

Welcome to the 2021-22 STEM Competition Season!

Last year was truly an exceptional year for the TAME Team. This year, we're looking forward to a return to in-person Divisional STEM Competitions, and we're so grateful to have you as part of the team. We could not begin to do any of what we do without our dedicated, talented local leadership. Thank you for joining us for another year!

We've made a few changes this year, and we're going to be doing some things to help streamline communications, provide clearer instructions and guidance, and simplify our processes. We'd really love to hear what works for **YOU**. If you've got tips, suggestions, or ideas about how to improve our STEM Competition Season, please share them!

One big change this year is regarding our traditional in-person State STEM Competition in April. We rely on partner donations to keep our programs free to our students, and as a result of the pandemic many organizations have had to reduce or eliminate their available funding. We were faced this year with a difficult choice: offer in-person Divisional events and a virtual State event, offer virtual Divisional events and an in-person State event, or offer in-person events for both Divisional and State events but at a cost to students or to TAME Clubs.

We chose to keep our program free to TAME students; accessible STEM Competitions are essential for an equitable experience. We also chose to keep the Divisional Competitions in-person and transition the State event to virtual, to allow the largest number of students to benefit from the community and connections. We listened to the feedback we got about the added stress of a virtual environment on a Competition, so we're building a more effective event. Students who perform well at the in-person Divisional STEM Competition will be invited to participate in the TAME Leaders in Engineering State Conference, a virtual event with guest speakers, engineering activities, and opportunities to work and connect with students from across the state.

This year, TAME has revised our mission and our vision, and identified six core values that drive our work. We are renewing our focus as a student-centered organization, and prioritizing the students who can most benefit from being a part of TAME.

Our Mission

TAME creates equitable experiences for students from underrepresented groups to explore futures in engineering by fostering their sense of belonging and equipping them with knowledge, skills, and intergenerational support through statewide programming at no cost to students.

Our Vision

TAME envisions a Texas where students realize their full potential, build community in engineering, and create inclusive solutions that reflect and celebrate our diverse world.

Our Values

Equity, Inspiration, Impact, Community, Empathy, Leadership

Table of Contents

[2021-22 Competition Season Schedule](#)

[The Competition Team](#)

[This Year's Divisional STEM Competition Format](#)

[Responsibilities and Expectations](#)

[The State Office](#)

[Chapter Leadership](#)

[Planning the Competition](#)

[Choose a Day](#)

[Book Your Venue](#)

[Create the Schedule](#)

[Student Roster](#)

[Plan for Lunch](#)

[Grant Application](#)

[Organize Your Volunteers](#)

[The Engineering Design Challenge](#)

[T-Shirts](#)

[Awards](#)

[Ceremonies](#)

[Social Media and PR](#)

[Shipping](#)

[What's in the Box\(es\)?](#)

[What's Coming Electronically?](#)

[What to Return to TAME](#)

[Competition Supplies](#)

[Forms and Paperwork](#)

[Return Shipping](#)

[Results](#)

[Photos](#)

[The TAME Leaders in Engineering State Conference](#)

[Autoqualifiers](#)

[State Delegation Size](#)

[Selecting the State Delegation](#)

[Alternates](#)

[Chaperones](#)

[Chapter Leadership State Event Responsibilities](#)

[TAME Accommodations Policy](#)

2021-22 Competition Season Schedule

You've probably already received emails telling you that TAME Club and Student Registration is underway, and people are definitely excited about it; more than 10 clubs registered in the first 24 hours! We've put together the schedule for the year, both with the general dates, and dates that will be specific to your Divisional STEM Competition.

General Dates (dates in RED indicate information is due to the State Office)

August 2	TAME Club and Student Registration opens
October 23	The date for the State STEM Competition will be announced, as well as Creative Design Contest details
October 27	Club and Student Registration closes
October 31	All Divisional STEM Competition dates set and updated on the TAME website
November 1-30	The State Office will confirm Club Participation with the Club Sponsors
December 15	Rosters will be sent to Competition Coordinators for the Chapters in which all Clubs have confirmed whether they will participate.
December 24- January 2	TAME State Office closed for winter break. Staff will not be reachable via office phone and will have limited email access.
January 14	State Office will notify each Chapter of the number of students to invite to the Leaders in Engineering Conference
January 28	First available date for Divisional STEM Competitions
March 5	Last available date for Divisional STEM Competitions
March 1-31	Students receive invitations to attend the Leaders in Engineering Conference, and local leadership coordinates their RSVPs, as well as chaperone and alternates.
April 1	Final day for Leadership Conference Invitees and Alternates to return their RSVPs
April TBA	Final roster of attending students and chaperones will be distributed to Chapter Leadership.
TBA	The TAME Leaders in Engineering Conference will be a one-day virtual event for students, chaperones, TAME Club Sponsors, and Chapter Leadership.

Competition-Specific Dates

Three weeks before your Competition	Divisional funding requests/grant application forms due. Notify TAME State Office of any roster changes you've received they may not be aware of, so they can pack and ship the correct number of t-shirts and supplies
Two weeks before your Competition	TAME will ship your Competition supplies, including all pre-printed forms, Engineering Design Challenge supplies, t-shirts, and awards.
One week after your Competition	Results are due to the TAME State Office electronically.
Two weeks after your Competition	Receipts for reimbursement are due to the TAME State Office, as well as event photos, evaluation forms, and any completed documentation

The Competition Team

The TAME STEM Competition Team works together to put on each year's STEM Competition Season. It's made up of State Office Staff and local Chapter Leadership.

TAME State Office Staff

The TAME State Office Staff puts together the content and the structure of each year's STEM Competition Season, and hosts the State STEM Event in April. We provide everything from the club rosters to the t-shirts to the Engineering Design Challenge supplies, along with email templates, planning suggestions, and all the forms you'll need to host your Divisional STEM Competition. Your primary contact is the STEM Competition Program Coordinator, Rowan Halliday (lisa.halliday@tame.org). The TAME State Office can be reached Monday through Friday during normal business hours at 512-471-6100, at programs@tame.org, or via the TAME Ecosystem [slack workspace](#).

