



Student Handbook

Section 1: Team Culture

- “GIVE 110%” - This phrase is the keystone of the 1018 culture. You will hear it repeated in meetings, speeches, and on documents. The phrase means that we do not let “good enough” get in the way of EXCELLENCE. Our goal is to be always improving and innovating, by helping each other and learning together. Together, we will always make WORLD CHAMPION caliber work.
- The Pike RoboDevils historically have been very helpful and supportive to other teams at events as well as in the off-season. Winning the Gracious Professional Award at events is a common goal for the team and we have accomplished it many times, taking advantage of our helpful students and interteam connections. We make a difference in the FIRST community by helping other teams using our experiences and skills, as well as helping teams find help from others who have skills we do not have.
- Professionalism - Our team works hard in so many different environments- in schools, in sports stadiums, in hotels, and in the classroom. Wherever you go, the people around us watch and listen to how we act and what we say. Team members should be cognizant of the way others perceive us. “Know the Difference between you don’t know who hears you and when you know who hears you” Team 1018 has a special dynamic. We are known as “Hype”, competitive and loud; we are never rude to anyone, overly friendly to the people we meet, and most of all we are approachable and easy to talk to.
- Everywhere the team goes, we are representing our school, family, sponsors, community, state, and in some cases we are representing our country as a whole. We should always strive to present ourselves in a way that would make other FIRST teams look to us and use us as an example for what EXCELLENCE is.
- Every year our team goal is to be WORLD CHAMPIONS and it takes a lot of hard work. The way we put our best foot forward to do that is to use our “Three H’s” (head, heart and hands.) the head reminds you of your goal, the heart is where your passion/fire lies and finally our hands make things happen.

Section 3: What is FIRST Robotics

F.I.R.S.T. Stands for For Inspiration and Recognition of Science and Technology. As described on www.firstinspires.org

“Combining the excitement of sport with the rigors of science and technology.” FIRST Robotics Competition (FRC) is also called the ultimate Sport for the Mind. High-school student participants call it “the hardest fun you’ll ever have.” Starting in January, under strict rules, limited resources, and an intense six-week time limit, teams of 20 or more students are challenged to raise funds, design a team “brand,” hone teamwork skills, and build and program industrial-size robots to play a difficult field game against like-minded competitors. Students are led by mentors who work with them side-by-side throughout the process.”

Section 3:

Engineering Notebooks

Engineering Notebook- All subgroups will be required to keep a detailed “Engineering Notebook”. The purpose of the notebook is to document overall team goals, and track progress towards objectives as the season continues. The Notebooks will help subgroups to organize themselves with timetables and milestones. Team leaders will review the notebooks regularly to track progress. Team members that are absent from a meeting can use the notebook to catch up and learn the details of what has been accomplished.

- Purpose is for each subgroup to have/share a notebook
 - Goal
 - Objective
 - Day/week/month format
 1. Day
 - What you will accomplish
 - What you did accomplish
 - What you will accomplish next time
 2. Week
 - Decide what to accomplish in week and divide into days
 3. Month
 - Leadership will work with subgroup to decide or guide
 - Organise subgroups with timetables
 - Team members visual representation of shared goals to meet and set
 - Tracks updates on progress
 1. Helps members absent to understand what is current, what is needed
 - Daily, weekly, and monthly checks
 1. Performed by:
 - Mentor
 - Leader
 - Coach
 2. Verifies work is being accomplished in a controlled manner
- Update Lenny 08/28/17
 - Notebook structure
 1. Giant To Do list
 2. Month
 - To week
 1. To day
 - Written daily- provide big picture to students on a daily basis
- Do not be afraid to use space
 - Pages and pages is good
 - More notebooks the better
 - Attachments
 1. Sketches
 2. Notes
 3. Printouts

Section 4:

Attendance Policy

Team meetings are generally once a week during the fall semester and 5 to 6 days a week during build season. All team members are expected have a valid e-mail address that is utilized on a regular basis as a communication method. Students are expected to check their e-mail for important team announcements. Additionally, students are invited to join the messaging App. “Remind” which allows for students to receive messages as texts, rather than e-mails.

- Time clock/sign in
 - All students required to be accounted for by sheet/clock during meeting times. The beginning of every meeting should begin with students signing in, and the end of every meeting should include students signing out.
- Hours requirement
 - The total hours a student has attended meetings will be used to qualify a student for travel.
 - Build season attendance requirements are approximately 3 meetings per week for the 6 week build season. During the competition season the requirements will be approximately 2 days per week- or equivalent hours, between events, for remaining season.
 - 15 hours of community service, outside of meetings, will be required within the 6 week build season
- Meeting times begin at 5:30
 - Students are expected to be on time with 5 minutes grace period. Students are required to inform team leadership if it is not possible to arrive on time.
 - We encourage students to stay till the work is done on certain nights. This means if we have a deadline to meet please make arrangements in advance to stay later than scheduled.

