

Volunteer Opportunities



Adventure Program

- Experienced belayers interested in assisting with Rock Climbing programs
- Qualified bike mechanic to perform basic repairs/maintenance on our bike fleet
- Experienced surfers/stand-up paddleboarders to help facilitate youth programs (must have own equipment)
- Social Media/Website/Marketing expertise to help build awareness of our programs
- Tool/Equipment Needs

STEAM Program

FIRST LEGO League (FLL) Robotics Teams - Middle School

SEPT-DEC

FLL teams work together to build and program LEGO EV3 robots to solve technical challenges using an international theme. Through research, hands-on field trips, and special guests, teams will also determine a community need and present a unique solution. Teams compete at UNH in November. Price includes program, full day of team building, field trips, team t-shirt, celebrations, and competitions.

NEEDS:

- **Robot Assistance:** Help with the design and programming of LEGO Robots.
- **Project Research & Presentation:** Help the teams gather research and find a creative solution to a world problem related to the yearly theme, and then design and practice a creative presentation to be given to judges.
- **Mock Judging:** Before the competition, attend practice presentations done by students and provide constructive feedback to help them prepare for competition day.
- **Time Commitment:** One or more days during the workshop, depending on which task, as well as a short training day before the workshop begins.



FIRST LEGO League Jr. (FLL Jr.) - Elementary School

SEPT-DEC

Using the LEGO Mindstorms EV3 robotics kit, participants build and program amazing robotic creations that use sensors to interact with their environment. This workshop introduces elementary school kids to FIRST LEGO League, and what our middle school teams encounter each fall.

NEEDS:

- **Robot Assistance:** Help with the design and programming of LEGO Robots.
- **Mock Judging:** Before the competition, attend practice presentations done by students and provide constructive feedback to help them prepare for competition day.
- **Time Commitment:** One or more days during the workshop, depending on which task, as well as a short training day before the workshop begins.

FIRST Robotics Competition (FRC) – High School

DECEMBER - APRIL

During FIRST Robotics Competition, a team of 20 high-school participants will work together under strict rules, limited resources, and an intense six-week time limit. Teams 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. It's as close to real-world engineering as a student can get!

We are seeking volunteer professional mentors to lend their time and talents to guide our team.

The team meets at Portsmouth High School from 3:20pm until 5:30pm Tues-Fri & Saturdays during build season from 10am-2pm.

NEEDS:

- **Computer Programmers:** We need programmers that work with JAVA to help with the programming of our robot. We are also in need of people who know GitHub and how to work with it.
- **Mechanical/Electrical/Pneumatics:** We are always in need of people who are skilled in these areas. These skills are instrumental to our team being able to complete our robot during the 6-week build period.
- **Social Media/Website/Business Plan/Marketing:** Our team is out in the community and we spread the word about what we are doing in many different ways. The team manages multiple social media channels, has a WordPress website, needs to develop a comprehensive business plan, submit awards, and seek sponsorships from community organizations. The team is also tasked with helping to raise funds for the team by organizing and holding fundraisers.
- **Tool/Equipment Maintenance and Acquisition:** Helping to make sure that all of our team's tools/equipment are in safe working order and seeking donations of new tools that are needed.
- **Hunger Management:** Helping secure food donations, setting up food, and/or making food for everyday meetings, late night work sessions, and competitions.



TIME COMMITMENT:

One or more days during the program depending on which task is selected. We try and have consistency with volunteers that work with the team so that the volunteer gets to know the team and the team gets to know them. Our build season starts the first Saturday in January and goes for 6 weeks. We have two 3-day competitions in March/April.

SUMMER WORKSHOPS

New Heights offers many week-long STEM-based workshops during the summer. We are in need of skilled volunteers to help students do things such as: build and program LEGO robots, code their own video games, build rideable kinetic sculptures, work with 3D design and printing, learn how to program our NAO humanoid robot, work as a team to solve a creative challenge, and more.

“ The experience has been great... the goal was to be a sounding board for the kids. Rather than provide specific answers, we would help them find a path towards an answer. I saw such a **wide range of skills being developed...watching them make mistakes and then correct for them just shows the amount of problem solving and communication that this competition requires. **Can't wait for next year!** ”**

Pat ~ LanAir, Inc.
Robotics volunteer

These workshops change year to year so the skills sets and time commitments fluctuate. Please contact us for more information.

www.NewHeightsOnline.org
(603) 422.8235