Local Chapter Leadership

Hosting Divisional STEM Competitions is a big job, and no one should do it alone! This year we're encouraging our Competition Coordinators and Chapter Leads to expand their Competition Teams and help to define the roles that the members of their team play. Here are some possible roles to consider for your Chapter Leadership Team:

Chapter Chair: This person coordinates all the Chapter activities, not just the STEM Competitions. They reach out to possible funders or donors, support TAME Club recruitment, even sometimes plan local events and activities for the Chapter.

Competition Coordinator: This is the 'Stage Manager' for the Divisional STEM Competition. They are the primary point of contact for the State Office, and keep track of all the details. They'll make the decisions about things like late additions to the roster or the activities that will be available at the event, and all the supplies will be shipped to them.

Communications Lead: If you've got a big Chapter with a lot of TAME Clubs, it can really help to have one person whose role is making sure that all the information sent out by the State Office or the local leadership gets everyone who needs it, and that everyone's questions get answered.

Volunteer Lead: Having a dedicated person who gets the volunteers recruited and makes sure they have all the information and supplies they need, really helps smooth out the day for everyone.

Engineering Design Challenge (EDC) Lead: The EDC has a lot of moving parts, from setting up the space, to making sure the judges are trained, to timekeeping and scoring. Having one dedicated team member focused on that frees up the rest of the team to handle the rest of the event's details.

Lunch Lead: This person arranges the food for lunch, making sure everyone's dietary restrictions are accounted for, and making sure that the food is distributed so that everyone gets to eat.

This is by no means a complete list, and it's just like the EDC: more than one person can hold each role, and one person can hold more than one role. If you've got other suggestions, we'd love to hear them!

This Year's Divisional STEM Competition Format

For the 2021-22 school year, multiple-choice testing will not be included in the Divisional STEM Competitions. After a review of our recent testing and awards data and feedback from TAME Students, we determined that replacing the testing with an expansion of the Engineering Design Challenge would be more beneficial to our students. The elements of this year's Divisional STEM Competition will be:

- A welcome ceremony, with the template provided by the TAME State Office.
- A short TAME-provided activity.
- Introduction to the Engineering Design Challenge, provided as a PowerPoint or video by the TAME State Office.
- Engineering Design Challenge (Design Phase): Students will be given the design brief, the list of requirements, the rules and the scoring matrix, but **no supplies yet**. They'll work together to design their solution to the problem, and present that solution to a judge who will ask questions and provide feedback.
- Meal Break
- Engineering Design Challenge (Building Phase): Students will receive their supplies and final instructions, and have a chance to review their design, adapt their plan, and put it into action. They'll work together to build their creation, and there will be a final judging round. **Both** rounds of judging will count towards their award score.
- An optional locally-created activity, like a guest speaker, a game, or a presentation about engineering.
- An awards ceremony, with the template provided by the TAME State Office.

If you would like to include additional activities or speakers at your Divisional STEM Competition, please do! There are a lot of ways to engage students and build excitement.

Responsibilities and Expectations

The State Office

We know that our chapter and competition leadership relies on us for the support and structure to plan and present the Divisional STEM Competitions. Here's what you can expect from the State Office:

- **Clear and timely communication about the STEM Competition Season** – Beginning in October, we'll be sending out regular communications to update you with what you need to know.
- **Everything you need to plan and run your Divisional STEM Competition** – From the supplies and instructions for the Engineering Design Challenge, to templates for the presentations, to the roster of students planning to attend, we'll make sure you have what you need.
- **Procedures, Policies, and Frequently Asked Questions** – When you have questions, or get them from Competition participants, we've got all the information and planning documentation you need to answer them.
- **Funding** – TAME may supply funding for lunches, for extra supplies like name badges, and for some activities. We've streamlined the grant application and reimbursement request processes this year to make it easier to manage funding needs.
- **Availability** – TAME Staff are here to help! We're available on the TAME Ecosystem slack channel and via email, and as we transition back to working full-time in the office the State Office phone will be answered during working hours. You'll also have direct access to TAME support on your STEM Competition day, even if it's outside normal working hours, to help with any questions or problems that arise.

Chapter Leadership

We rely so much on our local leadership to make the Divisional STEM Competitions amazing! To make sure that everyone is on the same page, this year we're more clearly defining what we need from our STEM Competition teams:

- **Communication** – The biggest issues in any STEM Competition Season arise when people don't have all the information they need. Please notify us as soon as possible about any issues you have, and make sure that the information from the State Office is reaching your Club Sponsors and their questions are getting to us. No one wants to miss a Competition because vital information ended up in the spam folder!
- **Pre-Event Coordination** – The Competition Coordinator is responsible for all the details of making the event happen locally: venue, food, volunteers, all the essential logistics. We've got tools, scripts, templates, and suggestions to help with that.
- **Event Management** – The Competition Coordinator is responsible for running the event itself, from the setup and check-in to the awards and tear-down. This includes site safety, accessibility, even making sure everyone's got a place to park. We've got plenty of tools and suggestions, and we'll send you the supplies, presentations, and instructions for pulling it all together.
- **Results and Reporting** – There are three really important things we need back from our Competition Coordinators as soon as possible after the event: the STEM Competition scoring and results, the evaluation and information sheets, and photos. The results are used to identify

students for the State event and update the website, the evaluation and info sheets are really important for helping us improve our programs, and the photos help us show off our students and our team and get others excited about their own path in engineering. Also, don't forget to submit your grant application and reimbursement request if you need TAME funding for the competition!

- **Support for the State event** – Even though this year's event is virtual, we'd love to see all our Chapter Leads there so they can share in the students' accomplishments. We rely on the local leadership to help us identify students to include in the event, recruit chaperones and volunteers, and make sure everyone's got the information they need.

Planning The Competition

Planning a Divisional STEM Competition can seem like a huge task; it's definitely a big job, but that's where breaking it into smaller tasks and building a team to help you comes into it. We've put together a step-by-step listing of all the things you need to make sure your competition runs smoothly.

