

## MORT 2012-2013 Handbook Contents

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## **Section 1: Introduction to the Robotics Program**

### ***1.1: Introduction to FIRST***

The *FIRST* (For Inspiration and Recognition of Science and Technology) Robotics Competition is a national contest founded by Dean Kamen in 1992. The *FIRST* Robotics program included over 32,500 high school students on 1307 teams at 37 regional events throughout the US, the UK, the Netherlands, Canada, Mexico, Brazil, and Israel. The competitions are high-tech spectator sporting events; the result of focused brainstorming, real-world teamwork, dedicated mentoring, project timelines, and deadlines. It is an opportunity for the students of Mt. Olive High School to work closely with team mentors and advisors to get a hands-on, inside look at the real-world competitive environment. At the heart of the program, is the "Build Season". During these six intense weeks, students and engineers work together to brainstorm, design, construct and test their "champion robot". With only six weeks, all jobs are a critical part of the process. The teams then compete in a spirited, no-holds-barred tournament complete with referees, team supporters and time clocks. To learn more about this nation-wide program please go to [www.USFirst.org](http://www.USFirst.org). The partnerships developed between Mt. Olive High School and our sponsors provides an exchange of resources and talent, highlighting mutual needs, building cooperation, and exposing students to new career choices. The result is a fun, exciting and stimulating environment in which all participants discover the important connection between classroom lessons and real world applications. Each year, the competition is different, so veteran teams always have a new challenge to look forward to. However, the details are kept secret until the unveiling at the Kickoff Event in the first week of January. This provides a high level of excitement as everyone sees the new challenge for the first time and ideas immediately begin forming in people's minds.

### ***1.2: About MORT***

The first Mount Olive Robotics Team was established in the fall 1996. MORT is one of the largest clubs at MOHS with the active involvement of over 125 students, MOHS teachers, college professors, adult technicians, alumni and parents. We enjoy and benefit from the support of the many local businesses and the machine shop at County College of Morris. Student enrollment in technology courses at MOHS has tripled due to the efforts of MORT.

In order to better educate our students, we have established MORT University prior to the construction season, where our students work along with our adult core team to learn about engineering principles, electronics, programming, Computer Assisted Drawing, Computer Animation, and teamwork.

### **1.3: MORT 2012-2013 Calendar**

For up to date information about MORT schedules and events please visit our team website at [www.mort11.org](http://www.mort11.org) and click on the Calendar Link. Mr. Bodmer sends out team emails throughout the MORT year for updates and changes to this calendar, please make it a habit to check your emails periodically for up-to-the-minute information.

### **1.4: FIRST Robotics Competition FAQ**

#### **What does FIRST stand for?**

For Inspiration and Recognition of Science and Technology. More information can be found at [www.usfirst.org](http://www.usfirst.org).

#### **What is the mission of FIRST?**

FIRST designs accessible, innovative programs to build self-confidence, knowledge and life skills while motivating young people to pursue opportunities in science, technology and engineering.

#### **Who is Dean Kamen?**

A decade ago Dean founded FIRST, and ever since has remained its driving force. FIRST uses techniques to motivate the next generation to want to learn about science and technology. Dean has personally recruited scores of the top leaders of American industry, education and government in this crusade. As a result, the national championship of the FIRST Robotics Competition, which teams professional engineers with high school students from across the country and around the world.

#### **Who is Woodie Flowers ?**

Dr. Woodie Flowers is the Pappalardo Professor of Mechanical Engineering at the Massachusetts Institute of Technology. Dr. Flowers designs the FIRST Robotics Competition specifics each year with FIRST founder Dean Kamen. Dr. Flowers also acts as the emcee of the FIRST Robotics Competitions. He has served as a national advisor to the FIRST Robotics Competition since its inception.

#### **What is the Chairman's Award?**

The Chairman's Award is given annually to the team that best exemplifies and demonstrates the values that FIRST emphasizes. Since its inception, the FIRST Robotics Competition has been about partnership among people, the impact it has on their lives and appreciation of science and technology. The Chairman's Award recognizes a team's commitment and efforts toward achieving this goal. It remains FIRST's most prestigious award.

