



**New Mexico Mathematics, Engineering, Science Achievement, Inc.**

**38<sup>th</sup> Annual**  
**NM MESA**  
**Competition Day**  
**Building New Mexico**



**April 30, 2026**  
**Expo New Mexico**  
**Albuquerque, New Mexico**  
**OFFICIAL HANDBOOK**



## **38<sup>th</sup> Annual MESA Day Handbook**

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## **MESA COMPETITION GENERAL INFORMATION**

*The NM MESA, Inc., Annual Statewide Math and Science competitions are designed to encourage the concept of problem solving through teamwork. It salutes NM MESA students for their commitment to academic excellence and reinforces the NM MESA mission of preparing students from historically underrepresented ethnic groups for college majors and careers in math, engineering, and science. In keeping with our mission, advisors are encouraged to assemble teams that are representative of the ethnic and gender diversity of their school and NM MESA enrollment.*

**COMPETITION OVERVIEW:** This year our MESA Competition Day will host (2) Competition Tracks, MESA Day and MESA USA. Both tracks will run concurrently during the same event. Please note some guidelines are different for each track.

All of our MESA Day events will address the topic of “Building New Mexico” as Goal #9 of the United Nations Sustainable Development Goals (UN-SDGs). NM MESA schools are invited to participate in our MESA Day Track as follows:

- On Site Team Competition-MESA Mayhem
- On Site Team Competition-Engineering Your Financial Freedom
- Prepared Design-Building New Mexico
- Optional-School Banner

All of our MESA USA events will address the topic of “Designing for Local Change” and teams are required to incorporate a coding element in their prototype. NM MESA schools are invited to participate in our MESA USA Track as follows: Academic Poster, Design Proposal, Technical Pitch, and Symposium

**ALL TEAMS:** All NM MESA Programs are encouraged to participate in both event tracks. Although scoring is done independently, participation is required as follows: Participation in the MESA USA Track

is optional, BUT at minimum, (1) MESA USA Team is required if the program wants to have more than (1) MESA Day Team participate. Team names **MUST** be declared as follows: (Track)-(School) (Level) – (Team #). *Example: MESA USA-Mesaville High School – Team #1*

*Each school is allowed to have (6) named alternates that can be used on any team, any track. In addition, the day of competition, teams may be condensed if needed to complete teams. Example: Students can be moved from Team 4 to Team 2 in the event of no shows. It is HIGHLY suggested to register full teams, identify alternates, and cross train students in the event a student(s) cannot attend the event. Any team that requires any accommodations must make a request to NM MESA when submitting their registration.*

**MESA Day Track:** The MESA Day competition will run like a MESA Medley. Each team will be composed of 3-6 students. If schools have multiple teams, all events must be filled before building an additional team. *All MESA Day teams are required to participate in all events, including the Prepared Design. All team members will work together on the Prepared Design event and the On Site Team Competition.*

**MESA USA Track:** Each team will be composed of 2-4 students. *Because some items are due prior to competition, teams are HIGHLY suggested to be determined by the inspection deadline.*

The 1<sup>st</sup> Place overall winning teams in both the middle school and high school level will be chosen to represent New Mexico in the 2025 MESA USA National Engineering Design Competition in June, 2026 hosted by Maryland MESA in Baltimore, MD. Only members that attend and participate in the State Competition will be allowed to participate in the National Competition. No changes or additions are allowed.

**NMAA ALIGNMENT:** At the time of publishing, NM MESA is up for consideration from the New Mexico Activities Association to be a sanctioned activity. As such, there may be additional paperwork required, and students will need to determine eligibility to participate so it is critical teams are determined in advance.

**ELIGIBILITY:** All participating teams must come from official New Mexico MESA School Programs. Schools must be considered official, and advisors must enter/submit all A-0 forms by **5 PM MST, March 27, 2026**. Only the students listed on the school roster (have their A-0 submitted) will be eligible to participate.

**NO EXCEPTIONS!**

***Of Special Note to Middle/Junior High Schools serving 9<sup>th</sup> grade students*** – Each middle/junior high school that includes a 9<sup>th</sup> grade class is allowed to have an event team with a maximum of 50% 9<sup>th</sup> grade students. These teams will compete in the Middle School division **only**. **No** 100% 9<sup>th</sup> grade teams will be allowed in middle school competition.

**ATTENDANCE AND QUALIFICATION:** All schools will be allowed to participate in MESA Day as follows. Please use the table to determine the number of teams your school can bring.