Choose a Day

The available 2022 date interval for Divisional STEM Competitions is **Friday, January 28 to Saturday, March 5**. As a general rule, TAME does not schedule STEM Competitions for Sundays, so select a Monday-Saturday for your event. If you absolutely must schedule for a Sunday, or outside the available interval, contact the TAME State Office. Here are some things to consider when scheduling your event:

- **Weekend or Weekday?** Some chapters choose to have a Saturday event, and some choose a weekday event (Friday and Monday are most popular). There are benefits to both options. For example, at a weekday event there is less likelihood of conflict with other district events like sports. At a weekend event, the schedule doesn't have to work within school-day bus schedules. Talk to the Club Sponsors in your area to see if they have a strong preference.
- **Conflicting School Events** – TAME students are often very busy students, with a lot of activities. If you know that a major local robotics competition, science Olympiad, or UIL event happens on a specific day, you'll increase students' ability to attend the TAME event if you take that into account when choosing your day.
- **Local Events** – If there's a large local event, like a festival or a convention, that can make it difficult to get some of the support and volunteers you need for your event, and it can affect the traffic or even venue availability.
- **School District Calendars** – Don't schedule a weekday event to conflict with standardized testing, or an in-service day.
- **Venue Availability** – No matter how carefully you select your day, you're still limited to days your venue is available. For best results, identify 2-3 days that will work, so if your first choice isn't available you can select a backup date.

Book Your Venue

Once you've identified a first-choice date and a couple of backup dates, book your venue as early as you can. Spaces can fill up quickly and you want to be sure you find a space that has everything you need for the different elements of the day. You don't need separate spaces for everything. Feel free to combine some spaces; for example a large cafeteria with tables could be used for both the Engineering Design Challenge and the meal break.

- **Presentation Space** – Students and chaperones will need a large space, such as an auditorium or cafeteria with a projection screen, for the welcome and awards ceremonies and for the Engineering Design Challenge instructions. TAME may also include videos for the students to watch this year, so a projection screen (especially one that can be connected to a USB or laptop connection) is very important.
- **Space for the Engineering Design Challenge** – The EDC divides students up into groups at individual working tables to collaborate (if you have large tables, two groups might share). The

venue **must have sufficient workspaces and seating for all students**; students cannot work on the floor and they have to have a place to sit while working.

- **Space for Students to Eat** – In addition to seating and tables for students, chaperones, and volunteers to eat, you will need to have a space with tables or counters to set out and distribute food.
- **Space for Additional Activities** – If you’re planning to have a game, or a speaker, make sure you include that space in your planning.
- **Accessibility** – All TAME events should prioritize accessibility, including accessibility for attendees with limited mobility. Students who use mobility aids (wheelchair, crutches, etc) should be able to participate fully in the event. This includes available seating for all event components, wheelchair-accessible spaces, and ramps or elevators to all the spaces for the event. Your Student Roster should contain a listing of any specific accessibility needs for your attendees. Review this list to ensure that your event is accessible to all attendees, and contact the State Office as soon as possible if you have any questions or concerns.

Create the Schedule

- **The Set Schedule** – To ensure that students across the state are competing on a level playing field, the times for the Engineering Design Challenge must be consistent. Because the challenge is still being developed, the current schedule recommendation contains a minimum and maximum interval. All other times can be adjusted, though a minimum of one half-hour is strongly recommended for lunch to allow students to get food, eat, and interact with one another.

Check-in	30-45 minutes
Welcome	15 minutes
EDC Instructions	30-45 minutes
EDC - phase 1	75-90 minutes
Lunch Break	30-45 minutes
EDC - phase 2	90-135 minutes
Activity (optional)	30 minutes
Award ceremony	30 minutes

The Divisional STEM Competition should last somewhere between 5 and 6.5 hours, not including check-in, setup, and cleanup.

- **Choose a Start Time** – Your start and end times should allow plenty of time for your team to arrive at the venue, set up for the day, and get the students checked in and their t-shirts distributed before the event starts.

Unless you can set up the day before, you should allow at least 2 hours from the time you’ll arrive to the time your Welcome Ceremony starts, so that you have plenty of time for setup and check-in.

If you're planning a weekday event, you will need to take bus schedules into account; TAME Clubs that reserve a bus through their district may only have access to it after the morning bus runs are complete, and may need to return to school in time for the bus to be used that afternoon.

- **Create the Full Schedule** – Once you have defined start and end times, you'll know how long you have for your event. Break down the activities by time and set the estimated start and end times for your activities. This will help you tell volunteers when to arrive, decide what time to plan a lunch delivery for, and organize the logistics for your day. It can help to build a grid in Excel or Google Sheets, so that it automatically calculates changes in times.
- **Check-in** – You'll need to start your day by checking in the students and distributing their t-shirts and any other giveaways for your event. The amount of time to allow depends on the number of students you expect at your event, and should be longer if you know there are things that may affect arrival times (heavy traffic, difficult parking access). For a smaller event, you may only need to allow half an hour, but for a large event you may want to extend it to 45 minutes.
- **Include time for Evaluations** – TAME will send out an evaluation form and a Student Info form (electronic versions may also be available). We rely on the information from these forms to improve our programs and serve our students, so please set aside some time near the end of the day for them.
- **Adding Additional Activities to the Schedule** – If you find you've got some room in the day's schedule, you may consider adding a guest speaker, a game or presentation, or even just a little downtime to chat and connect. As long as your Competition contains all the TAME-provided content, it's great to add additional things to make it more interesting or exciting for the students!

The Student Roster

The Student Roster is your list of expected attendees for the Divisional STEM Competition. You'll use it to plan for your layout and your lunches, to make sure you've got enough space and volunteers, and to build your Engineering Design Challenge Teams. The TAME State Office will send out the Student Roster as soon as it's available.

