

**ENGINEERS OF TOMORROW  
FRC TEAM 2783**

**2009-2010 BUSINESS PLAN**



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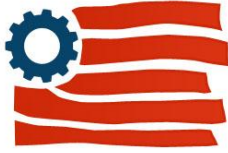
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# Executive Summary Business Plan

Engineers of Tomorrow Team 2783

## Mission Statement:



I nnovating across multiple business functions  
N o boundaries  
S haping 'thought leaders' of the future  
P roducing student-community alliances  
I nvesting in youth, communities, and the future  
R elating technology to global market needs  
E veryone participates, grows, and succeeds

## Founders:

Lorinda Vance – team leader  
Frank Leucke – head mentor

## Date Team Began:

May 2008

## Location:

LaGrange, Kentucky

## Team Members:

17 students  
1 University of Louisville professor  
1 University of Louisville Graduate student mentor  
1 BAE Systems mentor  
10 parent mentor/helpers

## Team Growth:

2009 Rookie All-Stars  
2009 FRC Championship  
2010 continuation of sharing FIRST programs across the state

## Sponsors:

### Major Sponsors:



Kentucky Engineering Foundation	2 <sup>nd</sup> year sponsor
Heartland Payment Systems	2 <sup>nd</sup> year sponsor
BAE Systems	2 <sup>nd</sup> year sponsor
Gates Corporation	1 <sup>st</sup> year sponsor
Clifty Engineering	1 <sup>st</sup> year sponsor
Amgen	1 <sup>st</sup> year sponsor
Cherry House	1 <sup>st</sup> year sponsor
A & M Machine	1 <sup>st</sup> year sponsor

### Additional 2<sup>nd</sup> Year Sponsors

J.B. Speed School of Engineering  
American Nuclear Society

### Additional 1<sup>st</sup> Year Sponsors

Mills Lawn & Landscaping  
Metal Supermarkets



Louisville Science Center  
Chick-Fil-A  
Frank and JoAnn Luecke.  
Dr. Tony Karem  
Dave and Audrey Rasmusson

Teknon Controls, Inc  
River Metals Recycling, LLC  
Kroger  
EA Games  
Unique Crafts

Orr Safety

Cherry House  
University of Kentucky

## Services Rendered:

### Inspiring FIRST Growth by:

- Aid Western Kentucky University in creating a Robotics Learning Environment to help spread FIRST/STEM programs across Kentucky
- Share FIRST programs with potential sponsors and mentors to create new teams results include Dow Corning \$20,000 grant to Carroll County schools creating 4 FIRST teams; Bullitt County Schools new FLL team
- Provide a two-part summer 2009 FLL workshop

### Sponsoring and Mentoring

- 2009/2010 Mentoring 2 Jr. FLL teams, 4 FLL teams, 1 FTC team, 1 FRC team
- 2008/2009 FLL Team CYBORGS 2nd Place State, US Open in Dayton, OH

Creating and Hosting Louisville's FLL state qualifying tournament 2008 and 2009

Demonstrating our FRC robot at various locations and events statewide

Inspiring FLL participants to continue with *FIRST* by sharing the FRC program

### Community Involvement

- Assist in development of microscope for research of Lyme Disease
- Assist in raising funds for medical care of home bound and uninsured.

## Future Plans:

Motivate community support through sharing the impact *FIRST* programs

Share with others *FIRST* and the FRC programs through various venues

Mentoring new and existing teams

Inspire the establishment of new FLL teams

Host Louisville area FLL state qualifying tournament and summer workshops

Volunteer within our community and share the skills *FIRST* is teaching us

Recruit continue to recruit and train new team members

## 1.0 Organizational Plan

Contents of the Business Plan, Section 1, include the following:



- 1.1 Team Overview**
- 1.2 Mission Statement**
- 1.3 Location**
- 1.4 Strategy**
- 1.5 Strengths, Challenges and Opportunities**
- 1.6 Team Organization**
- 1.7 Recruiting**
- 1.8 Accounting**
- 1.9 Current/History**

## **1.1 Team Overview**

The Engineers of Tomorrow (EOT), Team 2783, is a FIRST Robotics Team located in Crestwood, Kentucky. EOT's members include students from a variety of educational backgrounds and mentors from within the community. The main purposes of our team are to develop interest of science and technology within our community, leadership skills in our members and team building skills that will equip our members for life.

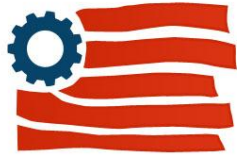
To promote science and technology within our community we host a Regional FLL competition in December, we currently mentor 1 FRC team, 1 FTC team, 4 FLL teams, and 2 Jr. FLL teams. We take advantage of every opportunity to show off robot and our love of FIRST. Our team works hard to develop interest in science and technology within our community by making numerous guest appearances in the following venues: television, regional and state FLL robotics competitions, local schools and a variety of other forums where we were able to show our robot and explain the need for programs such as FIRST to stimulate the interest of students in the areas of science and technology.

Leadership and team building skills are an important part of our team. We work together during our six-week build season in order to create a unique robot that will be used to compete at the regional and, if we qualify, world competitions. Each team member is involved in multiple areas of the team whether it is fundraising, recruiting, safety, presentation preparation, web design, team spirit, animation, prototyping, building or programming, to be on our team you have to be involved. By involving our members in multiple areas each member has the ability to work as a leader in the areas where they excel and learn new skills by working in areas where they might not be as proficient.

## **1.2 Mission Statement - INSPIRE**



ENGINEERS OF TOMORROW TEAM 2783



**I**nnovating across multiple business functions  
**N**o boundaries  
**S**haping 'thought leaders' of the future  
**P**roducing student-community alliances  
**I**nvesting in youth, communities, and the future  
**R**elating technology to global market needs  
**E**veryone participates, grows, and succeeds

The mentors and parents of FIRST Robotics Competition (FRC) Team 2783, Engineers of Tomorrow, are dedicated foremost to offer practical applications of academic skills, and to encourage an appreciation for math, science and technology. Through cooperation with our students, we hope to inspire them to achieve high levels of excellence in education and in life. As a team, we will strive to compete at the highest caliber, while maintaining a mindset of gracious professionalism. We will share the FIRST experience and principles with those we come in contact with, and we will remain involved in our community, rally their support, and in turn share with them our victories in both competition and learning.

### **1.3 Location**

We are a rural team that meets at a private residence in LaGrange, Kentucky. Our students are from three different counties including Oldham, Jefferson and Bullitt. We work off of a pre-set schedule each week, trying to combine students of similar interests on the same days for maximum effectiveness.

