



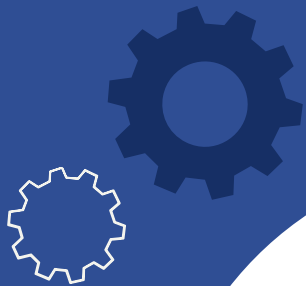
NEW ENGLAND MENTOR CONFERENCE

 **FIRST** PRESENTED BY  onshape®

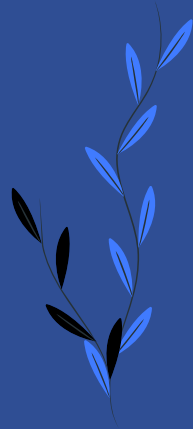
The Spark that Stays!

Guiding the
Student Experience





FIRST is **more**
than Robots.



Hi I'm Julianna!!! (aka juju)

2168

- Aluminum Falcons Alumni

WPI

- Mechanical Engineering & Theatre

- Class of 2023, Design Engineer

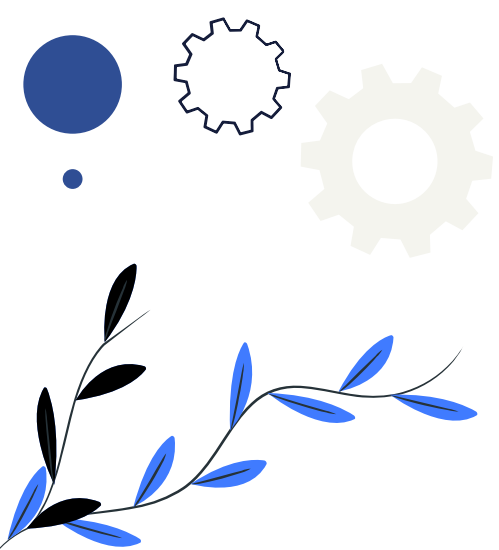
6328

- College Mentor freshman year

- Rejoined as a Technical Mentor post grad

Student Experience, Engagement, & Development





Leading

Doing

Learning

Observing



Phase #1: Observers

Duckling Mode

Invite them to follow you around the shop!



Hands-on Target

Tend to wait around, give them tools directly!

Hardware galore

Sorting things is the BEST way to familiarize!



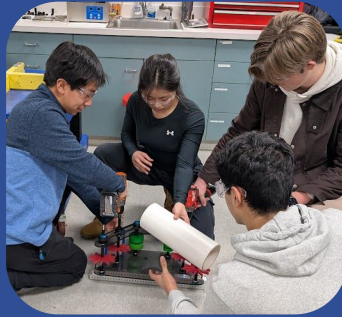
“Make Sense?”

Open up space for them to ask questions!

Phase #2: Learners

Incremental Tasks

Break things down, but allow for independency



Shadowing

Older buddies are great for skill building!

Collaboration

Small groups teach great communication skills!



What's Next?

Ask what they want to get better at next!

Phase #3: Doers



Verbalize your Support

Remind them they're capable, but that help is a part of the process

Review Process

Get them used to iterating and receiving feedback on their work

Keep it Collaborative

Just because they can do it alone, doesn't mean they should!

Organize Workload

Set expectations and set them up for success on projects



Phase #4: Leaders

Be Supportive & Receptive!!

A large, dark blue, irregular blob shape serves as the background for the text. Above the blob, there are two small blue circles of different sizes. At the bottom left and bottom right corners, there are decorative leafy branches; the one on the left is black, and the one on the right is blue with black outlines.

Building up Subteams

Structuring a team around skills & interests

Why Structure Around Specialization?



Ownership

Students come to the shop knowing where to contribute

Momentum

Learning stacks up!
Enables students to get a depth of skill

Confidence

Becoming better at something helps instill capability

Subteams



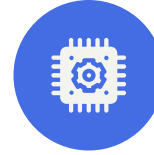
Mechanical

Learn CAD, assembly, & machining skills



Software

Learn coding, controls & programming skills



Electrical

Learn components, cabling, wiring skills



Media & Awards

Learn documentation & presentation skills



Outreach & Funds

Learn organization, & communication skills



Strategy & Scouting

Learn data collection, analysis, & action skills

Off-Season Trainings

- Meet once per week
- Full group or individual
- Start with base skills
- Lessons on the 'How'
- Skill based Projects
- Lessons on the 'Why'
- Large Scope Projects



