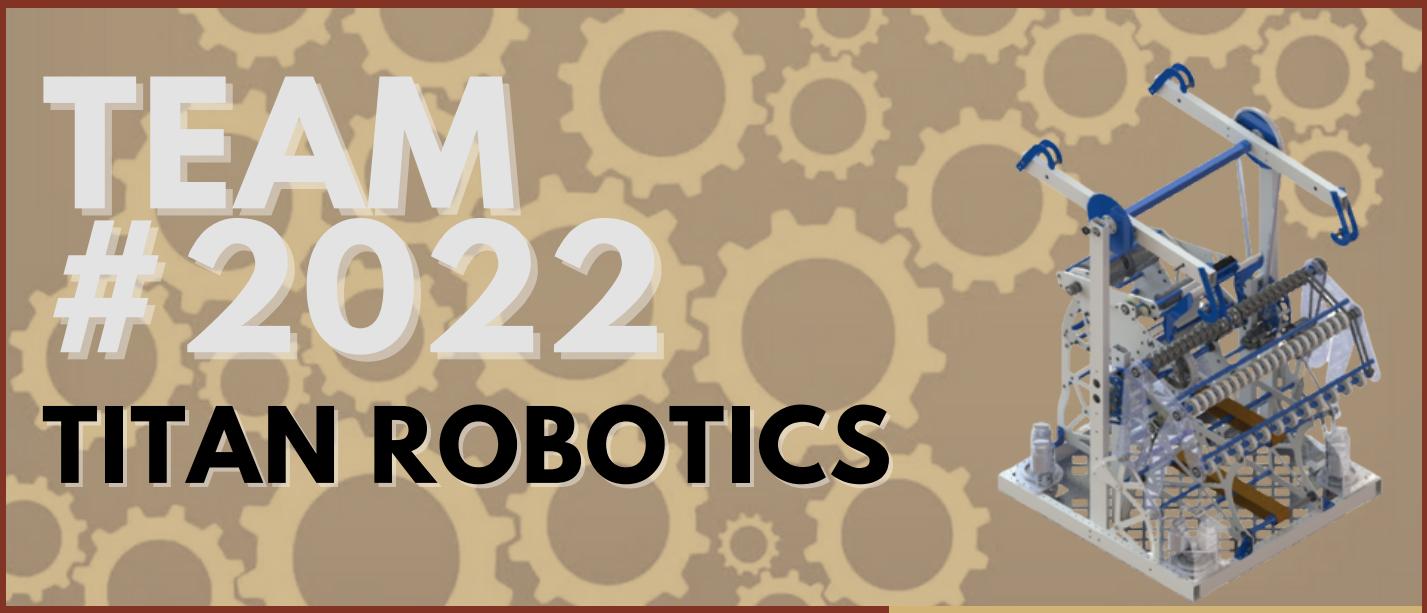
ROBOTICS

a newsletter about IMSA's FRC team



By the FRC Business Team

FRC Team 2022, Titan Robotics, is a high school robotics team made up of students from the Illinois Mathematics and Science Academy (IMSA). We compete in the FIRST Robotics Competition (FRC) program, which teaches our members technical skills, such as mechanical, programming, electrical, and Computer Aided Design (CAD). Team members also have the opportunity to develop business, leadership, and communication skills.

Reflective of our diverse student body, our team aims to provide equal opportunities for STEM training, regardless of race, gender, experience, or any other factor.

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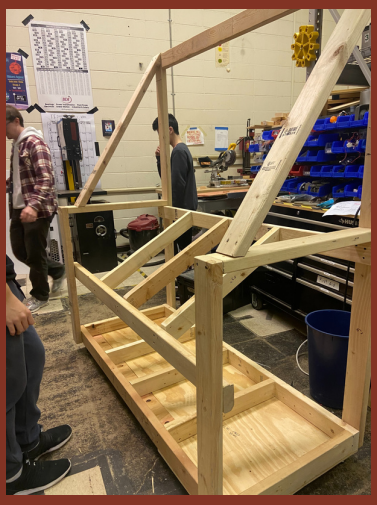
IN THIS ISSUE