Section 5:

Key Role Selection

All students involved in Pike Robotics have the opportunity to hone their leadership skills. Team 1018 student leaders are good listeners who are willing to learn. They are self-starters who ask questions and seek answers. Student leaders are not afraid to try, to fail, and to try again. Selections are made by the team coach with input from the mentors and other team leadership.

- Key roles are selected based on attributes that are observed by team leadership over time. Many of the most common characteristics of students selected are:
 - Ability to be self sufficient
 - High motivation
 - Outstanding communication skills
 - Outstanding attendance
 - Interaction with peers and mentors
 - Relevant ability
 - Performance during interviews

- Apparent desire to lead
- Ability to go above and beyond
- The Pike Robotics key roles include the following positions:
 - Driver
 - Operator
 - Human Player
 - Sub team leads
 - Captains
 - Pit Crew
- Team Captain- captain positions are traditionally passed down at the end of the FIRST season and the Pike Robotics End of Year Celebration.
- Pit crew- the crew is composed of two mentors and five students. The only two guaranteed appointments to the pit crew are Mechanical Lead position and Safety Captain- other members will be determined as the season progresses. There will be a provision for a 2nd string pit crew that will be a direct replacement for pit crew members when they are unable to perform/attend the practices and events.

Section 6:

Grades

The Pike Robotics team membership requirement is a 2.2 GPA. Grade checks will be performed regularly by the team faculty advisor. The first check will occur when progress reports are published- if any student is under the GPA requirement a warning will be given. The second grade check will occur at the end of the grading period, and if no improvement has occurred, the student will be removed from the team.

The Grade Check Guarantee will ensure that if a student passes a grade check with an acceptable GPA, the student is “safe” until the next grade check. A one day grace-period follows each grade check, to account for any grade-entering mistakes.

Travel grade checks will be performed prior to each competition event. Students who are under the GPA requirement will not be allowed to travel with the team, and also be issued a GPA warning for the next grade check. If a students’ GPA is deemed to be exceptionally low by Pike Robotics leadership, at the time of a grade check, they will be expelled from the team.

Section 7:

Sub Teams

One of the many goals of Pike’s robotics program is to inspire leaders. As such, every attempt is made to give student leadership roles on the team. The Coach and Faculty Advisor are adult mentors who oversee the team. A student will fill the role of Team Captain and reports to the adult leaders. Team Leaders are in charge of sub teams and report to the Team Captain. Sub teams on Pike Robotics are structured as follows:

- Design
 - Members in this sub-team will be responsible for conceptualizing prototypes and using necessary software to create blueprints of the potential

robot.

- Prototypes
- Robot
 1. Work with Electrical for CAD model
 2. Work with Programming for sensors and strategic design
 3. Create and update a complete CAD model
- Control Panel
- Electrical
 - This team is responsible for all things electrical. Students will create, design and assemble all wiring and electrical components. The electrical teams' responsibilities will include:
 - Wiring
 - Planning/CAD
 - Test equipment
 - Battery Maintenance
 - Wire management
 - Work with Programming to decide on sensors and work into CAD
- Scouting
 - FIRST Robotics Competition (FRC) requires an element of strategy in addition to technical capability. Strategy is open to all members, especially at whole-team discussions at the FRC Kickoff days. Scouting, on the other hand, occurs during the tournaments, and serves to evaluate the strengths and weaknesses of the competition, develop match strategies, and determine which robots to pick during alliance selection. As a result, members of the scouting team will be assigned to other sub-groups throughout the build season.
 - Everyone who travels, and is not part of the event floor team, is required to be on the scouting team
 - Pit scouting involves team members walking the pit floor and interviewing teams to gather technical data on their robots.
 - Match scouting involves students carefully monitoring each robot on the field per match played at a competition. This is the most valuable job during an event. The data that the scouting team gathers makes the difference between winning an event and going home empty-handed.
 - Compiling and analyzing data
- Programming
 - Robots are programmed using advanced control algorithms in Java and Lab View. Sub-team members will also participate in other programming tasks separate from robot code that may involve other languages such as Python, JavaScript, and Ruby.
 - Maintaining the Scouting App
 - Building up and maintaining website
 - Robot drive code, sensor integration, and control panel
 - Subsystems such as vision/alternate robot systems, and custom systems/projects
- Chairmans
 - The Chairmans Award team is involved with every detail concerning the

team's submission for the FRC Chairmans Award. Most of the team's responsibilities will include:

1. Maintaining a record of team history- this will include keeping a list of alumni and their accomplishments, a running list of awards the team has received, and keeping these lists updated with the help of the Documentation Team.
 2. Work with PR and Outreach team to document events the team has organized in the community and school system
 3. Work with the Visual Media Team to produce a video for the award submission
 4. Presenting the Chairmans award to judges at events
 5. Help to guide and ensure the entire robotics team does the proper things to qualify for a Chairmans award
 6. Maintain a Chairmans notebook that will document how the award submission is created and the general how-to for presentation
- Awards and Documentation
 - This team is responsible for all written content required by any of the sub-teams. It also controls publicity materials, and award submissions. Members write and enter submissions for several FIRST awards such as the FIRST Woodie Flowers award. They also write grant applications for sponsorship alongside the PR and Outreach sub-team. The following items are the responsibility of the Awards and Documentation team:
 1. Managing engineering notebooks, sponsorship documents, website edits, Standard Operating Procedures (SOP's), submissions for awards, and, deadlines for award document submission. Many awards will be facilitated by FIRST, but there are opportunities for other awards through the community and organizations; some awards are listed here:
 2. Woodie Flowers award- this includes both researching what mentor the team would like to submit for the award and interviewing and fully documenting the impact that mentor has had on the team.
 3. Working with Chairmans team to help develop the best information/presentation pair possible with the information the Chairmans team collects
 4. Other FRC awards
 5. Community and school system awards, pertaining with the PR and outreach to gather materials and find opportunities
 - The team will also be responsible for creating new documents for the Pike Robotics team, and submitting them to the document control system. All new documents will follow Pike Robotics Good Documentation Practices. All document revisions will need to be processed with a Document Change Request and be approved by team leadership or the appropriate mentor. In addition to creation of new documents, the team will maintain the current iteration of awards submissions.
 - Marketing and Promotions
 - This team will be responsible for maintaining the overall team image, and handling all graphic design responsibilities for branding, promotional materials, and displays. Members create sponsor decals for the robot, team ap-

parel, merchandise, and publicity materials including banners, fliers, hand-outs, and displays Items that fall under team image are as follows:

- T-shirts
- Pit Banner Layout
- Pit Aesthetics
- Marketing Materials
 - Buttons for events
 - In school posters and announcements
 - Competition posters and cards
 - Scavenger Hunt at events
 - Giveaway competitions working with Digital Media Team
- Digital media
 - This team is responsible for supporting the media needs of the other sub-team, creating and maintaining the team's visual identity and managing general digital video records. Some responsibilities of the Digital Media team are:
 - Publish a weekly Updates on the teams' Youtube channel
 - Highlight Video for the end of the season
 - Robot Reveal Video for sharing the strengths of any new robot built
 - Callout Video for publishing to the morning announcements
 - Sponsor Videos
 - Photos of team
 - Slide shows
- Social Media
 - Members maintain the team social media sites- this includes twitter, Facebook, instagram, snapchat, etc. This team will be responsible for
 - Update social media per meeting/event
 1. Maintain strong social media presence
 2. Gaining new followers by running
 - Social media challenges
 - Promo Events (work with Marketing and promotions)
 - Tagging Sponsors and VIPs
 - Manage SM platforms
 - Working with Digital Media to share Media Badge at events
- PR and Outreach
 - Members on the Public Relations sub-team are responsible for maintaining the team identity. Students on the Public Relations team are expected to communicate events of interest to Pike High Schools' administrative team as well as MSD Pike's PR department.

Members on this sub-team coordinate outreach events by working with other teams and community organizations. Members on the team mentor middle school VEX/FLL teams, volunteer at STEM events, and provide support to other FRC teams. Although members are expected to attend most outreach events, students not on the Outreach sub-team are encouraged to attend as well.