### **1.4 Strategy**

Engineers of Tomorrow (EOT) begins the season by reviewing the goals and accomplishments of the previous season. This allows the team to accentuate their strengths and to revise areas that need further development. Our goals focus on our Mission Statement in order to keep our team's vision and strategy consistent.

### **FIRST Competitions - Everyone Participates, Grows, and Succeeds**

The Engineers of Tomorrow strive each year to be competitive at each tournament we attend. Success is defined by creating a high quality reliable robot that can compete in the given game and by successfully competing in multiple areas of each competition. The degree of success we achieve can be more definitively measured by the performance of our robot and the awards that we are able to win. We also consider it a success when every team member participates, grows and succeeds.

Our first build season, 2009, was a huge challenge as we chose to completely design our robot in CAD, transfer a number of specialized parts into CAM, machine specialized parts, and then assemble a robot built around a crab drive. Due to one of the worst ice/snow storms in Kentucky's history we were delayed in the production and were actually only able to drive the robot once we arrived at our first competition round at Regionals. This entire competition was more like practice for our team since we were still refining our programming. We were awarded the All-Star rookie Award and the



Safety Credits Award at our first Regional event. We also placed among the top 6 finalists out of 85 entries in the safety animation competition as well as one of the first 50 teams to score 100% on a safety quiz sponsored by Underwriters Laboratories, Inc. and Fabricators & Manufacturers Association, Intl.

This season we determined the complexity of last year's robot made the hope of completing programming and actually being able to learn to drive the robot virtually impossible. EOT decided to engineer a more simplistic robot. We are hopeful this year we will be more competitive on the playing field as our robot was at least drivable when it left our shop. To date we are on track to obtain our other goal of being able to compete in multiple areas of competition.

### **Service- Investing in Youth, Communities, and the Future**

One long term goal of EOT is to further advance FIRST/STEM programs across Kentucky. We reach this goal by expanding our reach throughout the state and high visibility within the community and FIRST programs as well as service projects.

This year EOT was able to assist in the inspiration of youth in many ways. Our team was instrumental in aiding Western Kentucky University in creating a Robotics Learning Environment to help spread FIRST/STEM programs across Kentucky. We were also successful in presenting FIRST programs to Dow Corning, which resulted in full funding (\$20,000) and mentorship of 4 new FIRST teams in Carroll County, Kentucky schools. After presenting FIRST programs to the Bullitt County math and science department a new FLL team was created. EOT created and held a two-part summer workshop for younger FLL students to learn the basics of robotics and engineering with Lego technology. EOT is responsible for creating and hosting the Louisville State Qualifying Tournament for FLL, as well as Jr. FLL teams.

Mentoring and sponsoring new teams is another way we are able to invest in youth. Last year we were responsible for mentoring a FLL Team the CYBORGS who placed 2<sup>nd</sup> in state, attended the US Open in Dayton, OH, and won an award at that competition for their research project. This year we have increased our work among the FIRST families by sponsoring and mentoring 2 Jr. FLL teams, 4 FLL teams, 1 FTC team and 1 FRC team. Our future goals include expanding the growth of FIRST throughout our state by continuing to plant, sponsor and mentor new teams at each level.

EOT is well known state-wide for demonstrating our robot. We will do a demonstration whenever asked if at all possible. We have even been seen outside the state showing our robot and promoting FIRST programs. Some of the places we have been seen include: University of Louisville, University of Kentucky, State Fair, Oldham County YMCA, Louisville State Qualifying Tournament, FOX 41 - Fox in the Morning, Oldham County Public Library, Oldham County Parade, Mount Washington Public Schools, Western Kentucky University State Tournament, Patterson Wright Air Force Base. We plan to continue to promote FIRST and STEM programs at every opportunity we can.



EOT's members have been working with a local inventor in the research and development of a microscope. This microscope will be instrumental in finding a cure for Lyme Disease. EOT has also assisted HDB in raising funds to provide transportation and medical care to the home bound and uninsured. We plan to continue working on these projects and also to look for other service opportunities in the community.

## **Funding**

Funding for the Engineers of Tomorrow comes from three sources: sponsors, fundraising and team member registration dues. In order to spread the work of raising finances among each of EOT's team members each member is responsible for finding one new sponsor each year. EOT has found this to be beneficial as many of our sponsors continue their support in subsequent years. We also have fundraisers such as Chick-a-Filet Day, Kroger Cards and our Louisville Regional Qualifying Tournament. We need to continue to work at finding new ways to raise funds and become more active in seeking sponsors from the corporate community.

## **Relationships**

Our most important relationships for our continued success is with our mentors, parents and our sponsors. Without their support and encouragement we would not be a team. Some of the most important things we need to continue to do is to keep the lines of communications open and to continue recruiting new mentors and sponsors.

## **1.5 Strengths, Challenges and Opportunities**

### **Strengths**

- Our team's structure is such that we are able to tackle many projects at once
- Very good communication between team members and mentors.
- The mentors and parent involvement on our team is very high allowing us great stability.
- Continued growth in the area of funding.
- Continuing growth of the students' knowledge of team responsibilities allowing for more involvement in more areas within the team.
- Increasing community involvement giving more opportunities for team support.
- Increased mentoring allowing team to assist youth in learning more about math, science and technology opportunities.

### **Team Challenges**

- We are several miles from Louisville, making commuting to our shop less attractive to mentors.
- Maintaining commitment from talented mentors through out the year is difficult.



- Our students have many school events, sports events, and work schedules that compete with our build season schedule.
- FIRST programs are relatively new to Kentucky which creates a more difficult atmosphere to obtain corporate sponsorship.

### **Opportunities**

- Attend and compete in 2010 Boilermaker Regional
- Attend and compete in Atlanta 2010
- To continue to mentor and start more FIRST teams.
- Create more fundraising opportunities
- Increase membership: mentors as well as students

## **1.6 Team Organization**

**Steering Committee** - The EOT Steering Committee is responsible for assisting the team in distribution of responsibilities and in aiding greater youth responsibility within the team. They are also very helpful in implementing any structural changes that may need to be made as well as conflict resolution.

**Technical Mentors** - Adults with an engineering or technical background who provide professional expertise and supervision in a specific area. Technical Mentors are responsible for guiding and teaching students new skills.

(See Appendix 5.1 for Technical Mentors Position Descriptions)

**Other Mentors** - Highly involved parents or other adults who direct the team in a specific area. They provide professional expertise, guidance, supervision and/or training of students.