<b>MESA Day Track</b>	
Extra Small School: <=15 profiles	Max number of teams=1
Small School: >=16 and <=25 profiles	Max number of teams=2
Medium School: >=26 and <=45 profiles	Max number of teams=3
Large School: >=46 and <=69 profiles	Max number of teams=5
Extra Large School: >=70 profiles	Max number of teams=7
<b>MESA USA Track</b>	
Small School: <= 30 profiles	Max number of teams=1
Large School: >=31 profiles	Max number of teams=2

## PLAGIARISM AND ADVISOR POLICY:

Academic honesty and personal integrity are essential to ensure future success as college students and STEM Professionals. As such, NM MESA expects that the work will be solely the work of the students. If the work or ideas of another are used to further students' work, then proper credit must be given to the owner. Failure to do so will result in an act of Plagiarism. If it is determined that a student committed plagiarism, they will be disqualified from the competition and will be ineligible to receive any awards. They may also risk further sanctions from NM MESA and/or MESA USA.

*Due to the nature of some events, the event will be done with the trust that all students will abide by this policy. The prepared design event and other advance materials should be completed by the entire student team and be the original work of the students.*

Advisors (or non-competitors) are NOT allowed in any competition unless there is a designated viewing space. All advisors are expected to assist their teams with meeting deadlines, register their teams, assist their students to ensure they are where they need to be, etc. Any complaints and/or appeals need to be addressed by the students to the Event Coordinator during the event.

**COVID POLICY:** All events are expected to be completed in person besides the materials submitted in advance as part of registration. If an individual student cannot attend due to a quarantine requirement, a named alternate may take their place. If an entire team is unable to attend due to school closure or quarantine, then the program will not be able to compete in the on-site events and a makeup will not be arranged.

This event will follow current CDC guidelines which could include wearing masks indoors, recommended distancing, required sanitation, etc. More information will come on the exact requirements closer to the event. NM MESA also reserves the right to modify this event as needed to meet current requirements.

**SCORING SUMMARY:** Final team rankings will be based on the total score, which is derived by adding all of the component scores. *NOTE: Results are not final until overall results are reported.*

### MESA Day Track:

On Site Team Competition 1	100 points
On Site Team Competition 2	100 points
Prepared Design	150 points
<b>TOTAL</b>	<b>350 points</b>

### MESA USA Track:

Design Proposal	Academic Poster	Technical Pitch	Symposium	Total
40 points (15%)	60 points (22%)	92 points (34%)	80 points (29%)	272 points (100%)

**AWARDS:** (Middle and High School –Each Track) Overall Teams: Placing 1<sup>st</sup>-3<sup>rd</sup> Overall

Trophies will be awarded to the top 3 overall teams (1<sup>st</sup>-3<sup>th</sup> Place). Awards will be presented to individual team members placing 1<sup>st</sup> – 3<sup>rd</sup> Place overall. Awards will be presented to the top team in each individual event (1<sup>st</sup> Place).

- 1<sup>st</sup> Place-\$100 Gift Card
- 2<sup>nd</sup> Place-\$75 Gift Card
- 3<sup>rd</sup> Place-\$50 Gift Card

#### MESA USA Track Only:

- 1<sup>st</sup> Place-Will also represent Team New Mexico at the Nationals Competition.
- NOTE: A team must accept representing New Mexico at our National Competition to receive the 1<sup>st</sup> place package. Otherwise, they will forfeit to the next level winner and will receive a different prize package.

At the conclusion of the event, an awards form will be collected from each student electronically that has won an award. It is HIGHLY suggested that students use a non-school email for gift card receipt as many school domains reject outside emails. *Awards will not be issued to any student that does not submit the required award form by the given deadline and awards will not be re-issued due to failure to receive them (by using an email that is incorrect or that does not accept the award).*

**IMPORTANT:** Awards will not be presented at the live MESA Competition. To ensure accuracy and to accommodate all traveling schools, final scoring will occur upon the conclusion of the event and a live virtual announcement will be done at **4:00 PM on May 1, 2026.**

**DISQUALIFICATION:** Individual event teams can be disqualified for the following:

- Any team member not having an A0 on record
- Anyone else completing or helping with task that is not the registered student
- Prohibited advisor, parent, or other “outside” assistance in events
- Lead judge disqualifies an event team for not following event guidelines
- Unauthorized use of cell phones during event(s) to include phone calls, internet, and/or texts
- An event team is found to have violated event guidelines after competition has concluded
- General inappropriate behavior at any time during the competition
- If after the competition is concluded, it is found that any team violated rules or requirements for any event, they may be disqualified from competition and will forfeit any qualification or placement spots they may have earned.

