CHILL
OUT

FRC TEAM 1778
Mentor & Volunteer Handbook

Welcome to FRC Team 1778 Chill Out!

As a mentor or volunteer for FRC Team 1778, you play a vital role in fostering a supportive, student-led environment where young engineers and leaders can thrive. Your involvement is invaluable, and we look forward to collaborating as a professional team to help students grow through successes and learning from mistakes. This handbook outlines our philosophy, emphasizing student growth, respect, and empowerment through hands-on learning, teamwork, and open communication.

"Mentor" refers to anyone working closely and consistently with the team to support student development in skills, leadership, and team values. This includes industry professionals, parents, teachers, FIRST alumni, and other community members with technical and non-technical expertise.

"Volunteers" provide essential support, often in a specialized or occasional capacity, assisting with specific tasks, projects, or events. While they may interact with students, Volunteers also may focus on operational needs and behind-the-scenes support, aiding Mentors and coaches.

Both Mentors and Volunteers are essential to the team's success and must follow this handbook's guidelines. The term "Mentors" generally includes both Mentors and Volunteers, with all handbook sections applying equally to both unless specified otherwise.

This handbook was created by the mentor team for the benefit of FRC Chill Out 1778, with review and approval by the student leadership team.

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Introduction and Context

Welcome to FIRST Robotics Competition (FRC) **Team 1778 Chill Out**! As a mentor, you're joining a global community united by a passion for science, technology, and innovation. FRC is part of **FIRST (For Inspiration and Recognition of Science and Technology)**, a nonprofit founded by Dean Kamen in 1989. FIRST's mission is to inspire young people to pursue STEM careers through engaging, mentor-based programs that build skills, confidence, and leadership.

FIRST is more than just robotics—it's a culture of inclusion, respect, and learning, believing that with the right guidance, young people can change the world. By fostering innovation and collaboration, FIRST helps students develop not only technical skills but also critical life skills such as teamwork, problem-solving, and resilience.

FIRST Robotics Competition (FRC)

The FIRST Robotics Competition (FRC) is the flagship program designed for high school students, combining the excitement of sport with the rigor of science and technology. Teams collaborate over six weeks to design, build, and program industrial-sized robots to compete in a complex game.

FRC challenges students to think critically and work as a team while learning technical skills in engineering, computer science, and electronics. It's about building problem-solving skills and teamwork that will benefit students in their future careers and lives.

Principles of FIRST

1. **Gracious Professionalism**®
   This principle, coined by Dr. Woodie Flowers, encourages high-quality work while valuing others. It promotes kindness and empathy, fostering fierce competition and collaboration. As a mentor, model this by supporting respectful communication, high standards of work, and a balance of competitiveness and integrity.
2. **Coopertition**®
   Coopertition emphasizes helping others even in competition. It values learning and sharing over winning. In FRC, teams collaborate as partners while maintaining their unique goals. Mentors can promote Coopertition by encouraging students to assist other teams and prioritizing cooperation.

Foundation of FIRST: Innovation, Inclusion, and Impact

The FIRST community is built on innovation, inclusion, and impact. Mentors guide students in solving complex challenges through creativity and teamwork, creating an environment where risk-taking and learning from mistakes are encouraged.

1. **Innovation**
   FRC inspires creative problem-solving. Mentors encourage students to explore diverse perspectives and technologies and embrace iterative design.
2. **Inclusion**
   FIRST fosters a diverse and inclusive environment, ensuring all students feel welcome and respected. Mentors create a space where everyone's ideas are valued.
3. **Impact**
   FIRST empowers students to create positive change in their communities. Mentors inspire students to view their work as a pathway to addressing real-world challenges.

The Role of Mentors and Volunteers in Upholding FIRST Values

Mentors and Volunteers are essential to the FRC experience, fostering a culture of respect and collaboration. By guiding students, you create an environment for growth as engineers and compassionate leaders. Your behavior—whether in meetings, events, or competitions—sets the standard. Always strive to be respectful, positive, and aligned with FIRST's mission. Your mentorship shapes the culture of our team and the broader FIRST community, teaching students to be gracious competitors and cooperative teammates in all aspects of life.