(See Appendix 5.2 for Adult Volunteer Position Descriptions)

**All Parents** - Parents are expected to provide support in one or more areas of the team. Examples include such things as contributing snacks, making travel arrangements, entering data, participating in fundraising, chaperoning at competitions, mentoring, etc.

**Sponsors** - Corporations, companies and individuals that contribute funds, services, supplies and/or support to the team.

**Team Leaders and Sub-Team Leaders** - Students responsible for leading a group of students on a sub-team. Responsibilities include mentoring inexperienced students and setting a good example, bringing problems to the attention of adults.

**Team Members** - all students on the team.

(Description of Build Season and Competition Sub-teams see Appendix 5.3 and 5.4).



## 1.7 Recruiting

Team members are recruited the summer and fall prior to the build season. We are unique in that we meet and work year round so the best time for us to bring in new members is during the summer. This allows us time to work with the new recruits to make sure they are interested in what we do thus ensuring a successful partnership between the member and the team.

### Student Eligibility

- Students must be in the 9<sup>th</sup>-12<sup>th</sup> grade, unless an exception has been voted upon by the steering committee. Students cannot be older than 18 years of age.
- Students are expected to make a time commitment to the team. Actively participating in meetings, workshops, and events, especially during the busy build season in January and February.
- Students are expected to be reliable (on-time, prepare to work, clean up, assist new members) and assist with team administrative tasks.
- Students and parents must complete an annual team registration form, pay a \$100 registration fee per student, and pay for hotel and travel expenses.

## 1.8 Accounting

The Financial and Administrative sub-team handles the day to day accounting. All funds received and disbursements are handled by the Kentucky Engineering Foundation a not-for-profit organization.

## 1.9 Current/History

### Current Status

Team 2783 currently consists of 16 students and 13 mentors from a variety of occupations. The team is a rural team that meets at the shop of one of our mentors. As active FRC participants, we will be attending the Boilermaker Regional and hopefully Atlanta.

### History

Our team founders met at a FLL State Championship in January 2008. One was a FLL team coach, and the other was a retired mechanical engineer who dreamed of helping to start an FRC team.

In 2008, team 554, the only veteran FRC team in Kentucky at that time, gave us an old robot base to work with over the summer. We learned a lot as we assembled, programmed and practiced driving it. Team 554 also loaned us their competition robot,



so we could participate as a pre-rookie team at the IRI in July that year. We benefited greatly from that experience.

In November, we were awarded a \$6,000 grant from NASA. NASA also had our 2009 control system shipped to us early. We tested and mounted the new system on our practice robot base and enjoyed demonstrating it on FOX 41 news, at FIRST Lego League state qualifying tournaments held at the University of Kentucky and Mt. Washington Middle School in December, and at the FLL Kentucky State Championship at Western Kentucky University in January 2009.

Our animation sub-team submitted a safety animation to FIRST in December 2008. We were among the top 6 finalists out of 85 entries. We were also among the first 50 FRC teams that season to score 100% on a safety quiz sponsored by Underwriters Laboratories, Inc. and Fabricators & Manufacturers Association, Intl.

On January 3, FIRST released the 2009 Lunacy Robotics challenge, at which time our team began designing, building, programming and testing a robot to complete the challenge. After an intense six weeks, our robot was crated and shipped to Purdue University for a 3-day competition against a number of other robotics teams from surrounding states. We won the All-Star Rookie Award and the Safety Credits Award. This qualified us to attend the FIRST Robotics Championship which was held at the Georgia Dome in Atlanta, in April 2009.



## **2.0 The Marketing Plan**

**Contents of the Business Plan, Section 2, include the following:**

- 2.1 Target Market**
- 2.2 Budget**
- 2.3 Fundraising Methods**
- 2.4 Distribution**
- 2.5 Sales Strategies**
- 2.6 Sales Incentives**
- 2.7 Advertising Strategies**
- 2.8 Customer Service**
- 2.9 Implementation of Marketing**

### **2.1 Target Market**

#### **Community**

EOT strives to become known within the community, included in our definition of community are family, friends and the community at large. We desire a good working relationship within our community as this is where our mentors, sponsors as well as new members are found. We are highly visible within the community and are dedicated to building strong relationships between our team and our community.

#### **EOT Students**

Our team members work hard to get along and to promote the team within itself. Team growth is dependant on our current team members staying active and recruiting new members.

#### **Sponsors**

EOT desires to be an appealing venue for sponsors. Our sponsors support us by contributing: financially, materials, supplies and/or other needed services for the team.

### **2.2 Budget**

FIRST registration (entitles team to robot kit of parts and one competition):	\$5,000
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Additional materials for building robot:	\$4,000
Atlanta Championship Registration:	\$5,000
Repairs/Supplies/Spare parts:	\$2,000
Tools:	\$ 800
Fundraising supplies:	\$ 100
Team Shirts:	\$ 700
Team buttons & presentation materials:	\$ 300
Off-season competition:	\$ 600
Total:	\$18,500

All travel expenses are provided by individual families.

### **2.3 Fundraising Methods**

EOT organizes and hosts three types of fundraising events annually: Kroger Cards, the FLL State Qualifying Competition, and Chick-a-Filet Day.

#### Kroger Cards

Kroger Cards are a year round fundraising opportunity that is simple for everyone. They are re-loadable gift cards that allow the team to make a percentage off of each re-load.

#### FLL State Qualifying Competition

The FLL State Qualifying Competition is organized and run by EOT. The event involves FLL students from the Louisville, Kentucky area who are involved in First Lego League Robotics teams and also Jr. First Lego League teams. The event is held at the Mount Washington Middle School in Mount Washington, Kentucky.

#### Chick-a-Filet Day

Our local Chick-a-Filet allows us to distribute coupons in the community and we get a percentage of the food sales for that day.

### **2.4 Distribution**

#### Kroger Cards

Each student sells Kroger cards to friends and family. The cards are sold for \$5 each and each card has a beginning shopping value of \$5.

#### FLL State Qualifying Competition



The FLL competition is open to all existing FLL teams in the Louisville area. There is a \$35.00 registration fee required to attend. Admission forms and information can be found on the EOT website.

### Chick-a-Filet Day

Students distribute coupons to friends and family for a specific day in which they can eat at Chick-a-Filet. There is no cost to the team for the coupons.

## **2.5 Sales Strategies**

### Kroger Cards

Students are encouraged to continue to sell cards to friends and family year round. When we have a list of ten (10) persons desirous of the cards we place an order and distribution is immediate.

### FLL State Qualifying Competition

The FLL competition is open to all existing FLL teams in the Louisville area. There is the registration fee of \$35.00 per team. EOT generally has items to offer either for silent auction or raffle. All funds collected for the FLL competition are invested in the competition in order to raise awareness of FIRST programs and to provide a high quality competition.

