora), and other Indigenous peoples.

We recognize and appreciate all those Indigenous nations whose territories we are living on and working in. Indigenous peoples have been in the land currently known as West Virginia since time immemorial. It is important that we understand both the context that has brought our community to reside on this land and our place within this long history. We also recognize that colonialism is a current, ongoing process, and as scholars seeking truth and understanding, we need to be mindful of our present participation in this process."

Diversity Committee

The Diversity Committee works to make MARS an inclusive space for all. The committee has six seated members — a designated Diversity Committee Mentor, a Diversity Committee Lead appointed by the Student Leadership Council, and one student from each subteam appointed by their respective Subteam Lead. Including a specified Diversity Mentor will allow them to hold other mentors accountable. The Diversity Committee Lead is welcome at Student Leadership Council meetings, providing insight on team issues and present at the annual SWOT Analysis. Diversity Committee meetings are open for all MARS team members to attend, allowing for equal opportunity to speak and provide multiple perspectives on team issues.

The Equity Action Plan (EAP) is updated yearly and reviewed by the Diversity Committee at large. Then, the EAP is reviewed by the Student Leadership Council. Finally, the EAP is submitted to the MARS Board of Directors for approval. The Diversity Committee primarily

schedules meetings and trainings prior to Build Season to allow team members to focus without the excitement of robot deadlines. The Diversity Committee is responsible for coordinating trainings with outside organizations and organizing accessible resources to be made available to team members. Issues students are facing concerning unfair or discriminatory treatment can be reported through an anonymous reporting form created by the Diversity Committee.

FIRST offers Equity, Diversity & Inclusion Youth Training in their resource library. The team will be encouraged to complete this training before competition season.

Equity Action Plan

Focus Area #1 – Encouraging greater understanding of neurodiversity in our members and community

Barrier to Equitable Outcome(s)

Youth in the neurodiverse community are often misunderstood by neurotypicals. Neurodiverse members may face negative comments and additional difficulty handling the stress of Build Season.

Action and Intended Impact on Barrier

MARS will provide a list of local and national help-lines for members to use. While members are encouraged to discuss difficulties with mentors, sometimes distance is beneficial. The list of help-lines includes the National Suicide Prevention Lifeline, National Child Abuse Hotline, Emergency Shelter/Homeless Hotline, the LGBTQ Youth Suicide Hotline, etc.

The team will reach out to Carruth Center on the WVU campus to pursue mental health training for students and staff. The Carruth Center provides multiple presentations on topics such as stress management, self care, and imposter syndrome. These training sessions will be implemented as a part of MARS' Build Season Prep, ensuring the team has a strong start not only technically but mentally as well.

Competitions may be overwhelming or overstimulating to neurodiverse and neurotypical members alike. MARS has ear plugs available for members and to give away. The team will also have some noise-canceling headphones for member use as well. Whenever quiet rooms are available, the team will encourage their use, as long as a mentor is informed of the team members destination. For the team's own off season event, West Virginia Robotics Extreme (WVRoX), MARS will ensure quiet rooms are available and clearly labeled on event center maps. Where quiet rooms are not available, a mentor will be available to step outside of the area with the knowledge of at least one other team mentor.

MARS will provide stimming/fidget items at competition for team members and as handouts. Stim toys are beneficial for neurotypical and neurodiverse individuals, providing a beneficial redirection of stress and increasing focus on the task at hand.

Tracking Progress

The team will track the number of ear plugs and stim toys distributed. The team plans on hosting at least one of the WVU Carruth Center trainings prior to build season every year. The team will also add a help-line poster in the main hallway, ensuring accessibility and discretion in a common area available to the entire team.

Accountability

The Diversity Committee is responsible for coordinating trainings (possibly with the Carruth Center), the creation of the help-line poster, and the purchasing of stim toys along with noise canceling headphones/ear plugs. Students that make negative comments concerning another member's neurodiversity will be pulled aside by the Diversity Committee Mentor and educated on why these comments are harmful. If these negative comments continue or escalate, the issue will fall to the team's Board of Directors for further disciplinary action.

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, the team 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.

MARS is also committed to adding students' and mentors' pronouns to the name tags worn by team members at WVRoX and competitions. Team members are allowed to opt out of including pronouns on their name tags — this prevents unintentionally outing members. 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. Encouraging everyone to ask and share 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 has a section in our Student Travel Handbook addressing LGBTQ+ concerns when traveling, particularly those of transgender students. This will emphasize binding and tucking safety for trans masculine, trans feminine, and nonbinary team members, who may feel inclined to wear chest binders or

tucking underwear for extended periods of time and overnight in order to eliminate feelings of gender dysphoria, which can have serious health repercussions and cause permanent damage.

Accountability

If a team member is using discriminatory language, the Diversity Committee Mentor 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.

Focus Area #3 – Religious and Cultural Differences

Barrier to Equitable Outcome(s)

Team members from different cultural, ethnic, or religious backgrounds may face discrimination or feel excluded from team activities

Action and Intended Impact on Barrier

MARS welcomes team members to introduce aspects of their culture during open Diversity Committee meetings. This may include explaining religious traditions and holidays which will allow team members to be more sensitive to important days that are not recognized by the federal government. We welcome learning about dietary differences due to religion or cultural background. This will help the team at large during build season as we come together to feed each other for team lunches and dinners.

WVU has a number of cultural and religious clubs that work to educate the Morgantown area on practices, traditions, etc. MARS plans on reaching out to these clubs to present at open Diversity Committee meetings to educate team members. While MARS welcomes students to educate their fellow team members on their cultural or ethnic background, the team finds it important that this is a choice and that students do not feel pressured or burdened to provide resources and educate others.

Tracking Progress

MARS will set up a calendar to recognize different holidays celebrated on our team. The team will track the number of presentations (those presented by WVU cultural/religious clubs and MARS team members) and attendance.

Accountability

If a team member is using discriminatory language, the Diversity Committee Mentor will intervene and discuss the issue with the offending party. If the incident continues to escalate, the issue will be handed over to the Board of Directors.

Focus Area #4 – 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

Since 2021, MARS has focused outreach events in Preston county, and half of the teams' events have serviced people living in Preston county. To further STEM outreach in West Virginia, MARS is 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 includes having free digital editions of MARS storybooks available on the teams' 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 will 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 in this situation is defined as what MARS accomplishes during one calendar year. 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.

Long Term Success

In this situation, long term success is defined as projects and goals MARS accomplishes that expand beyond a year and make 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 #5 - Menstrual Equity

Barrier to Equitable Outcome(s)

Students have little to no easy access to free menstrual products during competitions and practices. Lack of supplies leads to time and energy expended not on the robotics event. Alleviating the cost of period products helps equalize the economic barrier for some people as well.

Action and Intended Impact on Barrier

For the 2024 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 present) at the competition arena. In the 2024 season, MARS is providing menstrual products at the Greater Pittsburgh Regional and the Miami Valley 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 a variety of safe menstrual

products suitable for different flow levels 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. 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 hosted a Menstrual Equity Training with Planned Parenthood for the diversity committee earlier in 2023. MARS will continue to host a Menstrual Equity training with Planned Parenthood for all of its team members to attend after every competition season.