#### **What is gracious professionalism?**

The judges' ruling is final and there is no arguing or defending an outcome of a tournament. Also, there is no booing or put downs at any of the competitions. All team members are to be encouraging and supportive to all teams at all times in the competition.

### What does making your grandmother proud mean?

The judges are constantly viewing teams at all times whether they are competing or not. Your comments and actions impact how the entire team is viewed, therefore you are asked to “act as you would if your grandmother were next to you at all times.”

- Woodie Flowers

### What is FIRST Lego League?

Also known as FLL or Jr. Robotics, and was created for students in upper elementary and the middle schools in order to introduce them to the world of robotic. Each year in September, FLL teams accept the Challenge, which engages them in hands-on robotics design and authentic scientific research. After 8 intense weeks, the FLL season culminates at high-energy, sports-like tournaments. FLL is a worldwide program for children created in a partnership between FIRST and the LEGO Company.

### Can I see competitions from home?

Usually, most regional competitions are televised when NASA is a sponsor. You can find out if an event is webcast by going to one of the following websites: [robotics.nasa.gov](http://robotics.nasa.gov) or [www.usfirst.org](http://www.usfirst.org). You can also view the competitions on NASA’s cable station.

### Where Can I find out more about FIRST?

By visiting [www.usfirst.org](http://www.usfirst.org)

## Section 2: Team Structure and Procedures

### 2.1: Project Leaders:

#### Team Project Manager

Mr. David Bodmer  
(w) 973-927-2208, Ext 7647  
(c) 908-674-1912  
[dbodmer@mtoliveboe.org](mailto:dbodmer@mtoliveboe.org)

#### Team Technical Project Manager

Mr. Ernie DiCicco  
973-691-8711  
(c) 201-519-9298  
[dicicco-highfield@att.net](mailto:dicicco-highfield@att.net)

### 2.2: 2012-2013 Team Mentors & Parent Volunteers

- |                |                                     |
|----------------|-------------------------------------|
| • Mr. Borer    | Drive Train                         |
| • Mr. Dicola   | End Effector                        |
| • Mr. Drost    | End Effector                        |
| • Mr. Dunster  | End Effector                        |
| • Mr. Miller   | End Effector                        |
| • Mr. Thomas   | Programming                         |
| • Mr. Binovsky | Programming                         |
| • Mrs. Okrent  | Food/Event Planning/Team Life Coach |
| • Mrs. Borer   | Food/Event Planning                 |

- Mrs. Bernero Chairman's Award
- Mr. Van Glahn, Jr. Chairman's Award
- Mr. & Mrs. Sacco Business/Communications/FLL
- Ms. Dennis Electrical
- Mr. Marvin Electrical
- Mr. Ackley Autodesk Inventor
- Mrs. Clark Business/Communications
- Mrs. Joss Team Travel
- Mrs. Lavin Team Treasurer/Business
- Mrs. Miller Team Fundraising
- Mr. Okrent Drive Train
- Mr. Steinmark Programming
- More Volunteer Mentors are being added and will be announced at the MORT Kick-Off Meeting.

### ***2.3: Team Project Managers & Captains***

TBD in June 2012

### ***2.4: MORT Team Structure***

- See Team Organizational Chart

### ***2.5: Selecting a Sub-Team***

MORT University is held during the months of October through December. During this time students are encouraged to explore all aspects of the team. After this period, students typically select one of the above sub teams as an area of concentration for the upcoming build season.

For the remainder of the season (January through April), students will participate in the area of their selection. Sub-team members will be allowed to develop design solutions and make decisions in their major area, but not in others. The Team Captains and MORT Project Leaders will ensure communication between the major sub-teams to ensure synchronized and smooth operations.

### ***2.6: Robot Design Process***

- Define the Problem/Task
- Generate Specifications
- Specification Ranking
- Brainstorm Design Concepts
- Prototyping
- Choose a Concept/Design

- Detailed Design
- Manufacture and Implementation
- Analyze Result
- Iterate – (Repeat)
  - Iterate design multiple times
  - Make cost-benefit tradeoffs

### ***2.7: Other Decision Making***

It should be clearly communicated that this is a competitive, learning environment and that not every idea by a student (or mentor/parent) may be realized. Based on the time and funding constraints, as well as the dynamics of the challenge, some decisions may be made with less than the entire team. Mentors, at all times, are the responsible party to ensure that all decisions (including, but not limited to; Robot design, student participation levels, work group makeup) are made in the best interest of the majority of students and the team as a whole.