**ADDENDUMS AND EVENT RESOURCES:** There are several addendums and resources which will be useful in preparing for Competition. All addendums will be available on the NM MESA-MESA Competition Event Website. These include:

- Any Final Logistical Information
- Event Resources and Helpful Preparation Information
- Standards Alignment
- Final MESA USA National Handbook
- MESA Day and USA Frequently Asked Questions (FAQ)
  - Will be changed throughout year as questions arise

**It is the responsibility of the school program to periodically check for resources and updates. Before competition date, it is STRONGLY encouraged as the FAQ section will contain any clarifications and/or addendums to the event handbook and these will be followed at competition. The FAQ document is an official MESA Day Document and is the official addendum to this handbook.**

#### **TRAVEL LOGISTICS:**

**Food:** Lunch will be provided to competing students and official school advisor(s). Students are NOT to leave the Expo New Mexico (NM) Campus. Expo NM will have adequate vendor set ups that will have general breakfast, snack, and lunch concession items. In addition, outside food is allowed to be brought to the event. There is sizable outdoor and open space to gather.

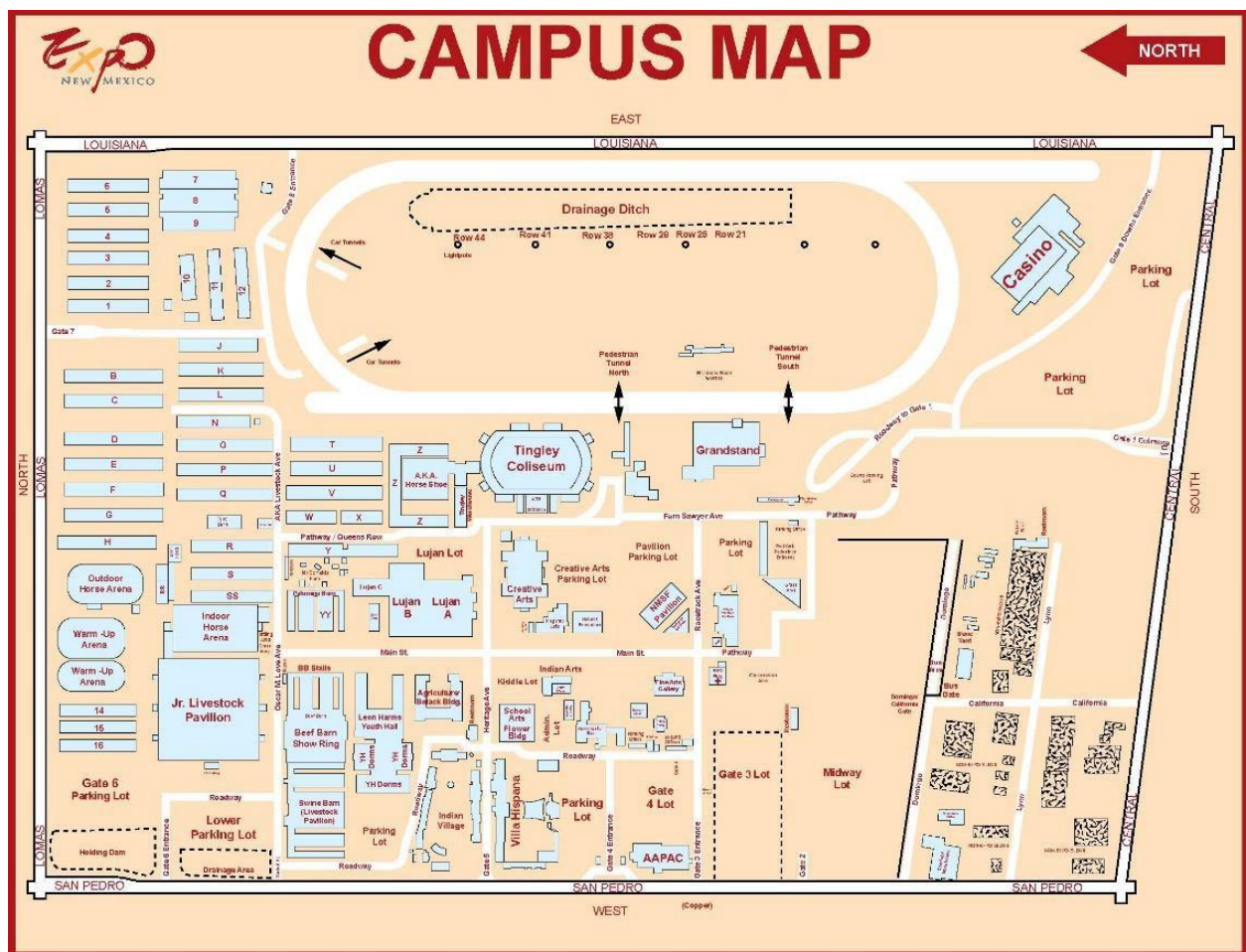
Because of the large campus, there are to be no unattended students. Students are not to be left alone to wander if your group splits and this may require additional supervision. Student teams in violation of this may be disqualified and unable to participate in future NM MESA events.