### Chick-a-Filet Day

Students are given coupons to distribute. Students are encouraged to distribute coupons at school and in their community.

## **2.6 Sales Incentives**

### Kroger Cards

The incentive of this fundraiser is that there is no cost to participate. Each time you do your grocery shopping you simply place an amount of money on your card and pay for your groceries or gas with your card. The initial \$5 charge entitles you to \$5 worth of groceries, thus the program is completely free.

### FLL State Qualifying Competition

The incentive to attending this competition is that in Kentucky you can only



attend the FLL State Competition if you successfully compete and rank at a state qualifying competition.

### Chick-a-Filet Day

The incentive for this fundraiser is again there is no cost to the consumer. Their meal at Chick-a-Filet is the same cost as any other day it is just on this one particular day a percentage of your cost goes to the EOT.

## **2.7 Advertising Strategies**

There are many ways that we can get the word out to our audience. Our normal strategies include the website, word-of-mouth, social networking and flyers.

## **2.8 Customer Service**

We strive to achieve a high level of gracious professionalism in everything we do. We are courteous, cooperative and respectful of others in our business dealings as well as when we are competing.

## **2.9 Implementation of Marketing**

Our Fundraising Sub-team works hard to implement and promote our fundraising efforts. They are very interested in finding new opportunities to assist in the financing of our team.



## 3.0 Operational Plan

Contents of the Business Plan, Section 3, include the following:

- 3.1 Current Product and Status
- 3.2 Design Process
- 3.3 Manufacturing
- 3.4 Communication and Technology
- 3.5 Staffing Plan
- 3.6 Recruiting
- 3.7 Training
- 3.8 Team Member Expectations
- 3.9 Safety

### 3.1 Current Product and Status

The robot for the 2009-2010 season was completed and shipped on Tuesday, February 23, 2010. The features of our robot are as follows:

#### Drive Train:

- Custom made tank tread design
- 4 custom made plates for tread support
- Each plate I made of 1/8 aluminum metal
- Each of the two tread assemblies includes two plates held apart by idlers and aluminum brackets
- 7 aluminum idlers on each tread assembly
- Idlers are clerical with holes cut in them for reduced weight
- Tread assemblies are bolted to chassis and braced across the middle
- Dual CIMs driving ANDYMARK tough boxes on either side
- Each tough box/sprocket assembly acts as a belt tensioner
- Encoders on each tough box for an even drive
- Each tread is a Gates Powers BT edition belt
- Treads are driven by manufactured sprocket
- Each of the threads are double sided endless for durability
- Two lower center idlers lowered slightly for low friction turning
- Designed to roll over bumps
- Zero turning radius
- Medium speed but powerful drive type

#### Ball Interaction Device

- Two sickle-like arms braced across the middle



- Arms cut out of aluminum
- Each arm is at a 5-1 ration for maximum energy transfer to ball
- Arms are powered by two cylinders-one per arm
- Cylinders are Bimba two inch bore; three inch stroke
- Each cylinder is powered by air transferred by three parallel valves
- Pivot point created from 3/8 in all-thread

This section will discuss the design process Team 2783 used facilitating the design and construction of the robot prior to its ship date.

## 3.2 Design Process

The FIRST challenge was released on January 9, 2010, immediately our creative minds began working on a robot that would be able to compete in this years challenge. Our team was divided into four teams to brainstorm and design four different robots. The design sub-teams met independently to work on their designs and all four teams came together on Tuesday, January 12, 2010. At that meeting each design was discussed and then rated in multiple areas by each team member. Each robot design was then given a design score based on the team member ratings and the top two designs were then chosen to continue in the selection process.

For the next week the team worked together building prototypes of the two selected designs. After completion of the two prototypes another team meeting was called where each design was discussed and then rated by each team member. The robot with the highest ratings is the robot we chose to build.

## 3.3 Manufacturing

Our primary manufacturing facility is located at one of our mentor's workshop. At this location we are able to manufacture the majority of parts used in construction. Tools located at this site include:

- Table saw
- Miter saw
- Jig saw
- Compressor for pneumatic tools
- Sanders
- Pneumatic tools
- Screwdrivers
- Wrenches
- Punches
- Files
- Drill Press
- Other miscellaneous shop tools

However, there is some manufacturing we cannot undertake at our main facility



because we lack a lathe and CNC mills. For parts requiring these tools we outsource production to either a machine shop or another location.

Materials located within our main facility are:

- C-channel
- Various types of wood
- Aluminum sheet metal
- PVC
- Spare robot parts
- A variety of fasteners
- Miscellaneous other building materials

### **3.4 Communication and Technology**

**Website:** EOT's website is open to the public and offers general information regarding our team as well as links to FIRST's Programs. We offer many documents on our site such as our team handbook, our upcoming schedule, photos and other information that may be of interest to potential team members, sponsors or even new teams looking for ideas on organization. Portions of our site are dedicated to giving perspective sponsors information regarding sponsorship.

**Skype:** EOT utilizes the conference feature of the popular chat program Skype. During the build season meetings between sub-teams (as well as the whole team) are held to discuss progress of certain activities at the shop as well as consultation about more difficult projects. We also have a Skype account constantly signed on at the shop so members can sign on during the day to check-in on progress.

**Task Tracker:** The Task Tracker is a feature located within the communication section of our website. It keeps us updated on multiple tasks as well as progress and priority.

**Shop Login:** The shop login is a mandatory protocol undergone by every member upon arrival to the shop. It is a useful way to track hours spent by each team member as well as notify the team of who is presently working at the shop. Shop login used in conjunction with Task Tracker makes it easy for sub-team members to know when specific tasks are being worked on and this aids team members in what is going on within a group at any given time.