- **Confirmation Process** – We've received a lot of feedback that it's hard for students to reliably know several months in advance whether they can attend the Competition. This year, instead of asking Club Sponsors to confirm each student's individual participation, the Club Sponsors will be asked to confirm their TAME Club's intent to participate and review important information about their students (grade, gender, dietary restrictions, accessibility issues, t-shirt size). The State Office will then use historic attendance percentages to estimate the likely attendees when shipping out your supplies (these are the same estimates we have used the last several years).
- **Confirmation Timeline** – Once registration has closed October 27, the rosters will be finalized, and the State Office will reach out to confirm Club participation between November 1 and November 30. As soon as all TAME Clubs in your chapter have confirmed whether they will or will not participate in the Competition, the finalized student roster will be sent to you. If there are outstanding Clubs we haven't been able to confirm by the end of November, we'll let you know so that you can reach out directly as needed and we can finalize your roster in early December.

- **Club Sponsor and Chaperone Information** – The Student Roster will also contain a tab that lists the Club Sponsors and Co-Sponsors expected to attend your event, and any other chaperones that will be attending. Please include these attendees in your lunch and seating plans.

Plan for Lunch

TAME's mission to provide our programs at no cost to students extends to food, too! The State Office will provide funding up to \$3.00 per expected participant for lunch. If you are not able to find a lunch option that fits within that amount, contact the State Office; we may be able to help you find a local donor or offer other suggestions.

- **Provide options for all dietary needs** – The most common dietary needs are: vegetarian, dairy-free, gluten-free, no pork products, and food allergies. You will receive a roster from the TAME State Office listing the dietary requirements for your expected attendees. Make sure you have enough food to meet the requirements, and that if you have participants with specific needs you have a way to make sure that food that they can eat is available to them.
- **Arrange volunteers to serve the food** – The lunch break is usually short, and having volunteers on hand to set out and coordinate the food, and to make sure that those with dietary restrictions get the right meals, will ensure everyone gets to eat.
- **Get food for all attendees** – When you're calculating your food order, be sure to include chaperones, volunteers who will be there during lunch, and your own team. The roster from the State Office will include the dietary requirements from the Club Sponsors planning to attend.
- **Get several quotes** – Check with 3-4 vendors to see who can deliver your order to you, offer a lower price, bundle with a flat of bottled water, offer chips or cookies as part of a deal, or meet your needs in other ways.
- **Don't forget plates, napkins, forks, and drinks** – Most vendors will provide the plates, napkins, and forks if you ask them to. Bottled water is convenient and healthy as a drink option. Most chapters will also allow students to bring their own water bottles; water must be available and accessible for all attendees.
- **Donations and Discounts** – Many vendors will offer a non-profit discount, or offer special deals for good causes; they may even be willing to donate food. Don't be afraid to ask about a non-profit discount. The TAME State Office can provide proof of non-profit status on request.

Grant Application

TAME sends out as many of the supplies and necessities as possible directly to you, because purchasing in bulk allows us to save money. However, some things do need to be purchased locally, like lunches for the attendees. To ensure that TAME is able to reimburse the reasonable expenses our Competition Leadership Teams incur to present the Competition, we have a two-step process for funding.

- First, submit a Grant Application listing out the expenses you expect to have, and estimated amounts you expect to pay. The State Office will review the application, follow up with any questions, and confirm what expenses will be reimbursed. This form is available electronically.
- When making a purchase, use a Sales Tax Exemption form so that you are not charged sales tax (as a non-profit, TAME is exempt from sales tax). The State Office can provide a copy.

- After the event, submit a Reimbursement Request with the receipts from your expenditures. All pre-approved expenses for which a receipt is provided will be reimbursed by a check mailed to you. The submission form is available electronically.
- On occasion, unexpected expenses or cost increases may occur. Notify the TAME State Office as soon as possible if you have an expense that wasn't included on your approved Grant Application or if something will cost more than expected, and we will reply **in email** to confirm whether or not the expense will be reimbursed. Any expense approved via email for which a receipt is provided will be reimbursed by the same process as a pre-approved Grant Application.
- Receipts will be required for reimbursement. If you do not have or were not given a receipt, contact the State Office for assistance.

Organize Your Volunteers

TAME Competitions rely heavily on local volunteers to manage the events, and also to mentor and inspire students. Many STEM Competitions recruit volunteers who are engineering students, or engineering professionals, so that students interested in an engineering path can meet and connect with people who are successfully pursuing it. With good planning and coordination, your volunteer connections can be fun and rewarding for both your volunteers and your students.

- **Decide what volunteers you need** – Having volunteers organized by role is the easiest way to manage them. You can build schedules and resources for the different kinds of volunteers to make sure that they're not bombarded with irrelevant or confusing instructions. One volunteer could serve multiple roles as long as the timeslots don't overlap; for example, someone might sign up to volunteer for both setup and lunch if they knew they were available for the whole day, but an Engineering Design Challenge Judge wouldn't be able to be a lunch volunteer because they're interacting with students while lunch is being set up. Here are some of the most common volunteer types:
 - Set-up and Clean-up – They arrive early or stay late, to make sure that the physical elements of the STEM Competition (tables and chairs, signs, and other supplies) are ready for the event and removed at the end of the day. Depending on how much setup your event will need, this is usually 5-10 volunteers.
 - Check-in – When the students and chaperones arrive, someone will need to check in the club sponsors, make sure they have any essential information, and distribute the t-shirts and roster lists to each Club Sponsor. For most events, about 3-4 volunteers should be sufficient, but if you have a large event with a lot of clubs, you may want to have more.
 - General Support – Throughout the day, you may need general help with tasks that come up or making sure students get to where they need to go. Having 2-3 'as needed' volunteers, or members of your team who are designated for 'general support' during your event can be really helpful.
 - Lunch – Make sure you have enough volunteers to hand out the food and drinks, plus enough to set up the distribution when the food arrives. This can be as few as 2-3 and as many as 7-8, depending on the size of your event. Many events ask the Club Sponsors to fill this volunteer role.
 - Engineering Design Challenge Judges – These volunteers are an essential part of the STEM Competition; make sure you have enough of them! They'll need to arrive early

enough to go through Judges' training, and be there until the scores are finalized to answer any questions. Try to recruit 1-2 judges per expected Design Challenge team, plus a few extra to select the teams for Judges' Choice Awards. That way, if some judges aren't able to make it, you'll still have enough for all the teams.