Lodging: Lodging will not be provided for participants in the MESA Competition Event.

Transportation: Transportation will be provided according to the current NM MESA Transportation Policy and reasonable bus-pooling will be expected with other schools from their district and/or area schools. If a school district has specific requirements that NM MESA is unable to accommodate, they will be responsible for financial assistance with transportation. Smaller vehicles and/or suburban use is recommended for smaller teams.

Parking: Expo NM will have open and available parking for busses and vehicles to accommodate all staff, volunteers, spectators, and school travel.

*Closer to the event, final instructions will be provided for bus loading/unloading and vehicle parking. There will be requirements and specific gates used for entry.*



**GENERAL NOTES:** Students should be instructed to demonstrate good sportsmanship and will be held accountable for any misbehavior.



Cell Phone usage –Advisors are asked to follow and remind their students about appropriate cell phone protocol. Judges will repeat this cell phone usage reminder at the beginning of each competition and will relay what is allowed and not allowed. Failure to comply may lead to disqualification.

**MESA COMPETITION REGISTRATION:** This is required for any team wanting to participate. All registration and submittal of materials will be done with a direct link on the MESA Competition Event Page on the NM MESA Website. **ALL REGISTRATION WILL NEED TO BE SUBMITTED ELECTRONICALLY BY MARCH 27, 2026 at 5PM.**

Closer to the event, advisors will be sent a final spreadsheet of registered attendees. The morning of the event, advisors will be asked to submit any modifications during event check in. NM MESA STAFF has the authority to cancel attendance for any team if they do not have completed projects and/or are not prepared to attend the competition up to the date of the event. All projects must be new and original.

***Teams cannot continue working on a project started in previous years.***

There is not a registration form collected in hard copy, but the following information will be needed to complete on-line registration. (1) Registration will be done per school and will collect all needed information.

*Information You Will Need Per School Registration:*

- How many teams you are bringing (and eligible for)
- Unique Email Address
- School Name, Level (HS or MS), Region
- Advisor Information and Contact information (phone, email, mailing address)
- Student Names and Assigned Event
- Up to (6) Alternates Per School
- Transportation Information (In Lieu of a B4)
  - Vendor Name, Email, Address
  - Amount of Transportation
- Any specific team requests and/or information

*MESA USA Track Only:*

**Team Submittals You Will Need to Upload Per Team in School Registration:**

- Design Proposal Completed Template:
  - MUST be submitted in Portable Document Format (.PDF) as (1) Document.
- Academic Poster
  - MUST be submitted in Portable Document Format (.PDF) as (1) Document.

***Required Team Inspection: March 30, 2026-April 17, 2026***

- By the Registration Deadline, schools will register for an inspection appointment with the Prepared Design Committee (for MESA Day Track) and the MESA USA Committee (MESA USA Track). Projects will be evaluated by the same committee to ensure requirements are met and assess team readiness.
- Regional Coordinators will work with school teams to determine transportation once they are approved to attend. Final transportation requests will be submitted at registration. Minimum requirement will need to be met for each team and will determine eligible teams.



**MESA COMPETITION SERIES FINAL AGENDA**  
**Thursday, April 30, 2026 – Middle and High School**  
**Expo New Mexico – Albuquerque, New Mexico**  
**MESA DAY TRACK**