### **3.5 Staffing Plan**

The EOT management team begins with a Steering Committee consisting of 5 adult members who oversee all areas of the team's operation. One of the most important roles they play is assisting the team in filling the essential management positions. We have an extensive list of positions that must be filled in order to make sure the team operates to its highest potential. Below is a list of the positions we currently have:



Technical Mentors:

- Mechanical Engineering
- Electrical Engineering
- Electrical Design and Wiring
- Computer Programming
- Pneumatics
- Computer Aided Design (CAD)
- Design/Materials Consultant
- Animation Software
- Website

(Job Description of Technical Mentors is located at Appendix 5.1)

Other Adult Positions:

- Operations Director
- Corporate Sponsor coordinator
- KEF/Financial
- FIRST Outreach
- Public Relations
- Safety/Controls Mentor
- Strategy/Scouting Mentor
- Team Web/Online Communications
- Travel Coordinator
- Chairman's Essay & Presentation
- Team Project Manager
- Team Spirit
- Business Writer
- FIRST Updates
- Shipping Contact

(Job descriptions for all other Adult Volunteer Positions are located at Appendix 5.2)

Build Season Student Sub-Teams

- CAD/CAM
- Fabrication
- Systems
- Programming
- Safety
- Animation
- Scouting
- Construction
- Writing/Speaking
- Website



Graphic Design  
Media  
Team Communication

(For descriptions of Build Season Student jobs see Appendix 5.3)

Competition Teams:

Safety  
Pit  
Scouting  
Competition (Drive Team)  
Team Spirit  
Writing/Speaking

(For descriptions of Competition Teams jobs see Appendix 5.4).

### **3.6 Recruiting**

We recruit new teams member by word of mouth, recommendations and from feeder programs within the FIRST Community. There is an application (See Appendix 5.5 for Application) that must be filled out and submitted. We also have an interest survey that each prospective member must complete. This allows us to find students interested in positions the team currently has available. We do our recruiting at the end of the school year and over the summer. Our desire is to place new team members on the team during the summer months so training may begin immediately. We also plan several events and meetings during the off season allowing new members to begin to bond within our group prior to the new season beginning.

### **3.7 Training**

There is no prior training necessary to join EOT. However, once a member, safety is number one for EOT. Therefore, training is essential. All members are require to read the safety manual and to receive 100% on their safety test before any work in the shop can begin. We require each team member to be properly trained on each tool he or she will be working with. We never allow students to work with power tools unless an adult is present. More advanced students mentor new team members and, of course, our mentors are always willing to teach us new skills.

EOT is diligent in their desire to become more informed on how to be successful in FIRST programs. Several times per year we attend training sessions in order to enhance current skills and to learn new skills. This season we have attended a day of workshops at Purdue in October, held basic team trainings and we also attended training session held by Underwriters Laboratories. Team members also took advantage of training sessions at the FRC competition held in Atlanta, Georgia in 2009, as well as



several trips to visit other FRC teams for strategy sessions.

### **3.8 Team Membership Expectations**

Students must be in 9th-12th grade (minimum age 14) unless prior committee approval

Students are expected to make a time commitment to the team, actively participating in meetings, workshops, and events, especially during the busy build season in January and February.

Students are expected to be reliable (on-time, prepared to work, clean up, assist new members) and assist with team administrative tasks.

Beginning May 2009, new students will be required to complete a membership application, and parents must complete registration paperwork, and pay required registration fees.

Students will display “gracious professionalism” – the motto of *FIRST* – and promote the ideals of *FIRST*.

Students are expected to behave in a courteous and cooperative manner.

Students are expected to be respectful of others and behave in a way that protects the health and safety of themselves and others.

Students shall be respectful of the facilities, tools, equipment and all things being used by the team.

Students shall not use profane, obscene, or vulgar language in written, gestured, or verbal form.

Students are expected to keep current with team activities and requirements by checking their email frequently.

Students are expected to read and understand all rules of competition, as well as, know our team’s robot and competition strategy.

Ask for help! If you don’t know what is going on, or are unsure how to accomplish a task assigned to you ask an adult to help.

### **3.9 Safety**

Team members will act in a safe manner AT ALL TIMES. This includes during any team-related activity, traveling to team events, and during competitions.



Team members will be respectful of the Safety Captain(s) and adhere to any requests made by the Safety Captain(s).

Team members will be expected to be trained on the use of specific tools and equipment before using them. Power tools or equipment may only be used under the supervision of an adult mentor.

Team members will be expected to wear safety glasses at work sites and in the pit area at all competitions. In addition, team members may be asked to wear gloves, face masks, and ear protection during certain tasks.

Horseplay will not be tolerated at any time in the work areas.

All work areas will be cleaned up at the end of every day including sweeping the floors and work surfaces, putting away tools and materials, and throwing away trash.

Team members will not directly or indirectly give out personal information about themselves or other team members while using the forum



## 4.0 Financial Plan

Contents of the Business Plan, Section 4, include the following:

- 4.1 Funding
- 4.2 Estimated Funding Needs
- 4.3 Financial History and Sponsor Composition
- 4.4 Projected Cash Flow
- 4.5 Financial Forecast

### 4.1 Funding

#### Sponsors:

Funding for the EOT team relies heavily on donations from our sponsors. Our Corporate Sponsorship team works diligently to locate Major and Minor Sponsors. This year we also added a requirement that each individual team member is responsible for locating and recruiting one sponsor for the team.

The normal sponsorship process begins by attempting to gain a contact person at the corporation we are contacting. Once a contact person is located we then hand deliver a sponsorship packet to that person. Follow up contacts are made to track the progress of our request. When possible we request a meeting and present information about our team to the perspective investor.

We have three levels of sponsorship each with a different promotional package for the investor.

<b>Level of Sponsorship</b>	<b>Promotional Package</b>
<b>Major Sponsors</b> \$5,000 & up	Company name and logo is listed on our website, pit banner, team shirts, robot, and they receive an appreciation plaque.
<b>Minor Sponsors</b> \$1,000 - \$4,999	Company name and logo, or sponsor name listed on our website, pit banner, team shirts, and robot.
<b>General Sponsors</b> Up to \$999	Company name and logo or individual name listed on our website, pit banner and team shirts.

Below are our list of sponsors at their perspective levels:

#### **Major Sponsors \$5,000 and above:**



### **Minor Sponsors \$1,000 - \$4,999**

**A & M Machine** is a Louisville, Kentucky, based machine shop. They provide machining services including turning, machinists work, mill work and tool repair.

**AMGEN** is a leading human therapeutics company in the biotechnology industry. For more than 25 years, the company has tapped the power of scientific discovery and innovation to advance the practice of medicine. Amgen pioneered the development of novel products based on advances in recombinant DNA and molecular biology and launched the biotechnology industry's first blockbuster medicines.

**BAE Systems** is a global company engaged in the development, delivery and support of advanced defense, security and aerospace systems. They deliver a full range of products and services for air, land and naval forces. As well as advanced electronics, security, information technology solutions and customer support service.

**Cherry House** is widely regarded as the premier resource for unique, affordable fine home furnishings in the Louisville market and surrounding areas. The business is committed to continually improving its ability to serve customers and showcase the largest and finest selection of fine home furnishing in the region.

**Clifty Engineering** is a full service tool and die shop. Clifty can manage every type of tooling project from progressive to transfer dies including special machines and reverse engineering.