Mentors and Volunteers should work as a team, presenting a cohesive front in support of the students on the team.

1.   Team Philosophy and Mission

Mentor Mission Statement:
FRC Team 1778 Chill Out is a student-led team where mentors provide vital guidance to support students taking ownership of their learning, technical skills, and leadership development. We believe in fostering a space where students can explore their ideas, test their limits, and grow into confident, capable leaders of tomorrow.

We view our students as bright, rapidly developing individuals who are moving toward professional adulthood. As such, we work with them as professional peers, encouraging them to engage with challenges and opportunities in a manner that mirrors real-world work environments.

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2.   Safe Failure

Safe Failure refers to the concept of allowing controlled, low-risk failures in order to promote learning and innovation. In environments like education or engineering, it means providing opportunities where students or team members can experiment, take risks, and make mistakes without significant negative consequences.

This approach encourages growth, resilience, and problem-solving skills, as individuals learn from their mistakes in a safe and supportive context. The goal is to mitigate the impact of failure while fostering an environment where learning from mistakes is part of the process.

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3.   Mentor Role and Responsibilities

Mentors on Team 1778 serve as guides, advisors, and facilitators rather than directors or decision-makers. Your primary responsibility is to create an environment that encourages student autonomy and leadership while providing a safety net that allows students to fail safely and learn from their experiences.

Mentors should always strive to:

- **Encourage students** to take ownership of their work and decisions.
- **Facilitate rather than lead**—empower students to problem-solve and develop their ideas.
- **Provide guidance and structure**, especially when safety, team sustainability, or resource management is involved.
- **Offer constructive feedback**, asking probing questions to push students to think critically about their work and the implications of their decisions.

In instances where safety, team image and sustainability, or resource management is at stake, mentors have the authority to intervene, but this should be done with transparency and respect for the students' learning process.

Mentors may sometimes fill temporary roles when specific expertise is needed, with a focus on sustainable knowledge transfer to students. Such as:

- Filling student roles when no student is available, always seeking opportunities for students to learn and transition into the role.
- Emphasizing team sustainability by training interested students when possible, recognizing that interest in specific roles may vary over time.
- Supporting evolving team needs by providing initial guidance in critical areas until students are prepared to lead independently.

Additionally, there are some aspects of team management which must be led by mentors and/or Head Coach, as opposed to students. Such as:

- Team and Event processes with FIRST, including registration, rosters, payment, etc.
- ASB financial and approval processes
- Expense authorization and purchasing
- Travel planning and execution

Volunteers are essential to the team's success, supporting FIRST, students, and mentors in various ways. Some examples may include:

- Managing communications to parents and fans
- Picking up local parts or other supplies
- Coordinating trip logistics, roster management, and providing team meals at events
- Volunteering at FIRST events (e.g., setup, teardown, judging, queuing)
- Transporting students to events, event setup and tear down
- Assisting at outreach and other team events as adult representatives, advocating for FIRST and Chill Out 1778

These contributions ensure smooth team operations and enhance the overall team experience.

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4. Approach to Student-Led Culture

At the heart of Team 1778 is a **student-led culture**. This means that students drive decision-making in nearly all aspects of the team's operations, from robot design and construction to strategic planning and outreach. Mentors play a supporting role, providing expertise, guidance, and context where needed.

The key to mentoring in a student-led environment is to allow students the space to make decisions and, when appropriate, mistakes. Learning from these experiences is invaluable.

Rather than providing solutions, mentors ask questions that lead students to discover answers on their own. Mentors may also point out consequences to actions that the students might not be aware of, ensuring that students have all the factors needed to support good decision-making.