<b>TIME</b>	<b>Description</b>	<b>Location</b>
7:00 AM	MESA Staff Report	<i>Sponsor Building</i>
7:30 AM-8:45 AM	School Check in and Arrival	<i>Lujan Exhibit Hall A</i>
	Prepared Design Drop Off and Banner Inspection	
8:00 AM	Volunteer Judges Report for Event Orientation	<i>Sponsor Building</i>
9:00 AM	Welcome Instructions and Opening Ceremony	<i>Lujan Exhibit Hall A</i>
	Banner Parade of Schools	
9:30 AM-11:30 PM	<b>MESA Day High School:</b> Prepared Design Inspection and Performance Judging	<i>Lujan Exhibit Hall A</i>
11:30 AM-12:30 PM	Prepared Design Community Center Symposium*	
9:30 AM-10:50 AM	<b>MESA Day Middle School:</b> On Site Team Competition-MESA Mayhem	<i>Lujan Exhibit Hall B</i>
11:00 AM-12:20 PM	<b>MESA Day Middle School:</b> On Site Team Competition-Engineering Financial Freedom	<i>Lujan Exhibit Hall C</i>
11:30 AM-2:30 PM	Lunch and Activities	<i>Students-Hall A</i> <i>Judges-Sponsor</i>
12:30 PM -1:30 PM	Discovery Fair	<i>Lujan Exhibit Hall A</i>
1:30 PM-3:30 PM	<b>MESA Day Middle School:</b> Prepared Design Inspection and Performance Judging	<i>Lujan Exhibit Hall A</i>
3:30 PM-4:30 PM	Prepared Design Community Center Symposium*	
1:30 PM-2:50 PM	<b>MESA Day High School:</b> On Site Team Competition-MESA Mayhem	<i>Lujan Exhibit Hall B</i>
3:00 PM-4:20 PM	<b>MESA Day High School:</b> On Site Team Competition-Engineering Financial Freedom	<i>Lujan Exhibit Hall C</i>
4:30 PM	Event Dismissal (or when done with events)	
<b>Event Locations</b>		
	MESA Day Prepared Design	<i>Lujan Exhibit Hall A</i>
	MESA Day On Site Team Competition-MESA Mayhem	<i>Lujan Exhibit Hall B</i>
	On Site Team Competition-Engineering Financial Freedom	<i>Lujan Exhibit Hall C</i>

**Friday, May 1, 2026**

4:00 PM	Awards Ceremony: All Participants Log In as Desired <a href="https://us06web.zoom.us/j/82937183750">https://us06web.zoom.us/j/82937183750</a>	<i>Zoom ID:</i> <i>829 3718 3750</i>
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**MESA COMPETITION SERIES FINAL AGENDA**  
**Thursday, April 30, 2026 – Middle and High School**  
**Expo New Mexico – Albuquerque, New Mexico**  
**MESA USA TRACK**

<b>TIME</b>	<b>Description</b>	<b>Location</b>
7:00 AM	MESA Staff Report	<i>Sponsor Building</i>
7:30 AM-8:45 AM	School Check in and Arrival	<i>Lujan Exhibit Hall A</i>
	MESA USA Drop Off: Prototype, Display, and Presentation	<i>Creative Arts</i>
8:00 AM	MESA USA Judges Report for Event Orientation	<i>Sponsor Building</i>
9:00 AM	Welcome Instructions and Opening Ceremony	<i>Lujan Exhibit Hall A</i>
9:30 AM-10:30 AM	Technical Pitch and Poster – Group 1	<i>See Locations</i>
10:30 AM-11:30 AM	Technical Pitch and Poster – Group 2	<i>See Locations</i>
11:30 AM-12:30 PM	MESA USA Exhibition*	<i>Creative Arts</i>
11:30 AM-2:30 PM	Lunch and Activities	<i>Students-Hall A</i>
12:30 PM-1:30 PM	Technical Pitch and Poster – Group 3	<i>Judges-Sponsor</i>
1:30 PM-2:30 PM	Technical Pitch and Poster – Group 4	<i>See Locations</i>
2:30 PM-3:30 PM	Technical Pitch and Poster – Group 5	<i>See Locations</i>
3:30 PM-4:30 PM	Technical Pitch and Poster – Group 6	<i>See Locations</i>
4:30 PM	Event Dismissal (or when done with events)	<i>See Locations</i>
<b>Event Locations</b>		
	MESA USA Middle School Technical Pitch	<i>Creative Arts - 1</i>
	MESA USA High School Technical Pitch	<i>Creative Arts - 2</i>
	MESA USA Symposium and Academic Poster	<i>Creative Arts</i>

**Friday, May 1, 2026**

4:00 PM	Awards Ceremony: All Participants Log In as Desired <a href="https://us06web.zoom.us/j/82937183750">https://us06web.zoom.us/j/82937183750</a>	<b>Zoom ID:</b> 829 3718 3750
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## **MESA Day Track Information:**

*For On Site Events:* Additional information for all on-site challenges will NOT be provided in advance, beyond what is below.

*For Prepared Design:* Teams will be inspected at the registration deadline and will need to bring their project the day of competition.

### **On Site Team Competition (All Team)**

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#### **MESA Mayhem**

This full team challenge course will involve a variety of skill sets and cooperation; a good attitude is required. Students will experience a timed activity, a creative component, dexterity delights, and other communication connections. Challenges will be centered around New Mexico and Asian American culture as teams work towards completion and points. Multiple spirited STEAM competencies will be highlighted throughout this event!