### ***2.8: MORT Expenditures***

In order to control MORT's operating cost, the following is the ordering process MORT uses for **ANY** team expenditures:

1. Approval by Sub-Team Captain and proper paperwork has been completed
2. Approval by Sub-Team Mentor
3. Approval by a Team Project Manager
4. Approval by Mrs. Lavin
5. Item(s) will then be ordered

**\*Items ordered or paid for without following this procedure will not be reimbursed by the team. Please make sure that you have been approved before making any private purchases.\***

### ***2.9: The Competition Drive Team***

The competition drive team will be picked once the robot is built. Anyone who wants to be on this team will be put on a list for a chance to practice with the robot. The team advisors and mentors will watch these practices, and determine who is best suited for each role on the team. Advisors will look for various characteristics of each applicant including if they listened to the advisor, if there were any misunderstandings, etc. This process will go on for about 2 weeks, the advisors will then select the competition teams.

Suggested requirements for competition team positions:

- Coach: Must have been on the team for 1 year, and been to 2 competitions

- Drivers & human player: Must have participated in at least one competition. Two teams will be chosen, a primary and a secondary team.
- The secondary team will work alongside the primary team. The Primary team will drive at competitions, unless the Primary team wants a break, has lost several times, or has demonstrated that they can no longer operate at par in a competitive environment.
- While these are the typical requirements of a drive team, the situation may vary from person to person; the final decision of the make-up of the competition team is the responsibility of the team advisors.

### ***2.10: Fundraising & Financial Obligations***

Students are required to participate in team fundraising activities throughout the year. Fundraising is an important obligation, as it not only helps the team to bring in necessary financial resources, but it also spreads awareness of our organization and helps to bring in potential sponsors/donors who could be useful partners in the future. These obligations are stated as follows:

1. MORT's main fundraising event is the State FIRST Lego League Tournament held here at the Mt. Olive High School. The date of this year's tournament is December 12, 2009; please mark your calendars now. We will need everyone's help on that day! This fundraising event helps MORT raise funds for competitions, tools, and team travel.
2. Chaperones as well as students are expected to pay for their travel and personal expenses.
3. Fundraising events sponsored by MORT are group fundraisers. The group fundraisers are used for team expenses (tools, robot parts, necessary equipment). Students are asked to participate, as it helps not only the team, but also the individual themselves.
4. If a team member can no longer participate with the team, for any reason, the team will attempt to return out-of-pocket payments made by the team member unless those funds have already been used to make purchases (for example if a non-refundable airline ticket has been purchased).
5. Food and incidentals at competitions are additional personal out-of-pocket expenses, unless otherwise specified. Funds raised through either individual or group fundraising activities are not to be used for the purchase of food or beverages at the weekend build sessions, this will come from out-of pocket sources or family or local vendor donations.

## **Section 3: Member and Team Expectations**

### ***3.1: Enjoy Yourself . . . Learn & Experience Science & Technology Teamwork!***

### ***3.2: Academic Standing***

To participate in the program, students must maintain eligibility as defined for teams and clubs in the Mt. Olive High School Student Handbook, or as determined by the adult coach and the student's parents. School work comes first, then MORT. Students who fail to maintain passing grades will be removed from the team.

Additionally, school attendance is taken into account when determining a team member's eligibility for team travel. Excessive school absences could result in the removal from the team. Your school courses and related class work comes first!

### ***3.3: Group Participation***

Team members should plan on participating in all group activities. Our goal here at MORT is to provide an atmosphere of teamwork and dedication to the team.