- Awards Presentation – Some STEM Competitions invite local engineers or engineering educators to present the awards to the students at the end of the event; you can choose to ask them if they'd like to offer a short message to inspire the students as well.
- **Make a Volunteer Schedule** – Decide, based on your event schedule, what the time slots for your volunteers will be, when you'll need them to arrive, and how long you'll need them to stay.
- **Set up a Sign-up** – Whether you're using a service like [SignupGenius](#) or creating a Google Sheet for volunteers to select available spots, make sure you have some easily-accessible way for your volunteers to sign up, and to ask them about any dietary requirements or accessibility needs. Make sure your signup is set up in plenty of time for people to sign up! If you'd like suggestions on setting up a free SignupGenius account, reach out to the TAME State Office and we'll walk you through the process.
- **Request Volunteers** – The TAME State Office has templates for volunteer requests, and suggested email or recruitment scripts available. Send out your volunteer signup early, and connect with a variety of different types of organizations in your area to ensure you have plenty of volunteers:
 - Previous volunteers – If someone has volunteered for TAME before, they already know what a great opportunity it is for inspiring students.
 - Professional organizations – Organizations like the National Society of Black Engineers (NSBE), the Society of Hispanic Professional Engineers (SHPE), and the Society of Women Engineers (SWE) are a great volunteer resource. Most professional engineering organizations will have local chapters; if you're not sure where to reach out, check with the TAME State Office for help.
 - Student groups – Higher education institutions, like universities or colleges, often have engineering-centered student groups that encourage and coordinate volunteering. Meeting students pursuing engineering degrees helps TAME students see the potential in their own futures.
 - Local Employers – If you have tech or manufacturing companies in your area, they often encourage their employees to volunteer in the local community. Reach out to them to see if you can get your STEM Competition on their volunteering calendar. They make great Engineering Design Challenge Judges because they've got real-world experience with the engineering process.
- **Communication** – Make sure you get valid email addresses for all your volunteers and send out timely communications so that they know how to find your venue, where to park, what time to arrive, what to expect at the event, and how long they will be needed. If you're using a sign-up service be sure your volunteers have a way to reach someone on your Competition Team during the day, in case they have difficulty locating the event, and remind them to wear shirts for their company or organization if they would like to.
- **Follow-up** – After your event, make sure you send out a thank-you to your volunteers. Also, consider whether there are any of your volunteers you'd like to ask to be part of your Competition Team for future years. Did one of your lunch volunteers really take charge and

keep things organized? See if they'd like to be the Lunch Lead next year! Make sure you keep track of the names and emails for your volunteers each year, so that you can send them your sign-up next year.

The Engineering Design Challenge

The Engineering Design Challenge (EDC) is the primary student activity for the Divisional STEM Competition. Students are divided into teams, and given a real-world engineering problem to solve in a defined timeframe, and then given a score by volunteer EDC Judges. Students who do well on the challenge can win awards and be invited to the TAME Leaders in Engineering Conference in the spring. A separate document, the "Engineering Design Challenge Coordinator Instructions" will be distributed with specific instructions for this year's challenge. This is a general overview of what you need to know to plan ahead for the EDC:

- **The EDC is different this year** – Over the last several years, the most common student feedback on the evaluation question "What would you change about today?" has been a description of what they wish they had done differently on the EDC, how they wish they could have had a chance to change something and try again. Based on this feedback, we're changing our format! Students will have a 'Design Phase' and a chance to receive judging feedback on their plan, and then a separate 'Build Phase' to use that feedback to update the design before implementation.
- **TAME provides the whole challenge** – TAME will develop the challenge, the challenge instructions, the presentation with instructions, and spreadsheets to easily calculate scores. They also provide all the supplies you need, from the printed forms to the students' supply kits. The supplies will either be ordered and directly delivered to you, or shipped from the TAME State Office. Please open the EDC supplies **right away** when you receive the packages to confirm that you have received everything on your packing list, and go through the documentation to make sure you have time to ask any questions.
- **Spacing** – You'll need to be sure that each team has a place to work, which means either a small table for each group (8' or smaller) or a large table for each set of 2 teams (8' or larger). The tables should have sufficient room to allow students to move around between them, and enough chairs so students can sit to work. Don't forget any rules or guidance for social distancing. The tables should also be an appropriate height for students using wheelchairs. You'll also need a space and a means to make announcements (a microphone, PA system, or other means of amplifying your voice).
- **Judging** – The judges will need the ability to document scores; score sheets (either paper or electronic) will be distributed by the TAME State Office, but you will need to make sure that you have pencils; clipboards are also very useful. The judges will need a place for training that can't be overheard by students, and a private place to discuss any questions or results.

- **Teams** – Students are divided into teams and given engineering roles to assume. It will speed up the process to pre-assign students to teams before the event, with some students (perhaps 10%) unassigned so that they can fill in as needed. Making sure that the teams are as diverse as possible means that students will have an opportunity to work with different students, meet new people, and hear a variety of perspectives on problem-solving. The ideal team contains:
 - An even mix of boys and girls
 - Students of different races
 - Students from different grades and TAME Clubs
- **Presentation** – The TAME State Office provides a PowerPoint or video presentation to explain the Engineering Design Challenge to the students. To ensure a consistent experience for all students across the state, do not add anything to or remove anything from this presentation.
- **Scoring** – TAME provides everything you need to calculate the students' scores, including a spreadsheet with preset formulas to save time getting the final scores. If you're using paper judging forms, make sure you've got a dedicated laptop and a quiet place for the person doing data entry to put the scores into the spreadsheet, and a means for the judges to get their forms to the data entry person quickly.