### **On Site Team Competition (All Team)**

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#### **Engineering Your Financial Freedom**

While spending money may feel like a lot of fun, what if you don't have it? What is even worse, what if you don't think about these things? In the United States we live in a culture of consumption, but as recent market crashes have pointed out, we need to improve our financial knowledge and skills. This event will empower students with essential financial knowledge and practical money management skills by engaging them in a competitive, real-world simulation that promotes critical thinking, budgeting, saving, and planning for long-term financial freedom.

### **Optional Event (All Team)**

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#### **School Banner**

Attending teams will be allowed and encouraged to bring a banner to represent their school and its participation in MESA Day. While this is encouraged to show team spirit, it is not a requirement, and it will have no effect on team participation scores for the day. The school banner can be either handmade or professionally produced. One banner per school will be allowed. If there are multiple teams, they will all use the same banner for their school. Banners will be included in school roll call during opening ceremonies and will be hung in a visible location at the venue for all participants to celebrate. Additional Guidelines are below.

- 1.) No glitter or messy materials may be used, and banners must not damage the facility.
- 2.) Maximum Size Limit of 3 ft x 4 ft
- 3.) Hanging putty and command strips/hooks will be available, but if additional hanging materials are needed please bring (string, tape, etc.)
- 4.) Banner content is limited to school information (name, logo, mascot, team names, etc.) and STEM related content, New Mexico themes, and/or community related information (mountain range, city information, etc.).
- 5.) No profane, vulgar, political content allowed. NM MESA retains the right to determine appropriate content.
- 6.) Teams will be responsible for picking banner up at the end of the day.

## Prepared Design Challenge (All Team)

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### Build New Mexico

*What does it mean to design a better future for New Mexico—through the lens of its land, people, and possibilities?*

#### Overview:

“Build New Mexico” is an engineering design competition where student teams construct a themed, interactive model with an accompanying flyer. The creation must integrate mechanical and electrical components and creatively incorporate iconic elements of New Mexico such as the state’s geography, communities, or industries. The flyer will detail out specifics on the selected creation.

#### Materials:

1. Cardboard, foam board, 3D printed parts, recycled materials
2. Simple electrical kits (LEDs, motors, microcontrollers)
3. Paint, markers, clay, glue, basic hardware
4. 5V battery power max

*Hazardous materials may not be used in the construction or operation of the device, including but not limited to lead. All other materials to build the device are legal and optional. Teams should consider travel constraints when building their devices to be able to transport as needed.*

#### General Rules:

1. Teams (3-6 students) must design, build, and operate their own model. The model must be an original creation of each team. No kits/pre-made devices will be allowed.
2. All teams must pass a registration inspection in order to participate.
3. All projects must include at least one working electrical system that is student-designed and circuit-based. Teams may choose to include coded systems using microcontrollers or simple wired circuits without programming - as long as they show understanding of how their system works.
4. All projects must include at least one functional moving part that demonstrates mechanical engineering concepts such as force, motion, or energy transfer. These systems can be manually powered or integrated with an electrical component. This system must serve a clear function (e.g., motion, activation, demonstration).
5. All teams are required to participate in a design symposium.
6. *Understanding:* Teams must be able to explain their model creation and explain wiring and function.
7. Mechanical and electrical parts must work reliably during judging.

#### Event Procedure:

1. Upon impound, judges will evaluate all submitted models and flyers.
2. Each team will be called during an individual scheduled time to talk with the judges and answer questions for up to a three (3) minute period.
3. Models will be open to the public during a one-hour period referred to below as the Symposium, and all competitors will have the opportunity to vote for a People’s Choice award winner.
4. For the People’s Choice awards competitors will be asked to vote for their favorite project. Competitors will not be allowed to vote for projects from their own school.

