Robotics & Engineering Club

Providence Extension Program

Club Mentor: Dr. Charlotte Singletary PT, DPT
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Required Materials

There are no required textbooks for this club.

Club members should bring:

- A positive attitude and willingness to participate.
- Curiosity and perseverance.
- A notebook and pencil (optional for taking notes or sketching ideas).

All equipment, computers, programming software, and engineering materials will be provided during class.

Club Mission

This club is designed to introduce club members to the exciting fields of robotics, engineering, and computer programming through hands-on learning, creative problem-solving, and teamwork.

Club members will explore how engineers identify problems, design solutions, build prototypes, test ideas, and improve their work through the engineering design process. Activities are intentionally hands-on and encourage curiosity, creativity, perseverance, and collaboration.

As Christians, we recognize that God created mankind with the ability to think, create, invent, and steward His creation wisely. Technology is a gift that should be used responsibly to serve others, solve meaningful problems, and glorify God. Throughout the year, club members will be encouraged to view engineering and technology through a biblical worldview, using their talents with wisdom, integrity, and humility.

Topics Covered

- Introduction to Robotics
- Engineering Design Process
- LEGO EV3 Programming
- LEGO SPIKE Programming
- Robot Movement & Navigation
- Motors and Mechanical Systems
- Sensors and Autonomous Programming
- Loops, Logic, and Decision Making
- Debugging and Problem Solving
- Engineering Design Challenges
- Innovation and Creative Design
- Teamwork and Communication
- Responsible Use of Technology
- STEM Careers

Topics and projects may be adjusted throughout the year based on club members interests, available resources, and the pace of the club.

Class Expectations

- Be on time and ready to participate.
- Participation in discussions and engineering challenges is expected.
- Be respectful to the club mentor and fellow club members.
- Follow all PEP West classroom policies and expectations.
- Handle all robotics equipment, computers, tools, and supplies responsibly.
- Follow all safety instructions during building and programming activities.
- Work cooperatively with teammates and encourage one another.
- Clean your workspace and return all materials before leaving class.
- Robotics challenges require perseverance. Mistakes are expected and are an important part of learning.

Attendance & Participation

Robotics Club is a participation-based enrichment club and does **not** receive letter grades.

The club mentor will maintain records of:

- Attendance
- Participation
- Behavior

Parents will be contacted if there are concerns regarding attendance, participation, or classroom conduct.

Last Updated 07/24/26

Club Participation Policy

Participation in the Robotics & Engineering Club is a privilege.

This club depends on club members demonstrating maturity, responsibility, and respect for one another and for the equipment entrusted to them. Club members who consistently demonstrate disruptive behavior, misuse robotics equipment or technology, refuse to follow safety procedures, or show disrespect toward classmates or the club mentor may lose the privilege of participating in Robotics & Engineering Club.

If concerns arise, parents will be contacted so we can work together to develop a plan for improvement before further action is taken. Our goal is to help every future scientist and engineer succeed while maintaining a safe, enjoyable, and productive learning environment for everyone.

Cell Phone Policy

- All PEP West cell phone policies apply during Robotics Club.
- Personal electronic devices should remain put away unless specifically authorized by the club mentor for a club activity.
- Unauthorized use of phones or devices may result in disciplinary action according to PEP policy.

Engineering is about far more than building robots or writing computer code. It is about learning to observe carefully, think critically, solve problems creatively, and persevere when things don't work the first time.

My goal is to create a club where club members are encouraged to ask questions, try new ideas, work together, and develop the confidence to tackle challenging problems. I hope every club member leaves this club with a greater appreciation for engineering, a stronger understanding of technology, and the confidence to use their God-given abilities to serve others with wisdom and excellence.

I look forward to an exciting year of building, learning, and discovering together.

Dr. Charlotte Singletary, PT, DPT
Robotics & Engineering Club Mentor

Last Updated 07/24/26

Parent & Club Member Acknowledgment Form

By signing below, both the club member and parent/guardian acknowledge that they have received, read, and understood the Robotics & Engineering Club syllabus and expectations.

We understand that Robotics Club is a participation-based enrichment opportunity. We agree to uphold the behavioral expectations, demonstrate responsible use of robotics equipment and technology, and contribute positively to the learning environment.

We understand that continued participation in Robotics Club is dependent upon respectful behavior, responsible stewardship of club resources, and adherence to all PEP West policies.

Should questions or concerns arise during the school year, we agree to communicate respectfully and promptly with the club mentor.

Club Member Name (Print): _____

Club Member Signature: _____

Date: _____

Parent/Guardian Name (Print): _____

Parent/Guardian Signature: _____

Date: _____

Parent Preferred Contact Email or Phone: _____

Please return this signed form to your club mentor.

Last Updated 07/24/26