**Gates Corporation** is one of the world's leading manufacturers of industrial and automotive products, systems and components with operations in 33 countries. Gates maintains sales and marketing operations in every major industrial and automotive market, including North and South American, Europe, Asia, Australia and the Gulf Region.

**Heartland Payment Systems** is known for fair, fully disclosed pricing and empowering merchants to take control of their payments processing costs. Processing more than 11 million transactions a day and more than \$80 billion in transactions a year, Heartland is the 5<sup>th</sup> largest payment processor in the United States and 9<sup>th</sup> in the world.

**Kentucky Engineering Foundation** – founded in 1971 by the Kentucky Society of Professional Engineers (KSPE) for the purpose of supporting the educational programs sponsored by engineers in the Commonwealth of Kentucky. **Our team has partnered with KEF to obtain a 501c3 status.**

### **General Sponsors up to \$999**



American Nuclear Society  
Chick-Fil-A  
EA Games  
J.B. Speed School of Engineering  
Dr. Tony Karem  
Kroger  
Louisville Science Center  
Frank and JoAnn Luecke

Metal Supermarkets  
Mills Lawn & Landscaping  
Orr Safety  
Dave and Audrey Rasmusson  
River Metals Recycling, LLC  
Teknon Controls, Inc  
Unique Crafts  
University of Kentucky

### **Registration Fees:**

Each team member is responsible for a \$100 registration fee and also all of their travel expenses. Travel expenses include transportation costs, field trip expenses, meals, lodging when necessary and miscellaneous costs associated with trips that are necessary for the team.

### **Fundraising**

Fundraising is another way we as a team are able to raise money to fund operations. Each family is expected to participate in the various fundraisers that we have. The fundraising committee is very careful in their selection of fundraisers. The fundraisers they select actually raise funds without costing the customers anything. They have been very creative in finding ways we can make money without additional expense to the team or its supporters. Some of our fundraising efforts for this season are listed below:

#### **Kroger Cards**

Kroger Gift Cards are a very easy way for the team to make money with minimal efforts. For each \$5,000 spent at Kroger, whether for gas, groceries or gas, our team receives a \$200 check. The plan works by selling Kroger Gift Cards to friends, family or other supporters of the team. Each gift card has an initial charge of \$5 charge which entitles you to \$5 worth of groceries thus the cost is truly free. Each time you are going to make a purchase at any Kroger you “reload” the card and make your purchase using the card for payment. The program is so easy, you can actually reload the card prior to checking out thus eliminating the need to carry a balance on the card.

#### **FLL State Qualifying Competition**

While hosting the competition we are allowed to have silent auctions and/or raffles for memberships to local organizations, such as the Science Center. This year we received several video games from one of our sponsors and we were able to have a silent auction to raise funds for our team.

#### **Chick-a-Filet Day**



Chick-a-Filet has a program that allows organizations to deliver coupons for dining on a certain day. For each coupon that is presented that day 20% of the cost of the food sold is donated to the participating organization. This is an easy way for local community supporters to donate to the team and enjoy a Chick-a-Filet.

#### 4.2 Estimated Funding Needs:

FIRST registration (entitles team to robot kit of parts and one competition):	\$5,000
Additional materials for building robot:	\$4,000
Atlanta Championship Registration:	\$5,000
Repairs/Supplies/Spare parts:	\$2,000
Tools:	\$800
Fundraising supplies:	\$100
Team Shirts:	\$700
Team buttons & presentation materials:	\$300
Off-season competition:	\$600
<b>Total:</b>	<b>\$18,500</b>

EOT has been diligent to keep the team costs as low as possible. One of the ways we have been able to keep our funding needs at a minimum is by keeping transportation and travel costs separate from the actual out of pocket financial costs of the team. Many times we are able to significantly keep our costs lower than our projection as many of our sponsors provide the actual building materials we need at no cost to us.

#### 4.3 Financial History and Sponsor Composition

##### Sponsors:

EOT has been successful in securing funds that have enabled us to continue operations without any debt. We have consistently had available funds for our current needs as well as start up funds for the subsequent year. Our sponsorship base has stayed close to the same numbers for the past 2 seasons however, the levels of our sponsorships have increased.

In the 2008-2009 season we had a total of 28 sponsors, 3 at the Major or Minor Sponsor level. This season we have 9 sponsors at those levels with an additional 19 sponsors giving us a total of 25 sponsors. In our 2008-2009 year 9 of our sponsors were individuals while this year 3 of our sponsors are individuals. Several of our 2008-2009 sponsors were supporting us for the Atlanta competition, we anticipate that those sponsors would again support us if we indeed earn the right to compete in Atlanta this year.

##### **Sponsorship Levels**



	<b>2008 -2009 Season</b>	<b>2009 - 2010 Season</b>
<b>Major</b>	1	1
<b>Minor</b>	2	8
<b>General Businesses</b>	16	13
<b>General Individuals</b>	9	3

**Registration Fees:**

This year the team determined in order to raise additional operating funds they would charge each team member a registration fee thus increasing income as shown below:

**Team Registration Fees**

	<b>2008 - 2009 Season</b>	<b>2009 - 2010 Season</b>
Team Registration	0	\$1,700.00

**Fundraising:**

**Fundraising Activities**

	<b>2008 - 2009 Season</b>	<b>2009 - 2010 Season</b>
Activities	\$250.00	\$1,083.62

Continued efforts of finding financial support and of careful budgeting will help ensure the continuation of our team’s financial success. The Kroger Gift Card program has unlimited potential and continues to earn the team income daily. We are projecting that this fundraiser alone should produce income in excess of \$200 per month year round.

**4.4 Projected Cash Flow**

Cash flow is a necessity of any business and EOT is no exception. EOT always has a positive cash flow as they are continuously searching new sponsors, donations and work days that they can increase the funds on hand. They depend on a positive cash flow to ensure the team will be able to grow and be successful. Our budget is such that it can always be curtailed in the event of a shortfall.

**4.5 Financial Forecast**

EOT’s financial outlook is very positive. The team has been able to set in place several safeguards that enable the team’s future finances to look very bright. Many of our sponsors have supported the team for the two previous seasons and since EOT is very careful to keep in contact with their sponsors it appears we should be able to retain



sponsorship for subsequent years.