**Model Creation Requirements:**

1. Board Size: All builds must fit on a 2 ft x 3 ft foam board, not to exceed 2 ft in height from the surface of the foam board.
2. Mechanical Component: At least one moving part (gears, pulleys, levers, linkages, etc.).
3. Electrical Component: At least one integration of sensors, motors, LEDs, switches, microcontrollers, or basic circuits.
4. New Mexico Integration: Must visibly represent at least one unique feature of New Mexico such as the examples listed below:
  - a) Landmarks (White Sands, Carlsbad Caverns, Shiprock)
  - b) Cultures (Pueblo, Navajo, Spanish heritage)
  - c) Ecology (Rio Grande, desert wildlife, topography)
  - d) Industries (agriculture, space, clean energy, film, art)
  - e) Historic events, community needs or regional highlights
5. Modification of Store-Bought Items: You may start with a pre-made object (e.g., toy car, fan), but it must be altered, redesigned, or integrated into your build in a way that shows student engineering. Judges must be able to see student work and thinking in the design and function.
6. Circuit Safety & Design Rules
  - a) Max Voltage: 5V (typical for Arduino and micro:bit)
  - b) Power Source: Battery only (no direct wall power)
  - c) Insulation: No exposed wire or loose leads
  - d) Mounting: Secure and neat layout (taped or soldered components allowed)
  - e) Ownership: All circuits must be assembled by the team
7. Mechanical Safety & Build Rules:
  - a) No sharp edges or dangerous parts
  - b) Movement must be stable and not cause project to tip over
  - c) All parts must stay within the 2 x 3 ft foam board area and under the 2 ft height limit from the surface of the foam board.
  - d) Moving components must be securely attached
8. Acceptable Types of Mechanical Systems:
  - a) Linkages: Simple arms or joints that move together (e.g., scissor lifts)
  - b) Gears and Pulleys: Used to transfer or change motion
  - c) Levers and Hinges: Create motion or trigger a change
  - d) Cams and Cranks: Convert rotary motion to linear or vice versa
  - e) Springs or Counterweights: Show energy storage or balance

**Getting Started:**

*A theme is not required, but here are some suggestions for your build.*

- “Protect the Land” – Build a device that helps conserve water, soil, or air in NM.
- “Power Up NM” – Create an energy prototype for rural or tribal communities.
- “Cultural Connections” – Represent a moving part of NM heritage using mechanics & light/sound.
- “Future NM” – Design a tech solution to improve life in New Mexico (transport, access, safety, etc.).

**Flyer Requirements: Reviewed at Inspection, but Submitted at Competition for Grading**

1. Must be created on (1) standard 8 ½” x 11” size
2. Must include school name, team number, and student names. Without this it will not be scored.
3. Code (if used) must be attached in additional pages
4. Diagram or Photo must be included: Labeled drawing or picture of build with scale

5. Should highlight:

- a) New Mexico Integration
- b) Mechanical Operation(s)
- c) Electrical Component(s)

**Symposium Requirements: Required Participation**

1. During each three (3) hour Prepared Design event (one for middle schools and one for high schools), each team will be scheduled during the first two (2) hours to meet with judges to talk about their model. During the final hour of each Prepared Design event, each team will participate in the Symposium.
2. Teams will staff their table/model and “pitch” their New Mexico design to interested viewers. Teams are encouraged to highlight special features of their build, and explain what makes it a unique and valuable creation.
3. The Symposium pitch provides an opportunity for students to share their work with peers and public spectators, and each participating team is required to participate.

**Inspection Requirements: Required Participation**

1. Panel will review flyer to ensure it has been started and is near completion.
2. Panel will review project and ensure that it meets requirements and is at or near completion.
3. Panel will verify working mechanical and electrical components.

**Scoring Summary:** Final team rankings will be based on the total score, which is derived by adding all of the component scores.

- Model Creation: *100 Points Maximum Total*
- Flyer: *30 Points Maximum Total*
- Symposium Participation: *20 Points*

In the event of a tie (identical scores between teams), results of the People’s Choice awards will be used to break the tie and determine ranking. Their numerical score will remain the same.

**Total Points: 150 points**

## 2026 MESA Day Prepared Design Team Evaluation Rubric:

School: \_\_\_\_\_ Team: \_\_\_\_\_ HS or MS

Engineering Design	Exceptional (5 points)	Excellent (4 points)	Good- Met Skill (3 points)	Fair (2 points)	Poor (1 points)	Not Present (0 points)
Structural Build Quality: Strong construction, stable parts, clean assembly						
Mechanical Integration: Clear function of moving components like gears or pulleys						
Creativity and Usage of the Mechanical Integration						
Electrical Integration: Functional and safe circuit design (e.g., LEDs, motors)						
Creativity and Usage of the Electrical Integration						
<b>Requirements</b>						
Materials						
Safety						
Labeling						
Size						
<b>Relevance to New Mexico Theme</b>						
Local Inspiration: Connects to a specific NM place, culture, or regional highlight						
Depth of Representation: Goes beyond symbols with deeper meaning						
<b>Functionality</b>						
Mechanical Operation: Moving parts work as intended						
Electrical Function: Electronics perform properly						
<b>Presentation and Explanation</b>						
Clarity of Presentation: Speaks clearly, explains build logically						
Engineering Understanding: Demonstrates understanding of how and why it works						
Team Roles & Effort: All team members contribute and collaborate						
<b>Creativity and Innovation</b>						
Originality: Unique concept or clever use of materials						
Design Aesthetics: Thoughtful visual presentation, artistic details						
Innovation: Inventive use of engineering or cultural ideas						
Overall Quality of Model						
<b>Flyer</b>						
Size Requirements						
Mechanical Operation is portrayed						
Electrical (Code if Required)						
New Mexico Integration						
Creativity						
Diagram or Photo is included. Scale and Labeling						
<b>Symposium Participation</b>	20	Judge Verification:				
<b>TOTAL</b>						

