

Welcome to MESA!

New Advisor Introductory Guide to MESA 2023-2024



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I. INTRODUCTION

Welcome to MESA – Mathematics, Engineering, Science Achievement! We are happy to have you on board and look forward to working with you. MESA is more than just a class or a club, it is a community. We pride ourselves in developing lasting relationships with students, teachers, colleges, and our surrounding communities in order to provide the best opportunities and support for all involved.

MESA was founded in 1970, sparked by the civil rights movement and the collective ideas of a group of educators and community activists in the California Bay Area. Its original goal was to provide the academic support, resources and career exploration needed to increase the number of minority students graduating from undergraduate engineering programs. A grassroots effort that began with 25 students at Oakland Technical High School in 1970 has flourished into an award-winning program that serves almost 25,000 middle school, high school, community college and university level students throughout California each year. MESA's long history with industry and its vast network of alumni are key components to succeed. (Information taken from <https://mesa.ucop.edu/about-us/>)

Our mission is to help underserved and underrepresented students achieve success in STEM studies and careers.

Our vision is to see California's STEM workforce reflect the diversity of its population.

MESA recently celebrated its 50 year anniversary in 2020 and has grown substantially within those years. There are currently 16 MESA centers in California which are different universities throughout the state – UCs, CSUs, Private Universities, etc. There are three segments of MESA:

MESA College Prep Program: MESA's college prep program sparks early interest in STEM by bridging classroom concepts to real-world practice, and inspires youth on their STEM journey to higher education and their future success. This program serves more than 15,700 students throughout California.

In order to participate in MESA, students must attend a school that provides the program. MESA offers support to students by way of:

- Individual academic planning
- Hand-on math, science, and engineering competitions
- Exposure to technical careers and role models
- College campus tours
- MESA periods (during and after school)
- Teacher professional development

MESA Community College Program: MESA's community college level program produces a diverse population of transfer-ready students to advance their STEM

educational journeys in 4-year university programs. This program serves more than 5,700 students throughout California.

MESA University Program: The MESA university program supports underserved and underrepresented students at 13 public and private California universities in attaining degrees in engineering and computer science. This program serves more than 2,500 students throughout California.

II. MESA COLLEGE PREP PROGRAM

You are a part of the MESA College Prep Program (formerly known as the MESA Schools Program). Some of you may be teaching an elective course and some of you may just have a lunch or after school club. Either way, we provide the same amount of support to you and your students. All programmatic information such as MESA Day competition rules and presentations, semester calendar, updates, and more can be found on our website: <https://pacific-mesa.com>.

We have all successfully navigated our way through the COVID-19 year and you all deserve a huge round of applause for that! While the pandemic brought a lot of additional stress and heartache, it also opened up a new world of possibilities. Having to adapt to the virtual environment was tough, but it also showed us how much more we can do for our students by utilizing all available resources.

MESA is all about getting our students into hands-on experiences by way of competitions and workshops typically held on college campuses so they may see first-hand that college isn't as scary as it seems. Students are able to work directly with college students and sometimes college professors at these events, so they are able to see that these students and professors are truly not that much different from themselves. The ultimate goal is to provide students with the knowledge that they are just as capable as anyone else to make it to and through college.

MESA Events

Pacific MESA Day: Taking place in early March, this is the largest competition of the year, with an average of 600 students participating. This MESA Day is referred to as Preliminary MESA Day for each of the different centers. Students spend the majority of the year leading up to this day working on MESA-designed projects of their choice, such as balsawood and popsicle stick bridges, gliders, prosthetic arms, math challenges, and more. The MESA Day rules committee changes the competitions around approximately every three years. The competitions for the 2023-24 year will remain the same as the prior year, but the rules will be adjusted. We anticipate the final rules will be available by October. This will be our second year offering the Engineering Design Challenge as a sponge activity, formerly its own competition, in which students who participated in virtual events can still come to campus to compete in an in-person event.

Regional MESA Day: Taking place in April, this competition is hosted by Statewide MESA and the first-place winners of the competitions from each center move forward to

Regionals (for some competitions, 2nd place and 3rd place winners are also accepted). Regionals will typically take place at a different MESA university or industry affiliate's campus each year.

Pacific MESA Quiz Bowl: This is a two-part event where students will answer STEM trivia questions for a chance to win medals and their school name on the Pacific MESA Quiz Bowl Trophies for Middle School and High School. The first part is online via Quizizz and takes place during a week in October. Students take the preliminary round quiz at the same time as their peers from their school. The top 4 scoring students from each school will move on to the Quiz Bowl Finals, which will be held in-person at Pacific in November.