5.   Engaging with Students

Mentors should approach student interactions as collaborative and respectful. This engagement style is centered on guiding rather than instructing:

- **Ask open-ended questions**: Encourage students to articulate their thought processes and explore different options.
- **Validate and challenge**: Acknowledge students' decisions while pushing them to think critically about their plans.
- **Model professional behavior**: Treat students as peers, demonstrating what professional, respectful collaboration looks like.
- **Promote teamwork**: Help foster a team-oriented environment where students support each other and work toward common goals.
- **Logistics validation**: Partner with students to validate plans and readiness to minimize instances of missed commitments or events which result in increased mentor involvement or public perception impacts.

Avoid being overly directive. Instead, provide opportunities for students to solve problems on their own, stepping in when safety, team cohesion, mentor commitment, or resource misuse is at stake.

6.   Supporting Student Growth

Your role is to create a space where students can grow intellectually, emotionally, and technically. Here's how to foster that growth:

- **Encourage experimentation**: Provide a safety net for students to take risks in design, programming, and strategy. If a solution fails, help them analyze the failure and iterate toward improvement.
- **Foster resilience**: Offer support and encouragement during moments of failure. Help students view setbacks as learning opportunities.
- **Challenge students**: Present difficult questions or situations that push students out of their comfort zones and encourage them to think critically.
- **Cultivate a Growth Mindset**: A growth mindset is the belief that one's abilities can be developed through effort and hard work. Skills they feel they are not good at are simply skills they are not good at *yet*.

The most successful mentoring experiences come when students feel supported to lead and solve problems while having a mentor guide them subtly in the background.

7.   Methods for Coaching

Coaching, like teaching, is a continuous learning experience. While it is impossible to cover every method for improving as a coach, **FIRST** provides a helpful mantra to guide how mentors pass their experience to students:

- **I Do - You Watch**
- **I Do - You Help**
- **You Do - I Help**
- **You Do - I Watch**

All four methods are valid and encouraged, depending on the situation. By thoughtfully using these approaches, mentors can help students develop confidence, leadership, and technical skills. Coaching should empower students to take the lead in their learning and excel in their roles on the team.

By becoming a mentor, you take on the role of a guide who:

- Encourages independent thought and critical thinking
- Facilitates open communication within the team
- Builds a foundation of mutual trust and respect
- Promotes effective teamwork and collaboration
- Models and inspires the pursuit of excellence
- Helps students develop their roles within the team

For more detailed guidance on effective coaching methods, refer to the official **FIRST** Mentor Guidelines: FIRST Mentoring Guide

8.   Mentor-Student Relationship

One of the most important aspects of being a mentor is developing strong, respectful relationships with students. To facilitate this:

- **Treat students as professional peers**: Respect their intelligence, experience, and insight. Encourage them to take ownership of their roles and contributions.
- **Be a role model**: Exhibit professional behaviors such as listening, problem-solving, collaboration, and ethical decision-making.
- **Communicate effectively**: Be open and approachable. Provide timely feedback in a way that is constructive and affirming.

- **Be patient and understanding**: Recognize that students are still developing their skills and knowledge. Help them grow by creating a nurturing learning environment.

9.   Decision Authority: Lead Mentor Committee

Lead Mentor Committee

The Lead Mentor Committee, consisting of the Lead Mentors and the Head Coach, holds authority over decisions regarding team safety, culture, sustainability, and resource management. This authority is used sparingly and with transparency. The Committee supports student leadership and the mentor team, especially concerning district policies or sensitive areas like finances.

The Lead Mentor Committee will be responsible for annual review of this handbook and will publish to the team with updates as necessary.

10. Head Coach and Lead Mentors

Head Coach

The Head Coach is a Lead Mentor who takes on additional responsibilities for managing the overall team organization. This role involves communication with the school district, MTHS families and staff, and ensuring procedural tasks such as FIRST registration and critical deadlines are met. Selection of the Head Coach is based on expressed interest and evaluated by the Lead Mentor Committee, with input from Student Officers.