**NOTES:**



## **MESA USA Track Information:**

### **INTRODUCTION:**

MESA USA understands that our young engineering students think deeply about the world and are genuinely interested in helping their communities. The National Engineering Design Competition asks students to identify areas of need in their community and engineer a solution to that will positively affect members of the community most affected.

Your community can be your school, neighborhood, city, or county. Your community does not exist in a vacuum, and positive changes can inspire others to address community needs. A recommended starting point is to identify possible community needs, then find affected voices and interview and empathize to develop an understanding of the challenges and how to best address them.

This aligns with current trends in engineering toward Universal Design. According to the American Library Association Universal Design is the design of products and environments to be useable by all people. By addressing these challenges students make their communities stronger by allowing all members of the community to contribute to the best of their ability.

### **COMPETITION OVERVIEW**

Each competing team must consist of 2-4 students who are active members of a MESA program affiliated with the MESA USA national organization. The first-place middle and high school teams from State events will participate in the National Competition. This National Competition event will occur in June 2026 in Maryland. The theme for the 25-26 MESA USA NEDC: *Designing for Local Change*.

Teams are being asked to:

- Identify challenges most affecting members of their community.
- Interview affected community members to understand and empathize with how they are affected.
- Use human-centered design practices to engineer a solution. Solution must incorporate coding in the final prototype.

### **COMPETITION COMPONENTS**

The components listed below will be used to assess the effective implementation of a human-centered design approach in the context of designing for local change, the effective implementation of the engineering design process, and the functionality of the prototype.

High school and middle school teams who qualify to participate in the National Competition will compete in the four components below:

- 1. Design Proposal**—The objective of the Design Proposal is to provide a brief, non-technical overview of the inspiration for the project and proposed solution. It should only include information from the start of the project until the first design idea. Students must use the provided Design Proposal Template.
- 2. Academic Poster** - The objective of the Poster is to provide an overview of the project, highlight key points of the design process, discuss relevant testing and data collection, present the resulting prototype, and share recommendations for further development. Students will prepare a printed academic poster, which will be used during a public poster symposium to provide an overview of the project and the prototype.

- 3. Technical Pitch**—The objective of the Technical Pitch is to allow students to establish their technical knowledge while providing an overview of their design process and demonstrating their prototype functionality.
- 4. Symposium** - The objective of the symposium is to engage an audience in a conversation about the team's design and decision-making process. Students will share a verbal abstract of their project and be available to answer judges' questions and discuss their project using supporting material to emphasize their points in a conference-like setting.

### **NEW MEXICO COMPETITION SPECIFIC INFORMATION:**

New Mexico MESA will conduct its competition in accordance with all National MESA USA event rules and scoring. Please see the official MESA USA 2025-2026 National MESA USA Handbook for event specifics. Below are additional logistical differences for the New Mexico competition. All other national requirements, rubrics, and rules apply.

#### **Design Proposal**

Teams are required to submit in advance for grading by the registration deadline of March 27, 2026 at 5PM.

Format:

- Teams must use the Design Proposal Template and submit as a PDF.
- The template is available as a Word document and Google Doc.
- When completed, teams must save as a PDF and submit the PDF for competition.
- Any Design Proposals not submitted as a PDF will not be graded.

#### **Academic Poster**

Teams are required to submit in advance for grading and printing by the registration deadline of March 27, 2026 at 5PM. NM MESA will print up all posters on standard poster paper for the state competition. Poster stands may not be provided but posters will be available to be laid on the table and a temporary stand will be available for use during symposium judging.

Format:

- When completed, teams must save as a PDF and submit the PDF for competition.
- Any Design Proposals not submitted as a PDF will not be graded or printed.

#### **Technical Pitch**

The technical pitch will be open to the public during the New Mexico competition.

Materials Provided:

- A table for display and/or demonstration and electricity will be available for the Technical Pitch.
- Wireless internet may be available but is not guaranteed.
- A microphone is not guaranteed for use so plan to project to a front row of judges.