- Community Service
- Community Outreach

- 1. Open Houses that promote the community outreach
- Sponsorships
 - 1. Thank you letters to sponsors- including sending t-shirts or medals to key sponsors after any winning events
 - 2. Inquiries for sponsorship and researching new sponsors is a major, full-time responsibility for this team
- VIP at Events
 - 1. Handle VIP tours at events and have a responsibility for portraying the team in a professional light with those people
- Interviews and Media videos
 - 1. STRONG knowledge of the team and robot for that year is a requirement for this responsibility. Understanding when to ask other team members for help when explaining and presenting is also an important skill for this.
- School Outreach
 - 1. Organize and collect information at team call-outs
 - 2. Maintain and design the Team Corkboard
 - 3. Maintain and design the team trophy case, decide what awards should be displayed
- Safety committee
 - Shop Safety
 - 1. Shop Posters
 - 2. Safety Quizzes
 - Event Safety
 - 1. Safety Posters
 - 2. Meeting
 - 3. Judges

Section 8:

Team Lead Positions

Team lead positions- students who are nominated for team lead positions will have increased responsibilities to the team. Team leads delegate tasks to the rest of the sub-team they are responsible for, and hold those students accountable for projects and work when it is due. Team leads are intended to be an encouraging voice to the students in their sub team and will guide/train the rookie members within the group. Team leads are not encouraged to take on many personal projects that would make them unavailable to the other students in their sub team.

All team leads are required to report to regular meetings with the team captains. In these meetings, they will provide updates for every project in process. They will also ensure that the sub team engineering notebook is kept up to date, and will have the authority to elect a student to complete the notebook in the event that no student volunteers for a particular meeting.

Team leads have a big responsibility on the team, and that responsibility can be overwhelming at times. All team leads are encouraged to seek help and advice ANY TIME. All mentors and coaches are willing to help and counsel students who are team leads. It is always best to ask advice early for any problems that may arise from leading a sub team, waiting until the last minute is not an effective management strategy.

- Team lead positions include:
- Captains
- Design
- Electrical Lead
- Mechanical Lead
- Scouting
- Programming Lead
- Chairmans
- Awards and documentation
- Marketing and Promotions
- Digital Media
- Social Media
- PR and outreach
- Safety Committee

Section 9:

Mentors

Our robotics team could not exist without the dedication and time given by our mentors. Our mentors are professionals who volunteer their time with the goal of inspiring more students to pursue their interests in science, technology, engineering and math. Mentors are patient and understanding and allow students to learn while guiding them through problem solving.

- Time Commitment
 - Full Time hour requirements for mentors will be determined per-season by team leadership. Only full time mentors are eligible for sub team head mentor positions. Additionally, only full time mentors will be provided hotel rooms for event travel with the team.
 - Part time mentors are required to make their time commitment known (well communicated) and consistent. Communication is key when involved in projects on a part-time basis.
- Engaging Students
 - Mentors are expected to share with students the “Tricks of Trade” relevant to the work being done on the team. Shedding light on the proper processes used in industry for students future reference is a major responsibility of team mentors.
 - Mentors play a major part in team brainstorming- it is essential that mentors make a special effort to include students in brainstorming sessions done during meeting hours. The sharing of all ideas- no matter how big or small- is essential to team innovation. Students and mentors are always encouraged to share ideas as well as critique and encourage each other.

Section 10:

The Event

Events in FIRST will be one of the most intense experiences you can have. There will be highs and lows during an event- the passion off competitive robotics comes out in full force. Throughout the entire process- we maintain a constructive team environment. We are all a family at 1018 and it is never more important to keep our spirit of teamwork and excellence going at an event.

No Egos – we leave our egos at the door every day we compete. As members of 1018 we are all equal. We are all expected to contribute the best effort we can.

Keep Cool – the pressure we feel at competition to perform at an event can be extremely intense. Some members can be overwhelmed at an event- and it is important to understand that everyone experiences things differently. Keeping a cool head and being understanding is critical to our team's success.

Team structure changes dramatically at events. There are three main groups that will perform at events- their responsibilities are all directly related to team success. Every member of the team contributes to victories on and off the field. The teams that are created from normal sub teams are as follows:

- **Drive Team** – being part of drive team makes a member the Team Representative on the field at the event. The work the drive team does forces them to go above and beyond what physical performance is required from any other event team. The drive team receives a lot of face time at the event. They are the image of the team and are on camera when ever our robot is out on the field

Drive team practice begins once a robot base can move or drive by operator control. Drivers are expected to be at all meetings where there will be drive team practice. The drive team is absolutely required to be at all meetings once a fully-functional robot is operating.

Being on the drive team is a lot of fun. Membership on the team is also lots of hard work. Practices are last a long time, and will be mentally and physically draining. The overall goal of practice is to prepare a team for the rigors of competition. Practices should always simulate a FRC event, but will be engineered to be more difficult.

At any time a drive team member can be subbed or removed if deemed unfit at any point of the season. This statement includes missing practices, inability to work as a cohesive unit, being constantly distracted, not being prepared, failings to follow orders from drive coach, failing grades, or lacking the required skills for performance.