New Member Program

Fall Activities

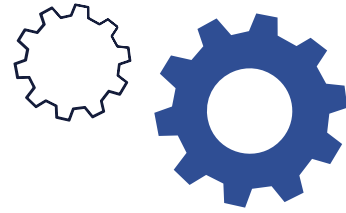
Introduction Faire

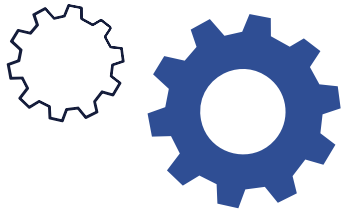
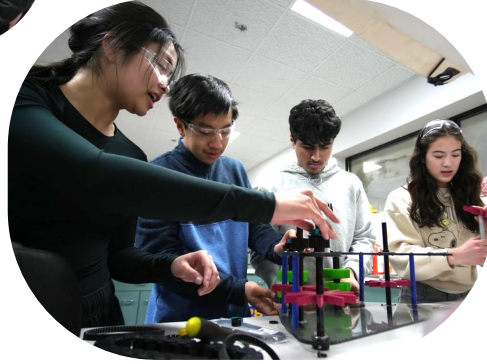
Orientation & Buddy System

Subteam Assignments

Crash Course Meetings

Off Season Events





New Member Program

Build Season

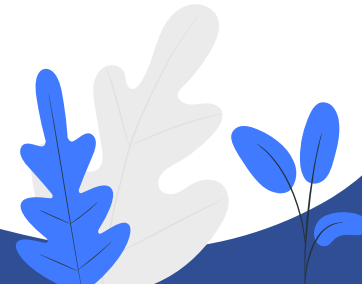
Bucket Hat Ceremony
Collaborative Prototyping
Simple Robot Projects - KitBot
Check-In Meetings & Surveys

Competitions

Scouting & Cheering
Shadowing Roles

Leadership

The nuance of teaching the greatest skill



Tiers of Student Leadership



Team Captains

Lead team meetings & organize team logistics



Subteam Leads

Manage the work of an entire specialization

Subject Matter Experts

Contribute & dive deep into a discipline



Competition Roles

Trusted to do a specific job at events



Project Ownership

Guiding a project group of other students





Tips for cultivating Leaders



Lead by Example

Model professionalism, accountability, and a positive attitude, they will follow suit

Empower Ownership

Create as many opportunities for taking charge of tasks and decisions as possible

Peer Learning

Encourage teaching amongst your students, step back and let them explain for you

Failure is Growth

Normalize setbacks, and use them as opportunities to build resilience

Facilitate Reflection

Hold debriefs for events and processes, surveys and check-ins help too

Celebrate Initiative

Recognize and reward when they step up to the challenge of leading





Mentorship

Choosing to focus on Student Growth & Development



Fostering a Growth Mindset

Opportunity

Open up projects & tasks for all levels



Structure

Be organized & set clear expectations



Care & Support

Offer a helping hand or listening ear



Having Fun!!!

Prioritize the best part of robotics!!



CARE Mentality

Play to your strengths,
and determine the
kind of mentor
you want to be!



Curiosity

Ask your students questions!
Learn about who they are!



Approachability

Students react well to kindness,
be extra friendly to newbies!



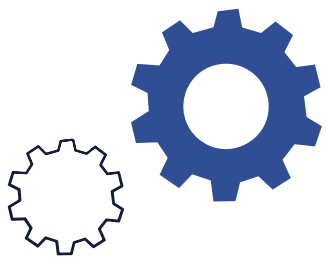
Reliability

Consistent behavior & action
goes a long way in earning trust



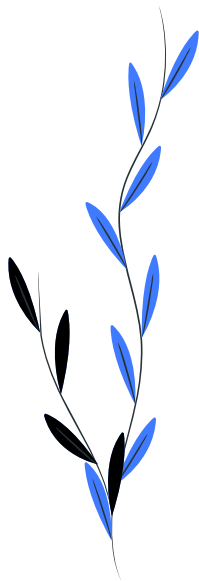
Excitement

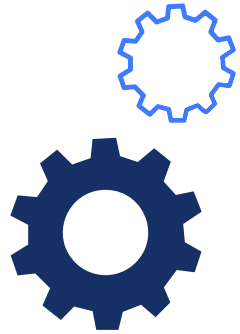
Kids tend to mirror the attitude
around them, be positive!



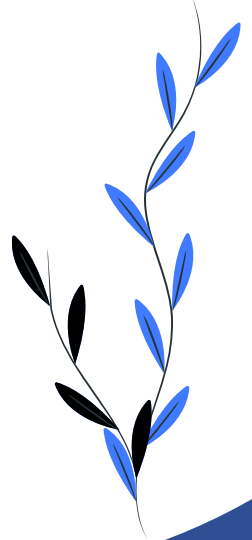
What does being a Mentor mean to you?

(in five words or less)





Developing the spark that stays!



Thanks so much for listening!!!



juju@team6328.org



[@FRC6328](https://www.instagram.com/FRC6328)



[@LittletonRobotics](https://www.youtube.com/@LittletonRobotics)



littletonrobotics.org



So much love to
MY mentors! ❤️