### ***3.4: Attendance***

Students must maintain a good standing on the team in order to attend Competitions and Scrimmages. Good standing is determined by your participation, attendance (75% of the meetings, 80% for drivers and officers) and attitude. Each student is required to sign in and out of every meeting. It helps to give the team leaders a general idea of how dedicated a student is, which is used to determine if a student is eligible to participate at group events. School and family always come first. If you have a challenging conflict, please see one of the mentors or captains. In the event of severe weather conditions, we may cancel sessions, or we may meet if the school is open. In these cases, it is then up to the decision of the student's parent(s) whether to allow the student to attend. In these instances, attendance will not be counted. If you will not be attending a team/sub-team meeting please email Mr. Bodmer and your sub-team mentor.

### ***3.5: Acceptable Behavior***

Students must conduct themselves in a manner consistent with Mt. Olive High School's policies and procedures. Team Leaders/Teachers reserve the right to remove a student from the team at anytime, as long as they have reasonable cause. (Safety of all students is a key priority) MORT is a representative of our team sponsors, thus we expect everyone to behave in a way that is acceptable and expected of such representatives. While at MORT events/functions students are expected to behave respectfully of the other students, adults and the facility. Students are also expected to be responsible for themselves, especially while using the team's property, tools and computers. Students are also expected to be sure they are being safe at all

times. During meetings, students are expected to behave properly and respectfully toward any person at the meeting or running the meeting; side conversations are not acceptable. Students (as well as mentors and coaches) are required to demonstrate gracious professionalism at all times. If any adult has asked a student to perform a task, the student is expected to respond respectfully and continue with whatever was asked. Students are also expected to be respectful and polite to anyone whom they encounter. The team advisors also reserve the right to send any student home from a competition at the parent/guardian's own expense, due to unacceptable behavior and/or breaking school policies.

### ***3.6: Self-Motivation***

The students who learn the most are the ones who ask questions and pester the engineers; do that and you'll learn. No one on the team will force a student to do anything. This is a "self motivating" program and while our mentor volunteers will make every effort to encourage involvement by all students, the student makes the ultimate decision on where they choose to engage.

### ***3.7: Meeting Places***

MORT uses the Robotics Lab, Old Band Room, Metal Shop, Woodshop and old CAD rooms at the high school for team meetings, events, and build season.

### ***3.8: Communication***

- All communications with regard to team meetings (time & location), extracurricular events (fundraising, practice driving sessions, etc) will be accessible to the students and the parents via the calendar on the team web site [www.mort11.org](http://www.mort11.org). They may also be communicated through the school PA system. Please note that inclement weather and/or power outages may alter the schedule/time of the meetings. In those cases, Mr. Bodmer or Mr. DiCicco will send out a team email to inform all team members of this change in schedule. If the weather doesn't look good, please check your email first before heading out to the meeting.
- In all cases the student will be encouraged to subscribe to MORT e-mail distribution list for all correspondence. Students are responsible for noting school-posted meeting notices, information regarding competition trip dates and times, etc.

### ***3.9: What Students Gain by being a MORT Member***

- The experience of teamwork with peers and adults.
- The experience of establishing & working to a schedule, and finishing a project in time for a deadline.

- Exposure to the field of engineering and professional engineers, as well as marketing, artwork, computers, and financing. Exposure to all facets of a program that designs, delivers, and uses a “real world” product (the robot) to perform to set goals and specifications.
- A challenge to explore their aptitudes, skills and limits.
- A great team bonding experience Life skills, such as problem solving, teamwork and commitment Friendships that will last a lifetime.
- Exposure to a source of college scholarships.

### ***3.10: Parental Involvement***

Not required, but strongly encouraged. There are many ways for parents to participate such as: chaperoning, transporting students, assisting with fundraising, providing food and refreshments for our build season meetings, joining MOREA (Mt. Olive Robotics Education Association), planning trip itineraries, etc. While the team can always use more support from the technical/engineering perspective, we are particularly in need of other talents such as organizing, fundraising, spirit activities, and publicity, and we welcome any and all additional support.

### ***3.11: Qualifying for Overnight Travel to MORT Competitions***

- Please reference the Team Travel Requirements Policy located on the team website for further information.
- Any questions please see Mr. Bodmer for further clarification.

### ***3.12: Eligibility for Activities and Clubs (Taken from Student Handbook)***

A very important part of our total school program is our clubs and activities. The Mount Olive Board of Education has made provisions to provide opportunities for students to participate in a multitude of extracurricular programs.