IMSA
Illinois Mathematics and Science Academy

Mechanical and Electrical

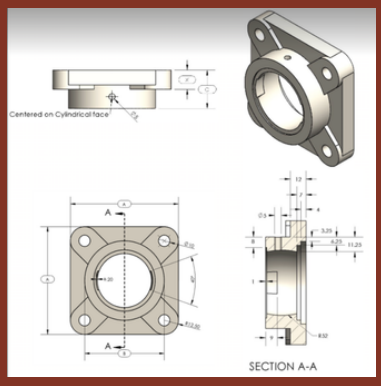
Our mechanical sub-team spent the first couple of weeks designing and building lab organization storage. Students divided into different teams to come up with storage ideas, once they voted on one design, they built two storage structures, one for larger pieces and another for smaller pieces. Now the students have divided into teams, each team creating subsystems from the 2017 game Steamworks.



On the other hand, electrical has spent the first few weeks going over electrical components and played around with setting up a basic layout on the kit bot. Additionally, electrical members have been taught battery connections and how to crimp and strip wires as well as use basic connectors.

We want our members, especially rookies, to get an understanding of what they are expected to do in their respective sub-teams so as to prepare them for this year's game reveal.

Design Integration



Design Integration is the sub-team designed to use CAD to design systems for the rest of the team to build. For these past few weeks they've been learning Solidworks CAD through practices designed to center in on methods such as design intuition, master sketching, master modeling, assemblies, and speed CADs. Now, the team has begun to design FRC subsystems in preperation for this year's game.

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WE LAUNCHED A TIKTOK (@TITANROBOTICS2022)!

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Programming

Programming has been working on learning about subsystem control such as drive-base and arm. They've also been learning about how to autonomously use these systems and working with vision for estimating object position. Vision was a significant and intricate component for last year's robot. We hope to get more familiar with this component and be able to work with it more comfortably.

Software

Our members in software are ultimately working to develop our scouting application. Right now, members are being trained on front end flutter development, getting ready for when the game details are revealed. Other members are working on mongo db, more specifically on integrating it with flutter for the API endpoints.

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titanrobotics2022@imsa.edu

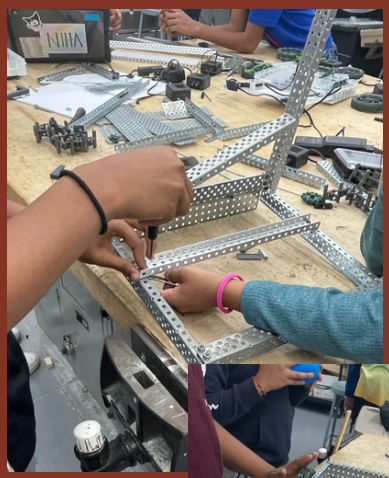
http://titanrobotics2022.com

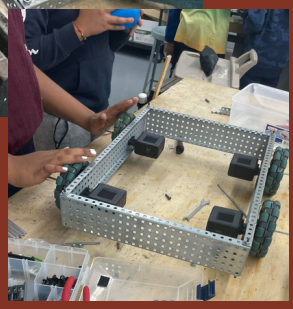
Operations

Our operations team has been busy gathering ideas and creating business plans that will enhance our team and help us meet our outreach, finance, and relations goals.

The finance team is currently researching and applying for grants in order to increase the team's funds. The team has also been contacting our sponsors inquiring if they would be interested in supporting us in any way.

A big goal of the team's this year is to increase our social media presence and share what we do on a day-to-day basis using social media platforms such as TikTok and Instagram. Follow us to see all the fun moments and memories created and to stay updated!





Earlier this semester, our outreach team traveled to Still Middle School to mentor their robotics team. The team was at the early stages of their season, such as disassembling their robots and collection ideas for this years competition. The titans gave the robotics team feedback on their plans and helped them with planning.

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Mentors Needed!

Titan robotics invites you to be a part of our robotics team as a mentor, sharing your knowledge with young engineers. We are looking for parents or adults willing to come in any day from Monday thru Thursday. Whether you can commit to a couple of hours or more, we appreciate your dedication and help.

If you´re interested please reach out to our team captain, nlanding@imsa.edu, or operations head, akolambe@imsa.edu.

Scan here to make a one-time parent donation! Even $1 helps!

Want to become a sponsor? Scan here!

THANK YOU FOR READING AND HAVE A HAPPY FALL!

Look out for our December issue next month!