Members of the drive team are:

- Driver
- Operator
- Human Player
- Drive Coach
- Media Person
- **Pit Crew** – being part of the pit crew is a technically challenging and exciting position. The performance that this team must bring to the pits at an event is extraordinary. “The pit crew is the only team between failure to show up at a match, and being ready to go with a top notch bot
 - Pit crew members will be responsible for the following at events:

1. Creating packing checklists
 2. Packing for an event at school
 3. Loading vehicles and trailers
 4. Loading and unloading the pit
 5. Setting up a pit
 6. Performing all service and troubleshooting on the competition robot
- Badges- the pit crew badges are a 1018 tradition that mark the pit crew members as specialized in robot operation and maintenance. The badges are awarded before each competition and serve to distinguish student pit crew members from mentor members. The badges are collected at the end of each day of competition. Being a tradition and heirloom for the team, no students are permitted to keep the pit crew badges- they are handed down year to year.
 - Scouting – The single most important job at the events is scouting. The time spent scouting buys the team the most valuable information available at an event. With no scouting information or insights, our team is blind. When we cannot make strategic decisions with reliable scouting data, we will not be successful at an event. Every member who is scouting holds the success of the team in their hands, and there is no more direct way for a team member to guarantee the success of our team. The subdivisions of the scouting team are:
 - Scouting Lead
 - Pit Scouting Groups
 - Stands Scouting Groups

While in the stands if your not scouting there are many more jobs to do such as Interacting with other teams, Chairmen's/Awards, The Scavenger Hunt, and Cheering
 - VIP – the VIP team is intended to escort VIP people around an event. Most events will have a population of VIP adults that are sponsors, or experienced FIRST representatives that are assigned to a student at the event. Students on the 1018 VIP team are required to be a responsible host for VIP's and do the following: explain venue, explain game, detail how FIRST works, what FIRST means to you, and talk about the 1018 culture.
VIP students are selected by the team administration at or shortly before any event.
 - Behaviors
 - Competitions in FRC will be the hardest fun you'll ever have. There will be lots of challenging moments and long, tiring days where you will be expected to perform at peak efficiency. At the event, time management skills will play a key role, as well as multitasking under extreme pressures for the success of the team.
Maintaining a positive mental attitude is ultimately key throughout the entire event. An event is all about execution- the entire season has culminated to these moments. This is not the time to bicker, argue, or make enemies. These events are the time to perform, make friends, and be the professional that you are meant to be.

Keep in mind that all event teams and members are key to the success of the team, and are all equally important. If one team or team member doesn't function at 110% then the team as a whole could potentially not succeed. We are one united team.

Section 11:

1018 Alumni

There is a minimum two year wait period after graduation for an alumnus to return to the team as a mentor. All past students applying for mentor positions on the team are further required to earn at least one year of mentoring experience on a team other than 1018.

Alumni are more than welcome to visit as a way for the team to check up on former students and vice versa. Normally, an alumnus will be required to submit an e-mail request to team administration for a visit. No surprise visits are allowed.

Section 12:

1018 University

- Fall semester consists of a rotation of classes/workshops that are intended to give new and returning students an idea of the different roles they may play on the team. These classes are short but impactful and can be completed by rookies as well as veteran members. Students should participate in the entire rotation of workshops in order to “graduate” from 1018 University.

Section 13:

Authority of Handbook

The rules and policies set forth in this handbook are binding and must be followed by all team members.

Examples of unacceptable behavior include:

- An attitude that is a hindrance to creating a cohesive and productive work group
- Non-productivity
- Inappropriate behavior
- Bullying
- Harassment
- Insubordination

Pike High School and team advisors have the authority to modify the handbook at any time. The team will be notified of any modifications. All students must acknowledge the Authority of the Handbook by signing the contract.

Student Handbook Contract

By signing below I acknowledge and understand all points listed below:

- I have read the handbook describing Team 1018 Pike Robotics and agree to comply with the policies outlined within.
- Participation in the program requires attendance at mandatory events, and I will comply with the schedule of said events.
- The equipment used during construction of the robot can cause serious harm injury if not used correctly. I understand that members are not permitted to use any piece of equipment until they have been instructed on its safe use and are not permitted to use any piece of power equipment without adult supervision.
- I agree and consent to allow my photographs, name, or comments to appear in media related to Team 1018.
- I understand that violation of any of the policies above is subject to MSD Pike High School discipline up to and including dismissal from the team.

Student Name:

Student Signature

Date