An important fact to keep in mind is that to be eligible to participate in clubs and activities, we must conform to state guidelines and rules established and enforced by our own Student Eligibility committee. The following are the requirements:

1. Pass 25% of the total credits required by the Sate for graduation during the previous school year (presently 27.5 credits).
2. At mid-year you must have 13.75 credits (passing grades for courses worth 27.5 credits).

All Participants will demonstrate good citizenship both within the school and especially when they represent Mount Olive High School. All students are encouraged to participate in one

form or another in our total activity program. Any student signing in late to school or signing out early must follow regulations listed under the Attendance section of Athletic Eligibility.

## **DISCIPLINE – STUDENT ACTIVITIES**

**The Administration reserves the right to prohibit any student who reaches Level One of Zero Tolerance, has excessive absences or lates to school or excessive discipline referrals from participating in all extra-curricular activities and field trips.**

Any student with a history of on-going discipline referrals *may* be excluded from participating in extra-curricular events. Furthermore, any student participating in an extra-curricular activity who does not follow or abide by the expectations of the event or club, will be removed from participating in the event and possible removal from team.

## **Section 4: Agreements**

### ***4.1: Internet Use Form***

**The Mount Olive Robotics Team *cannot*** formalize precise limits upon a student's access while on the Internet. Rather it is the student's responsibility to follow standards set by the mentor, school, and his or her family.

**The Mount Olive Robotics Team** cannot accept responsibility for objectionable materials which students access via the Internet.

Some services available on the Internet could be considered offensive. Students must take responsibility for their own actions in navigating the Internet. There are materials present on the Internet that many people find controversial, offensive or objectionable including but not limited to sexually explicit or pornographic material.

### ***4.2: Off-Season Events outside of the 2013 FRC Season***

The team attends the following Off-Season Events:

May (Dates TBD)

- Monty Madness at Montgomery High School

**\*Off-Season Events will require each team member to provide their own transportation.\***

### ***4.3 Transporting your student home from a MORT Event***

In order for a parent or guardian to drive a team member home from a team event, a completed **Private Transportation Application Form** must be completed and turned into Mr. Bodmer **at least one day** prior to the event. Forms are available from Mr. Bodmer in Room 7 for those who need them. The MORT advisors cannot legally release any students who have not completed and returned this form prior to the event.

As a courtesy to team leaders and mentors, parents please be prompt in picking up your student(s) from team meetings, team events, and competitions.

#### ***4.4: Transportation with Adult Mentors***

Adult mentors or coaches may offer to provide transportation to students using their personal vehicles, such as when carpooling. In such instances when students agree to ride with an adult mentor or coach in his/her car, the student is responsible for his/her own safety and well-being, and by signing the handbook, parents/legal guardians and the students recognize this and release adult mentors and coaches of any liability if injury occurs when a student is riding in a mentor's car.

#### ***4.5: Publicity***

MORT frequently takes team photographs to commemorate our accomplishments and preserve our team heritage. These team photos often appear in media related to the MORT experience. By signing and agreeing to this handbook, parents/guardians and students agree and consent to allow their photographs, name, or comments to appear in media related to MORT. While parents and friends are encouraged to help spread the word of the MORT, any and all references to MORT which will be displayed through public media (newspaper, radio, TV, cable, etc...) must be approved in advance by the team advisors.

## Section 5: Team Handbook Agreement

Please sign and return by October 16, 2012.

I \_\_\_\_\_, as a participant on MORT Team 11 hereby agree to abide by all the rules and consequences stated in the MORT Team Handbook. I certify that I have read the handbook and understand all the rules/regulations/releases that were set in it.

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

I \_\_\_\_\_, as the Parent/Guardian for a student on MORT Team 11 hereby agree to abide by all the rules and consequences stated in the MORT Team 11 Handbook. I certify that I have read the handbook and understand all the rules/regulations/releases that were set in it.

Parent/Guardian Signature \_\_\_\_\_ Date \_\_\_\_\_

\*For a complete up to date listing of the required team policies and signed forms, please visit our team website at [www.mort11.org](http://www.mort11.org) and enter the "Team Member" section.\*

# *Go MORT!*