



Oregon Robotics Tournament and Outreach Program

"Opening Doors to the Worlds of Science and Technology for Oregon's Youth"

www.ortop.org

Dear *FIRST* LEGO League Coach:

Thank you for your dedication to your team this past season as a coach. With national **FIRST** registration opening next week, ORTOP reviewed our records and we show your team included middle school and/or freshman students during the 2008 season. There are new robotic team opportunities available for students in this age range.

ORTOP has implemented the FIRST Tech Challenge (FTC) program for middle and high school students. If your team is ready for a new challenge, this program has much to offer. The transition from FLL to the FTC Tetrax kit is easy because it uses the same NXT brick. It enables more powerful and faster robots by supplying metal parts and larger motors. It provides your team the opportunity to learn the more sophisticated programming language Robot C designed by Carnegie Mellon University. As a result, your team will participate in exciting head-to-head competitions with multiple robots.

FIRST Tech Challenge program:

- **Participate** as a team of up to 10 students with 2-3 coach/mentors. Typical team size is 6 team members. Teams meet weekly or bi-weekly, September – February.
- **Develop** problem-solving, organizational and team building skills including development of an engineering documentation notebook, marketing and fundraising.
- **Exciting** interactive robot game employing offensive and defensive strategy and team networking.
- **Solve** complex problems using the Tetrax robotic system to navigate autonomously with sensors, manipulate small objects and travel over uneven surfaces.
- **Use** a sustainable reusable kit of parts with servo motors, multiple controllers, some team manufactured parts and a variety of programming platforms: NXT-G, Robot C and Labview.
- **Opportunities** to custom fabricate specified parts, incorporate a prototype board and use PTC design software.
- **Emulate** design elements used in civic and commercial robotic applications.
- **Apply** for college scholarship funds reserved for *FIRST* team members only.



Oregon Robotics Tournament and Outreach Program FTC support

- **Involved** over 208 students on 38 FTC teams in Oregon and SW Washington in 2008. Goal is to expand to 50 – 55 teams in 2009.
- **Teams** are formed at schools, community groups, after-school clubs and neighborhoods. ORTOP encourages girls and underrepresented students to join teams.
- **Provides** partial grants to teams that could not otherwise afford to participate
- **Delivers** free classes to train adult coaches and mentors. (*may include student workshops in Fall 2009*)
- **Holds** several scrimmages, Qualifiers and a Championship Tournament giving teams many opportunities to operate their robot in the game

If your students have not aged out of *FIRST* LEGO League (*must be 14 years of age or younger on January 1, 2009*), those team members can still participate in *FIRST* LEGO League in 2009. Our goal is to keep students engaged in **FIRST** programs to continue and expand their interest in engineering and technology.

We've enclosed a FTC at a Glance sheet with detailed information. If you have questions about FTC or need help deciding if this is the right year to transition, please contact us to speak with a FTC Planning Committee member or a FTC coach.

Regards,



Edward Epp
ORTOP *FIRST* Tech Challenge Planning Committee Chair
questions@ortop.org

FIRST Tech Challenge Web Resources

ORTOP FTC site: www.ortop.org/ftc

National FTC site: <http://www.usfirst.org/what/FTC/>

Carnegie Mellon University FTC training site:

<http://www.education.rec.ri.cmu.edu/content/events/ftc/robotc/>

FTC TETRIS and ROBOT C Try-it Sessions

In this innovative introductory hands-on session you and up to three students will join others to build a Tetrix robot in one hour. Alternate session explores programming in Robot C. Groups will switch activities in the second hour.

Open to adults or up to three students accompanied by an adult. No cost.

RSVP: workshops@ortop.org with session date, names of participants- specify adult or student participant.

- Tuesday - May 12th – Benson High School Robotics Lab - 546 N.E. 12th, Portland, OR 97232, 6:00pm – 9:00pm
- Wednesday - May 20th – ORTOP Office – 18640 NW Walker Rd Suite 1065, Beaverton, 6:00 – 9:00pm
- Saturday - May 30th – Evergreen Aviation & Space Museum, McMinnville – 9:30 am - 12:30pm

UPCOMING OPPORTUNITIES to see and explore the *FIRST* Tech Challenge program

Thursday -May 7th - *NW Youth Career Expo at the Portland Convention Center*, 9:00 am – 2:00 pm

Saturday - May 16th – *RoboShock 2009* – Linn County Fairgrounds, Albany 9am – 3pm (with FTC center stage 10 or 11:00 am) produced by Oregon State University Robotics Club

FIRST ROBOTICS COMPETITION (FRC)

Another choice for students entering 9th grade or above is to join or start a **FIRST Robotics Competition** team. This program located at 32 high schools in Oregon (2008) is the organized by the *FIRST* Oregon Regional Committee. It involves larger teams (12 – 30 students) that build a custom robot during a 6-week period (January – mid-February) and compete at the FRC Oregon Regional event. For detailed information **FIRST Robotics Competition** program in Oregon consult www.usfirst.org or www.pnwfirst.org