Lead Mentors

The Lead Mentors are Edmonds School Districts employees and are most easily denoted by having school keys and badges. Requirements include:

- At least 1 year of team experience as a mentor, preferably with Team 1778
- Be at least 25 years of age, in alignment with FIRST recommendation
- First Aid/CPR certification
- District onboarding and safety training
- Consistent availability to support the team during in-person work sessions. ("Most" or "Many", not necessary all sessions)

We expect all mentors to thoroughly understand and follow the guidelines set forth in this handbook. Lead Mentors will address any major violations and may consider confidential information when making decisions. If you have any concerns, report them to a Lead Mentor.

This handbook is not exhaustive, and unanticipated situations may arise. In such cases, Lead Mentors will make decisions based on the principles and intent of our mentorship model. The

handbook will evolve, but it may not cover every possible scenario. Thoughtful decision-making in line with our values is essential.

11. Safety and Security

Safety is the highest priority for Team 1778. Mentors play a critical role in ensuring that students follow proper safety protocols in the shop, during competitions, and at outreach events. While students are encouraged to work independently, mentors must step in immediately when safety is at risk.

All mentors are required to complete the **FIRST Youth Protection Program (YPP) Training**, which provides essential tools for safeguarding students. This training covers not only physical safety but also fostering a secure and respectful team environment.

Physical Safety:
Mentors must actively oversee students working with tools and machinery, ensuring that personal protective equipment (PPE) is used appropriately, and that workspace hazards are minimized. This includes maintaining proper supervision in the pit area during competitions.

Emotional and Psychological Safety:
In addition to physical safety, mentors are responsible for promoting an environment where students feel respected and supported. The YPP ensures mentors understand how to handle sensitive issues, creating an inclusive and non-threatening space for all team members. Mentors must set the tone for mutual respect and intervene in cases of inappropriate behavior.

12. Rule of Three

Never be alone with a single student, whether in person or online. This rule applies to all settings—physical, digital, and communication platforms. Always ensure that another adult or student is present to maintain a safe and transparent environment.

If you are the last coach with one student, end the meeting immediately and move to a public area. When transporting students, always bring another adult or student along.

For messaging, use group channels. If a private conversation is needed, include another mentor, officer, or parent.

This ensures safety and accountability for everyone involved, whether it's via in-person, written or voice communications.

13. Resource Management

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Mentors should guide students in managing the team's resources—both physical and financial—responsibly. Encourage students to develop project plans, budgets, and schedules that reflect the realities of time and resource constraints.

Core robot components which are typically large investments with multi-season purposes should be maintained and managed with integrity, rather than treated as consumables.

14. Risk Mitigation and Safe Failure

An essential part of learning is the ability to experience failure in a safe and controlled environment. Mentors should encourage students to take calculated risks, but also push them to ask, "What if this doesn't work?"

By considering potential risks, students will develop more robust plans and strategies. When things don't go as expected, help them analyze the failure and learn from the experience without being discouraged. Mentors should always be there to guide students through failure, emphasizing growth over outcome.

15. Team Communication

Good communication is key to a successful team. Mentors should be in regular communication with the student leadership primarily in person and via Discord team channels, providing feedback and guidance as needed. Make sure that students know how to reach you and that you are approachable and responsive to their needs.

Mentors are also encouraged to communicate openly with each other. Share observations and strategies for improving the student experience and supporting their growth.

16. Mentor Do's and Don'ts

Mentor Do's

- **Get to Know the Students:** Build rapport to create a comfortable environment for students to seek guidance. Make efforts to learn each student's preferred name and pronouns.
- **Listen to Student Ideas:** Respect student-generated ideas, even if impractical, to encourage exploration and learning.
- **Promote Student Leadership:** Teach tasks, then encourage students to teach peers, reinforcing learning and leadership.
- **Acknowledge Accomplishments:** Celebrate small victories to boost confidence and motivation in skill development.