T-Shirts

TAME provides a t-shirt for each student and Club Sponsor, in the size listed on their registration. The color of the t-shirt rotates between Red, Jade, Navy, and Purple, and each chapter will receive one color for all attendees. We don't provide shirts for all volunteers, but if you would like to request up to 10 t-shirts for people on your Competition Team, please email a list of the specific sizes you need to the TAME State office no later than December 1. It is **strongly preferred** that students wear the t-shirt while participating; in venues where more than one event may be taking place, this allows you to easily identify TAME students. These shirts will be shipped to you with the rest of your STEM Competition supplies, and it will greatly speed up check-in if you separate them by club before the day of the event.

Awards

The TAME State Office will include the Engineering Design Challenge awards in your shipment. If you have space on a stage or display table, it can be very inspiring to the students to lay out the awards so they can be seen. This will also make it easier to have the awards handy during the awards ceremony. This year the following awards will be given:

- **Engineering Design Challenge Places** – First, second, and third place awards will be given based upon teams' EDC scores. For larger competitions, additional places up to 6th may be designated.

- **Judges' Choice Award Types** – Up to three teams that did not place will receive Judges' Choice Awards. The Judges' Choice Awards are intended to recognize teams that performed exceptionally well in one of three areas. The areas are chosen to highlight qualities that are important for future engineers.
 - Teamwork – A team that collaborates well, that supports one another, that plans together, should be considered for a Judges' Choice Teamwork Award.
 - Innovation – A team that had a really creative solution, that really approached the problem in a novel way, even if they couldn't quite get the implementation perfect, should be considered for the Judges' Choice Innovation Award.
 - Perseverance – A team that kept working through setbacks, that had technical issues but worked around them, that responded to challenges with enthusiasm, should be considered for the Judges' Choice Perseverance Award.
- **Judges' Choice Award Numbers** – The number of Judges' Choice Awards given out at each Divisional STEM Competition will be determined by the number of students expected to attend:
 - Divisional STEM Competitions with fewer than 50 expected attendees will Award the Judges' Choice Teamwork Award.
 - Divisional STEM Competitions with 50-100 expected attendees will award the Judges' Choice Teamwork and Innovation Awards.
 - Divisional STEM Competitions with more than 100 expected attendees will award all three Judges' Choice Awards: Teamwork, Innovation, and Perseverance.
- **Other Awards as Determined** – The TAME State Office may add opportunities for recognition to the STEM Competition Program each year, such as a student contest; guidance regarding these awards will be distributed along with the awards themselves.

Ceremonies

There are three primary ceremonies included in the Divisional STEM Competition, to help you get students excited for the day, share information with attendees, and recognize the students' accomplishments. The State Office will make the ceremonies available as PowerPoint or Google Slides templates.

- **Welcome Ceremony** – The TAME State Office will send out a template for the Welcome Ceremony. You'll have the chance to personalize the information for your event, thank any local sponsors you would like to recognize, include your local TAME Club names and Club Sponsors, and acknowledge your Competition Team.
- **Engineering Design Challenge Instructions** – This will be the core instructions for the EDC. It may be a slideshow presentation or a video, to tell students what they need to know for the challenge. In order to ensure that all students across the state have a consistent competition, do not make any changes to the presentation. If the presentation is a slideshow and not a video, a suggested script outline will be sent along with it to help you get ready for the presentation.
- **Awards Ceremony** – This is a template listing the awards in order of presentation, ready to fill in with team and student names, as well as some closing information and thanks.

Social Media and Public Relations

You can use social media (Twitter, Facebook, Instagram, TikTok, etc) to get people excited about your event, to show off students' accomplishments, and to thank the people who support your event. Make sure to include relevant hashtags and tag relevant accounts, and keep your posts positive and celebratory.

- **No EDC Photos Shared Before March 4** – To ensure a level playing field for all Texas students, do not release photos in which any elements of the Engineering Design Challenge are visible before the last Competition has ended. Please save these photos to share after the last Divisional STEM Competition. In the event that the last Competition is before March 4, TAME will send out an email letting you know that the restriction on the EDC photos has ended.
- **Templates Available** – Not quite sure what to say in a press release? The State Office has templates for announcements and releases to help you.
- **Build a Tag List** – Keep a list of all your tags and hashtags in an easy-to-find spreadsheet, so that you can put them together ahead of time, then copy and paste as needed.
- **Tag TAME** – Use the hashtag #LoneStarSTEM for TAME activities, and please tag the TAME accounts in your posts, so we can see and celebrate your Chapter!
 - Twitter: @tamestem
 - Facebook: <https://www.facebook.com/TAMESTEM/>
 - Instagram: @tamestem
- **Other Tags** – You may want to thank, encourage, or celebrate those involved with your Divisional STEM Competition, like:
 - The college or university where you're having your event
 - The local sponsor that sent a guest speaker
 - The schools or organizations that your TAME Clubs represent
- **Press Releases** – A press release is a great way to share the information to celebrate your event. You can simply update the State Office-provided template with your STEM Competition details and email it to people to share the information with them. Consider sending a press release to:
 - Local media – newspapers, public radio stations, or TV stations
 - Supporters – If you had a university, college, or even a local company that was really involved in your event, send the press release to the person who helped you coordinate with your thanks. These groups often have internal newsletters that like to highlight the things their employees are doing.
 - Club Sponsors – Having the ability to share information about their students' accomplishments with a principal or district administrator can help Club Sponsors who are seeking support for TAME in their district.

Shipping

The TAME State Office will be shipping out your Divisional STEM Competition supplies in January or February. Shipments will be timed for delivery 1-2 weeks before your event, to allow for setup, preparation, and any weather delays in shipping schedules. You'll receive an email tracking notification for the package when it's sent; all packages are sent via ground shipping.

Depending on the size of your event, your Divisional STEM Competition shipment may be several large boxes. You need to have a secure place for delivery where they can be sheltered from inclement weather, and space to store them where any students who will be participating can't see what's in them. Open the packages as soon as you get them, and review the shipping list to be sure that everything has been included. Notify the TAME State Office if anything is missing, so that we can ship it to you.

What's in the Box(es)?