## **5.0 Appendix**

Contents of the Business Plan, Section 5, include the following:

- 5.1 Technical Mentor Position Descriptions**
- 5.2 Adult Volunteer Positions**
- 5.3 EOT Build Season Student Sub-teams**
- 5.4 EOT Student Competition Sub-teams**
- 5.5 EOT Membership Application Form**
- 5.6 Team Resources**

### **5.1 Technical Mentor Job Descriptions**

#### **Mechanical Engineering**

- Assist in construction and design of robot

#### **Electrical Engineering**

- Assist students in design and construction of electrical system
- Computer Programming
- Assist students in programming drive system
- Assist in programming of payload handler and interface with sensors input/output

#### **Pneumatics**

- Assist students in designing and constructing pneumatic system

#### **Computer Aided Design (CAD)**

- Assist students in designing robot in CAD
- Overseeing the maintaining of the Bill of Materials

#### **Design/Materials**

- Assist students in design and materials choices

#### **Animation**

- Aid in training of animation team

#### **Website**



- Aid students in designing team website
- Aid in maintaining team website

## **5.2 Adult Volunteer Positions**

### **Operations Director**

- **Oversee operations of the team**

### **Corporate Sponsor Coordinator**

- Write grants, sponsor letter
- Create portfolio to market team
- Schedule/perform corporate presentations
- Oversee community fundraisers
- Find ways for team to earn \$\$
- Maintain sponsor relations and recognition

### **Accounting**

- Maintain relationship with the Kentucky Engineering Foundations
- Provide W-9 to FIRST
- Instruction team on tax-exemption use
- Handle all team funds/ control team purchases
- Pay for team registrations
- Handle receipts, deposits, requests for reimbursement
- Disburse funds
- Maintain accurate records for audit

### **FIRST Outreach**

- Promotes science and engineering through various activities
- Coordinates events to educate and assist educational institutions in the local area

### **Public Relations**

- Generate community contact through newspaper, magazines, news stations, PBS, KET, Science Center, local robot demonstrations, team recruitment, information meetings,
- Arrange community service opportunities

### **Safety/Controls Mentor**

- Assist students in maintaining shop safety records and notebook
- Assist in training students to perform safety inspections
- Train students in safety



### **Strategy/Scouting Mentor**

- Assist students in accomplishing scouting tasks

### **Team Web/Online Communications**

- Directs internal communications

### **Chairman's Essay and Presentation**

- Works with students on Chairman's Essay
- Works with students on presentation of Chairman's Essay

### **Team Spirit**

- Works with Graphic Design Team to assist in obtaining spirit wear
- Aids in decorations and posters for team

### **Main Team Contact**

- Processes all incoming information from FIRST
- Registers team online for all events
- Maintain Team Information Management System (TIMS)
- Main Communications person for team
- Generate team announcements via e-mail
- Process all team applications, acceptance/rejection letters

### **Alternate Team Contact**

- Works with main contact also receives information from FIRST
- Maintain roster with name, address, phone of all students, parents and mentors
- Maintain consent forms, medical forms, roster for team registrations

### **Shipping Contact**

- Handle all details pertaining to shipment of robot

### **Team Project Manager**

- Coordinate planning documents
- Sub-team schedules/updates
- Progress tracking, etc.



### **Business Writer**

- Maintain Business Plan and Executive Summary
- Maintain Team Handbook

### **Travel Coordinator**

- Manage hotel reservations, room assignments, travel details/carpooling, contact information, maps eating options, etc.

## **5.3 EOT Build Season Student Sub-teams**

### **CAD/CAM**

- Design Robot in CAD
- Machine specialized parts
- Maintain Bill of Materials

### **Fabrication**

- Construct robot prototypes
- Construct chassis
- Construct drive system
- Construct payload handler

### **Systems**

- Design/construct electrical system
- Design/construct pneumatic system
- Design/assemble sensors
- Design/assemble control system

### **Programming**

- Program drive system
- Program payload handler
- Interface with sensor input/output

### **Safety**

- Maintain shop safety records
- Maintain safety notebook
- Maintain safety kits



- Perform safety inspections
- Maintain safety/emergency supplies

### **Animation**

- Produce safety animation
- Produce team animation

### **Scouting**

- Research other teams' websites and prior competition results
- Create scouting system and implementation methods

### **Construction**

- Construct practice field
- Construct pit support equipment
- Construct shop support equipment

### **Writing/Speaking**

- Write short essays for TIMS, Chairman's Award Essay
- Write Executive Summary and Business Plan
- Write newspaper articles
- Write website content
- Maintain team history for website and records

### **Website**

- Design and maintain team web site
- Assist other teams in posting web content

### **Graphic Design**

- Develop team identity - shirts, buttons, letterhead, banners
- Create team book by working with writers and media

### **Media**

- Take photographs and record video at events and during community outreach
- Compile photo and video content for website
- Provide pictures for team books turned in at competition
- Create videos each year for sponsors and chairman's Submission



- Document each year of team's existence

### **Team Communications**

- Create and maintain team communication methods forum, Skype sessions
- FTP files, or other tools the team chooses to use
- Print out and assemble Competition Manual the day of kick-off
- Maintain notebook of team updates and Bill's Blog during competition season and post to team.

## **5.4 EOT Student Competition Sub-teams**

### **Safety**

- Maintain safe pit environment
- Participate in interviews
- Pass out safety tokens
- Promote safety to other teams

### **Pit **\*\*build season experience required for these areas****

- Set-up/tear-down pit equipment
- Uncrate/crate robot
- Repair robot\*\*
- Correct/update programming\*\*
- Participate in interviews\*\*

### **Scouting**

- Gather information on other teams by observing competition rounds and visiting pits
- Take pictures of competing robots
- Summarize and pass along scouting information to competition team

### **Competition **\*\*Positions will be filled based on experience and try-outs****

- Drive robot\*\*
- Operate payload handler\*\*
- Compete as human player as dictated by game design\*\*

### **Team Spirit**

- Setup pit decorations
- Organize team cheering section
- Coordinate team appearance
- Create banners, flags, cheers, etc.



### **Writing/Speaking**

- Participate in judge/team interviews
- Chairman's Award Presentation
- Create team facts brochure for judges
- Create robot strengths/weaknesses card for judges and other teams



## Appendix 5.5

# FRC TEAM 2783 Engineers of Tomorrow Membership Application Form

All fields must have text in them for the form to be properly submitted. Please input "NA" (not applicable) instead of leaving a field blank.

