

igKnighthion Robotics – CAD Team Member

Reports To: CAD Mentor(s), Team Captain(s), and Lead Mentor(s)

Role Overview

A CAD team member promotes and communicates the team's mission and vision and is responsible for designing and modeling robot parts and assemblies using CAD software. This role transforms ideas and sketches into accurate 2D and/or 3D models that guide the robot build and ensure components fit and function properly.

Key Responsibilities

- Follow all team safety procedures and be on time for practices and meetings.
 - Create 2D and/or 3D models of robot subsystems, parts, and assemblies.
 - Update and maintain the digital robot model throughout the season.
 - Collaborate with the build team to ensure compatibility.
 - Assist in producing drawings for fabrication and machining.
 - Document design changes and share updates with sub teams.
 - Learn and apply design best practices and FRC rules.
 - Keep workspaces organized for optimal work efficiency.
 - Help promote our team as needed.
 - Assist other sub teams as needed.
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Skills & Qualifications

- Interest in engineering, design, or robotics.
 - Familiarity with CAD software is preferred, but not required.
 - Ability to visualize mechanical systems in 3D.
 - Strong attention to detail and organization.
 - Willingness to learn, actively listen to instructions and feedback from leadership, and maintain a good attitude.
 - Willingness to learn new design tools and techniques.
 - Teamwork, communication, and problem-solving skills.
 - No prior experience required; training provided.
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Time Commitment

- **Preseason (Fall-Dec.):** 4-6 hrs/month (basic training, practice projects).
 - **Build Season (Jan–April):** approx 13 hrs/week (robot design, updates, revisions).
Additional hours if needed.
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Benefits

- Hands-on experience with professional CAD tools.
- Gain engineering and design skills applicable to future careers.
- Contribute directly to robot performance and reliability.
- Work in collaboration with build, electrical, and programming sub teams.
- Enhance problem-solving, teamwork, and technical communication skills.