- **T-Shirts** – All the t-shirts for your event will be included, bundled by size
- **EDC Supplies** – Sufficient supplies for your expected number of EDC Teams, plus enough extra supplies for 2-3 teams
- **EDC Instructions** – Printed copies of the Instructions and documentation for the EDC, bundled into packets for the teams
- **EDC Judging Sheets** – Paper copies of the Judges' Scoring sheets for the EDC
- **Additional Forms** – Any printed evaluations and Student Information forms to be filled out at the event
- **TAME Giveaways** – In addition to t-shirts, TAME will send out a color-changing TAME pencil for each student. Occasionally, one of our sponsor partners may also offer giveaways for the students.
- **Packing List**

What's Coming Electronically?

This handbook has referenced a number of forms that will be available electronically, either as a replacement for or in addition to paper forms. These include (but aren't limited to) templates, the grant application and reimbursement request, electronic copies of all paper forms, and ceremonies. We will be using a secure shared folder from which you can download or copy everything you need; the location of the electronic file library will be sent as a separate email once the documents are available. Student Rosters will be distributed to you via email.

What to Return to TAME

After the event, most Competition Teams have some supplies and t-shirts left over, completed forms to return, photos to share, and results to publish. To make your post-event as simple as possible, here are the TAME guidelines for what to return and how to return it:

Competition Supplies

- **T-shirts** – If you have more than a few shirts remaining after your event, please return them to the TAME State Office; we can store clean shirts to be sent to another STEM Competition next year. Do not return shirts that have been worn or are dirty.
- **EDC Supplies** – Unless you are specifically requested to return supplies, please do not return EDC supply kits to the TAME State Office; the cost of shipping the kits back is often more than the value of the leftover supplies. Many chapters will donate them to arts or STEAM programs that can use the craft supplies, or allow Club Sponsors to keep them for their TAME Clubs.

Forms and Paperwork

All paper forms can be returned either as physical copies shipped back to the State Office OR as scanned pdfs submitted by email or secure upload. If you submit forms electronically please wait for confirmation from the State Office that they were received and could be accessed before destroying any forms, and check the backs of pages for additional notes or info when scanning. We need the following information:

- **Judges' Score Sheets** – If your Divisional STEM Competition used paper judging forms, please return the forms or electronic copies of them for our records. If you used electronic judging forms, please send the results spreadsheet to TAME.
- **Evaluations** – Please return forms or electronic copies of them, making sure that you have scanned the backs of any forms that may have additional comments there. This year we plan to make our analysis of the evaluation data available to the Chapter and Competition Leadership, so having the forms back in a timely manner will help us get that to you sooner.
- **Student Info Forms** – The Student Info Forms are incredibly important tools for learning about our students, their goals, and their TAME experience. This year we plan to make our analysis of the student info data available to the Chapter and Competition Leadership, and having the forms back in a timely manner will help us get that to you sooner.
- **Student EDC Responses** – The EDC packets will contain a sheet on which the students will record their team name, their own names, and some other information. We use this information to confirm we are publishing correct results and confirm student participation in the event. Having this enables us to more accurately track all the students who attended the event.
- **Volunteer Contact Information** – If any of your volunteers are interested in volunteering at other TAME events, like the TAME Leaders in Engineering State Conference, please let us know! We can email them when volunteer signups are open.
- **Other Paperwork** – If you have additional papers you think might be useful, like a check-in list showing all the attendees or awesome pictures the students drew, let us know! We probably want them, at least electronically, to better tell the story of TAME.

Return Shipping

To get items back to TAME, pack everything securely in a sturdy cardboard box, and then email the weight, length, width, and height of the box to the TAME State Office. We will set up the shipment using our account and email you a printable pdf shipping label. Just print it out, attach it securely to the box, and drop it off for shipping.

Results

We need the results for your Divisional STEM Competition **as soon as possible** so that we can update them on our website and announce the winners to the whole TAME network via social media. The best way to do that is to send us a copy of the scoring spreadsheet and a copy of your updated PowerPoint Awards presentation. You should expect to see the results page updated on the website within a week of our receiving this information.

Photos

We love photos of TAME students! We share them with our partners and sponsors, we use them on our website, and they make your Competition Results announcement much more exciting. As we have in previous years, we'll have a secure upload for you to send photos to TAME.

The TAME Leaders in Engineering State Conference

This year, TAME is delighted to present a virtual conference encouraging TAME Students to develop their skills and identity as leaders in engineering. The event will offer guest speakers, collaborative challenges, and activities to help students build connections and community to support them in reaching their long-term goals.

The selection process for this year's State Event will be similar to the usual selection process for a State STEM Competition. Students who perform exceptionally well at the Divisional STEM Competition will automatically qualify for the event, and the State Office will work with the Chapter Leadership to identify additional students for the State Delegation. Students will be given access to the virtual event, and any supplies or giveaways for it will be shipped to the Club Sponsors for distribution.

One difference this year is that we are more clearly defining the students TAME will be prioritizing in the invitation process. We have formalized our guidance on selection with regard to race and gender, to ensure that we are reaching the students who will most benefit from the event. We understand that this represents a change from the previous selection process; please contact the State Office if you have questions or concerns.

Autoqualifiers

At each chapter's Divisional STEM Competition, the first and second place Engineering Design Challenge Teams will automatically qualify for invitation to the Leaders in Engineering Conference.

State Delegation Size

Additional spaces at the Leaders in Engineering Conference will be proportionally allocated to each chapter based on the number of students who sign up to attend the chapter's Divisional STEM Competition. The TAME State Office will notify the Chapter Leadership of their delegation size in January, as well as confirming the number of spaces to be held for adult attendees.

The TAME State Office will provide a template spreadsheet for listing your delegation, alternates, and chaperones. It will also include a recommended number of middle and high school students; the State event should have a good mix of students from all grade levels. We know that some chapters have a lot more high school than middle school students, or more middle school than high school students, so if you can't meet the recommended numbers let the State Office know; we may be able to adjust the number of middle and high school students for another chapter, so the overall event is more balanced.