- **Understand Student Stress:** Recognize students' various responsibilities and provide support while helping them focus.
- **Be Present:** Consistent involvement fosters familiarity, enabling better support and understanding of dynamics.
- **Guide Students through Challenges:** Help struggling students without taking over tasks, providing guidance for empowerment.

Mentor Don'ts

- **Don't Do the Work for Students:** Allow students to learn by doing; guide and ensure safety without completing projects for them.
- **Don't Prioritize Your Ideas Over Theirs:** Encourage students to brainstorm their own ideas; suggestions should enhance, not replace, their designs.
- **Don't Be Too Harsh on Mistakes:** Recognize that mistakes are part of learning; calmly explain errors without punishment to encourage experimentation.
- **Don't Let Drama Distract from Work:** Address social conflicts as needed to maintain team productivity while being a supportive listener.
- **Don't Let Students Fail Beyond Recovery:** Intervene before a failure becomes demoralizing or costly; help them find viable solutions.
- **Don't Be Pessimistic:** Maintain a positive attitude; your outlook influences the team's morale and resilience during challenges.

By following these Do's and Don'ts, you will create an environment where students feel empowered, supported, and engaged in their own learning process, helping them become future leaders in engineering, technology, and beyond.

17. Final Thoughts

Mentoring on FRC Team 1778 Chill Out offers a unique chance to shape future engineers, thinkers, and leaders within a supportive and engaging environment. Your role extends beyond instruction; you are a facilitator, guide, and role model. By fostering a culture of exploration, safe failure, and student-led leadership, you can create a transformative experience for students.

As mentors and ambassadors of FIRST, you embody its values, including Gracious Professionalism and Coopertition. Your conduct—during meetings, events, and competitions—sets the standard for the team and the FIRST community. Positive interactions will teach students to be gracious competitors, compassionate leaders, and cooperative teammates in life. Thank you for your commitment and expertise!

Acknowledgments

This handbook was developed using guidance from other successful FRC teams, including Citrus Circuits (1678), Howdy Bots (2996), and Wolverine Robotics (949) as well as the FIRST resource library on effective mentoring.

Mentor & Volunteer Contract
FRC Team 1778 Chill Out

Mentors and Volunteers:

1. I have read and understand the *Chill Out Mentor Handbook*.
2. I understand and will uphold the behavioral standards expected of me as a team mentor or volunteer.
3. Submitted my *Volunteer Registration* with the Edmonds School District [(link)](link).

Mentors:

1. I am at least two (2) years out of high school.
2. I have Registered with FIRST as a volunteer, applied to Team 1778 Chill Out, and completed the *Media Consent & Release* form as part of my FIRST registration (link).
3. I have Completed the *FIRST Robotics Youth Protection Program (YPP)* background check and clearance as part of my FIRST mentor registration. (link)
4. I have reviewed the following YPP resources:
   - *FIRST Youth Protection Program Guide* (link)
   - *Youth Protection Training Videos* (link)
5. I have reviewed the MTHS Shop Safety training videos and will follow the guidelines when working in the shop. (link)

Note: Annual Attestation and Requirement Maintenance
This review and attestation is repeated with each subsequent season. All requirements must remain current each season. If any require renewal, they must be updated by the end of October or within two months of expiration.

By signing below, I affirm the above and understand that I am a volunteer of a school-supported program, and I will honor and respect decisions regarding my participation.

_____   _____   _____
Print Name   Signature   Date

END OF HANDBOOK.

Some notes for potential inclusion in the future.

MAYBE require. FIRST Equity, Diversity and Inclusion Training: Strategies for Inspiring Success. This training is intended to help us create a diverse, inclusive, and equitable team, as well as equip us with specific strategies to support community outreach, student participation, persistence, engagement, and success. The three-part training module course can be found at this link.

https://www.firstinspires.org/resource-library/training-equity-diversity-inclusion