**Team Member:**

**Last Name:** \_\_\_\_\_ **First name:** \_\_\_\_\_

**Address:** \_\_\_\_\_  
**City, State,** \_\_\_\_\_  
**Zip:** \_\_\_\_\_

**Home Phone:** \_\_\_\_\_ **Email 1:** \_\_\_\_\_  
**Cell Phone:** \_\_\_\_\_ **Email 2:** \_\_\_\_\_

**Grade (2009-2010 School Year):** \_\_\_\_\_  
**School:** \_\_\_\_\_  
**Date of Birth:** \_\_\_\_\_

**Parents:**

**Name(s)** \_\_\_\_\_  
**Cell Phone:** **Mom:** \_\_\_\_\_ **Dad:** \_\_\_\_\_  
**Best Email** \_\_\_\_\_

\_\_\_\_\_  
**Dad's Occupation:** \_\_\_\_\_  
**Mom's Occupation:** \_\_\_\_\_

**Team Member:**



**How did you first hear of the Engineers of Tomorrow Robotics Team?**

**Friend**

**Presentation**

**School**

**Other (please specify):**

**Comments:**

**What aspect of the team are you interested in? [check all that apply]**

*NOTE: This will not lock you into a work area. We are just interested in learning more about areas you are interested in.*

**Design/CAD/CAM**

**Mechanical**

**Electrical**

**Programming**

**Safety**

**Marketing/Public Relations**

**Web Site**

**Video/Photographic Media**

**Computer Animation**

**Writing**

**Preferred Meeting Days [check 4]:**

Saturday    Sunday    Monday    Tuesday    Wednesday    Thursday  
Friday

**Preferred Meeting Time:**

**Potential Time Conflicts:**

**Dietary Restrictions:**

**Do you have any experience with [List number of years that apply]:**

**AutoCAD**

**3-D Studio Max**

**Computer Animation Software**

**Machine Tools**

**Computer Programming**

**Welding**

**Web page design**

**Graphic design**

**Journalism**

**Pneumatics**

**Electronics**

**Carpentry**



**R/C (radio controlled) hobbies**  
**Robotics**  
**Budget/Finance**  
**Video production**  
**LEGO Mindstorms**  
**Fundraising**  
**Public Speaking**  
**First Lego League**

**Leadership positions held [specify positions and groups/organizations]:**

**Do you plan on attending:**

**4-year university**  
**Technical School**  
**Other (please specify):**  
**I do not plan to go to college.**

**If you plan on attending college, what majors are you considering?**

**If you plan on attending college, what schools are you considering?**

### **APPLICANT ESSAY QUESTIONS**

*(note: the spaces following the questions will expand to fit your text)*

*To be considered for membership to The Engineers of Tomorrow FIRST Robotics Team, each applicant must complete the following questions. Please take the time to consider your answers for each of these questions. There are no right or wrong answers. Through your responses, we hope to learn more about our applicants and their interests to assist in future program planning. If an excess of applicants exist, the response to these essay questions may be used in a selection process.*

***Why do you want to join this team?***

***What do you expect to gain from this experience?***



**What qualities/experiences do you have that would make you a significant contributor to our team?**

**Parents Corner:**

**All parents are encouraged to participate in at least one of the following positions/committees listed below. For an explanation of each position please refer to the robotics team website at [www.kyeot.com](http://www.kyeot.com). Please number the areas 1 as first choice, 2, and 3.**

**Robot Oriented Task**

- \_\_\_\_\_ *Design/CAD/CAM*
- \_\_\_\_\_ *Wiring/Electrical*
- \_\_\_\_\_ *Computer Programming*
- \_\_\_\_\_ *Mechanical*
- \_\_\_\_\_ *Building/Carpentry*
- \_\_\_\_\_ *Pneumatics*
- \_\_\_\_\_ *Strategy/ Scouting*

**Business Oriented Task**

- \_\_\_\_\_ *Fundraising*
- \_\_\_\_\_ *FIRST Promotion and Outreach*
- \_\_\_\_\_ *Team Advertising/PR*
- \_\_\_\_\_ *Membership Recruiting*
- \_\_\_\_\_ *Writing/Editing*
- \_\_\_\_\_ *FLL team mentoring*
- \_\_\_\_\_ *Travel Coordinator*

**Thank you! Your application will be reviewed and processed within 30 days. Those receiving acceptance letters will be required to read and sign the Engineers of Tomorrow Handbook to finalize your membership. In the even your application is not accepted, your membership fee of \$100.00 will be refunded. Please give your completed application to David Echsner with your Membership Fee of \$100.00 made payable to:**

**“Kentucky Engineering Foundation” with Engineers of Tomorrow in the Memo Section.**

**Or mail a paper copy to:**

**David Echsner  
121 Oak Leaf Court  
Mount Washington, KY 40047**



**Comments:**

**Liability & Medical Release**

**Student Information:**

Name: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

Address: \_\_\_\_\_

**Person to Contact in Case of Emergency**

Name: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Cell: \_\_\_\_\_

Medical Insurance Company: \_\_\_\_\_

Policy / Group #: \_\_\_\_\_ Member #: \_\_\_\_\_

**Medical Information**

Prior Medical History: \_\_\_\_\_

Allergies: \_\_\_\_\_ Contact Lenses: Yes /No

Medical Doctor: \_\_\_\_\_ Telephone: \_\_\_\_\_

Date of Last Tetanus Shot: \_\_\_\_\_

**Emergency Medical Release**

If emergency medical care is required for \_\_\_\_\_ and if permission is not available in a timely manner, then the undersigned authorizes appropriate emergency medical care as deemed necessary by emergency medical personnel, a physician or the medical facility providing treatment. Further, I agree to accept any and all financial responsibility as a result of this medical treatment. This release shall remain in effect until revoked in writing and delivered to the main team contact person.

I have read this release and agree to it:

Signature: \_\_\_\_\_ Date \_\_\_\_\_



(parent or guardian)

**Release of Liability**

I agree to hold harmless the Engineers of Tomorrow *FIRST* Robotics Team 2783, its members mentors, and sponsors from any and all liability for damage to or loss of personal property, sickness, injury, or death from whatever source, or legal entanglements which might occur while participating as a member of this team. This release shall remain in effect until revoked in writing and delivered to the main team contact person.

I have read this release and agree to it:

Signature: \_\_\_\_\_ Date \_\_\_\_\_  
(parent or guardian)



## 5.6 Team Resources

### RESOURCES

[www.kyeot.com](http://www.kyeot.com) - Engineers of Tomorrow team website

- General team information

[www.usfirst.org](http://www.usfirst.org) - official website of *FIRST* Robotics Competition (FRC), includes:

- Information about *FIRST*
- Information about *FIRST* Robotics Competition
- Video of last year's championship games
- Current year's competition manual

[www.chiefdelphi.com](http://www.chiefdelphi.com) - a website of an outstanding veteran team with helpful information and forums on many topics.

[www.firstnemo.org](http://www.firstnemo.org) - a website with information for non-engineering mentors.