Selecting the State Delegation

As part of TAME's commitment to focus on students from groups that have been historically underrepresented in engineering careers, we are prioritizing students from those groups in selection for the Leaders in Engineering State Conference. The overall goal is to identify and include students who are most likely to experience institutional barriers to pursuing their goals in engineering, while recognizing students who did well at the Divisional STEM Competition.

When choosing students to invite, give preference to the following students:

- Students from groups that are underrepresented in engineering:
 - Black or African American students
 - Hispanic or Latinx students
 - Indigenous or Native American students
 - Female students
- Students who earned an award at the Divisional STEM Competition

So, students from one or more underrepresented groups who won awards at a Divisional STEM Competition would be the first invited, followed by a balance of students who met one of the criteria, followed by students who were not in either group. If you have questions or need suggestions on building the delegation for the State Conference, contact the TAME State Office.

Selected students must complete an electronic form by April 1 to accept their invitation; they are not confirmed to attend the event until they have completed that form. After April 1, all spaces for students who haven't accepted their invitations will be assigned to alternates.

Alternates

Sometimes a student who has accepted their invitation to the State event has to drop out due to changing schedules or availability. To streamline the process of adding students to replace them, TAME has implemented a Designated Alternate process. Each chapter will be encouraged to select up to eight alternates:

- Two high school girls
- Two high school boys
- Two middle school girls
- Two middle school boys

Alternates must complete a confirmation form by April 1. After April 1, open spaces will be allocated to Alternates, starting with matching Chapter/Gender/Age and then adding alternates from other chapters to fill the spaces.

Chaperones

Each chapter will have a designated number of spaces for chaperones. This can include Club Sponsors or other adult volunteers. Chaperones must complete an electronic form by April 10 to be included in the event.

Chapter Leadership State Event Responsibilities

To prepare for the event, the State Office will rely on the Chapter Leadership Team to help coordinate communications with conference participants, confirm correct email and contact information for students and chaperones, and notify us of any problems that students, Club Sponsors, or chaperones are having with connectivity or access to the event. As details for the event are finalized, we'll need your help keeping participants informed and getting them excited about attending.

Being involved in the Leadership in Engineering State Conference is a great opportunity to inspire and connect with TAME students across the state. Each Chapter should select at least one representative from the Chapter Leadership Team to participate in the conference; all members of the Competition Team are invited to attend. Your voices and perspectives will be important! Please email the TAME State Office with names and valid email addresses for any Chapter Leadership attendees by April 10.

TAME Accommodations Policy

The Texas Alliance for Minorities in Engineering (TAME) is committed to providing accessible activities and events. To do so, we understand that we may need to make adjustments to our STEM Competitions, our contests, or other TAME activities to meet the needs of our students. We have developed the following guidelines to make sure that accommodations are made available on a fair, consistent basis using a transparent process.

1. TAME will make reasonable, necessary accommodations as long as they will not fundamentally change a contest or competition.
2. Examples of reasonable accommodations include, but are not limited to:
 - a. Physical accommodations: A student who uses a screen reader requests that they be able to access the Engineering Design Challenge electronically so that they can use the device.
 - b. Academic or educational accommodations: A student who needs a quiet testing environment wears noise canceling headphones to help them focus and requests to be allowed to wear them at a STEM Competition.
 - c. Language accommodations: A student who is allowed to use a translation dictionary during their classes requests to be allowed to use it during the State STEM Competition.
 - d. Additional adult support: A student who works with an Educational Support Aide in their classes requests that the aide be allowed to attend a TAME event with them in the same capacity.
 - e. Religious accommodations: A student needs quiet time to perform daily prayers, and requests to be allowed to step away from the TAME activity to complete them. *An accommodation request is not necessary for religious dietary requirements already listed in the Student Registration.*
3. Some accommodations may not be possible due to expense, resources, space, or time constraints. For example, there might not be a separate private testing room available, and it may not be possible to extend timed activities due to the day's schedule. TAME can't provide additional volunteers to act as interpreters or other support.
4. Requests for accommodations must be made to the TAME State Office 30 days in advance of the date they are being requested for (for example, if the event is February 10, accommodation requests for it need to be submitted no later than January 11). We will do our best to process requests made less than 30 days before an event but cannot guarantee accommodations on short notice.
5. TAME will provide a request form, in both printable and electronic format. This form must be completed for an accommodation to be considered; requests can't be made by email or telephone.
6. The form requesting the accommodation must be completed by a student's Club Sponsor or Co-Sponsor; a student or parent may not make the request.
7. The Club Sponsor or Co-Sponsor should review any supporting documentation (such as a 504 plan) and confirm to the TAME State Office that it applies to the accommodation. Students **should not** send their supporting documentation directly to the TAME State Office. The review can also be completed by a principal, an administrator, or another educational professional.

8. If an accommodation is approved for one event during the school year, that approval will apply to all TAME events that year (for example, an accommodation approved for a Divisional STEM Competition would also be approved for that year's State STEM Competition).
9. TAME may support the expenses of some accommodations, such as providing large-print tests, but students will be responsible for any special equipment needed, such as a screen reader.
10. Approval for a requested accommodation will contain a confirmation of the required accommodation, an explanation of what support or supplies TAME will provide, and an explanation of what equipment a student is responsible for providing. It will **not** contain a description of the reason for the accommodation, to protect student privacy. It will be sent via email from the State Office to:
 - a. The Club Sponsor and any Co-Sponsors
 - b. The email on file for the student
 - c. The email on file for the parent or guardian
 - d. The Competition Coordinator
11. If an accommodation request can't be approved as it is written, an explanation for the denial, along with any suggestions for compromise or modification, will be emailed from the State Office to the following:
 - a. The Club Sponsor or Co-Sponsor who submitted the request
 - b. The email on file for the student
 - c. The email on file for the parent or guardian
12. If a request is denied the student, parent, or Club Sponsor/Co-Sponsor can appeal the denial by return email to the TAME State Office up to two weeks before the event, and provide additional information or context to support the appeal.