Spring Challenge: Taking place in May, the spring challenge focuses largely on environmental sustainability. There will be 2-3 competitions related to sustainability that students can choose from. Most of the competitions will require the use of recyclable materials. As the bridges competition was dissolved from MESA Day, it will now take place during spring challenge.

Diversity in STEM Summer Series for Sustainability (DS4) Summer Camp: 2023-24 will be our 4th annual DS4 summer camp. The last two years were hosted as a residential camp where up to 20 high school students (10th – 12th grade) from our Northern Region stayed in a Pacific dorm for 5 days and participated in a variety of workshops and activities centered around sustainability. These workshops provide ideas for students to create a project and pitch centered around improving the sustainability of the Pacific Campus. Teams present their projects to a panel of judges on the final day of camp and awarded 1st – 3rd place prizes. 1st place receives a cash award of \$200 per student, 2nd place receives a Pacific sweatshirt, 3rd place receives Starbucks giftcards.

The above are the larger, recurring MESA events. We have additional events throughout the year that are smaller or in collaboration with other programs. Some of these events are below:

Expanding your Horizons: This is a yearly, one-day event put on by Techbridge Girls, in which a network of volunteer-led groups align with colleges and universities, and workspaces in 11 states to produce one-day STEM conferences for almost 7,000 girls a year. This focuses on middle school girls from under-resourced communities and works to further their STEM engagement by way of hands-on activities, career orientation, role model interactions, and more. This event typically takes place around mid-September.

H2O Hackathon: This is a coding competition that challenges students to develop a solution to a local water problem. Normally, students meet at a central event center to compete against each other to develop their solution throughout the day. At the end of the competition, they present their solution to judges and have the chance to win monetary prizes. This typically takes place in the spring time.

MESA Training

MESA provides a number of training and professional development workshops for advisors. Yearly, Statewide MESA provides training on our competitions for the year.

The MATI training takes place in September for Northern California teachers and goes over all of the competition rules via separate sessions for each individual competition. At this training, advisors have the opportunity to get a better understanding of the criteria of the competitions, ask questions, and meet various other MESA advisors and statewide staff. A similar training is done for the Southern California teachers.

Pacific MESA also provides additional resources for teachers to use such as, but not limited to: activity libraries for various, simple STEM activities for MESA students of all levels; curriculum prepared by MESA cohorts and/or advisors, connections with Statewide MESA resources, advisors, and directors; and support from our director and coordinator, student staff/liaisons, and university faculty. For new advisors, we are also encouraging existing MESA advisors to serve as mentors. We are continually available for questions, clarifications, and assistance any time via e-mail or cell. For the 2023-24 year, per advisor suggestion, we are piloting a MESA advisor Google Drive to house useful material and serve as a location for advisors to collaborate with each other and with Pacific MESA Staff. <https://tinyurl.com/PacMESAadvisors>

Statewide MESA also has a Canvas site that holds a multitude of resources such as curriculum, opportunities, training recordings, and many other useful resources for MESA advisors and staff. Canvas was made to be more easily accessible through this link which can also be found in the “Useful Links” document in Pacific MESA Advisor’s shared Google Drive: <https://cole2.uconline.edu/courses/1410210>

Statewide MESA Resources can also be found on the <https://mesa.ucop.edu/resources/> website.

The type of training provided throughout the year are dependent upon the competitions being held within that year. Historically, we have enlisted Pacific engineering professors to hold professional development workshops to teach MESA advisors the concepts behind the competitions in order to assist with curriculum in MESA classrooms and clubs. We also offered workshops during SUSD professional development days, but due to the district’s new format of hosting these workshops, we are no longer able to participate. While we no longer offer the workshops via PD Days, we can still offer the same kind of support to advisors interested in learning more about specific topics.

Advisor Expectations and Additional Pay

At the beginning of the school year, advisors have a one-on-one meeting with Elana and Rose where expectations for the year are discussed. Expectations are subject to change year by year to remain in line with Statewide MESA expectations and those of the school districts MESA works with. There have been updates to Pacific MESA staffing for the 2023-24 school year. Elana has taken a position at Modesto Junior College as their new MESA Director and Rose is the new MESA Director for Pacific MESA. A MESA Program Coordinator and Assistant Coordinator will be hired. The Program Coordinator will mostly be focused on the Pacific MESA University Program while the Assistant Coordinator will be mostly focused on the Pacific MESA College Prep Program. The Assistant Coordinator will be visiting school sites to get a feel for how each program operates and to ensure advisors are supported and aware of available resources.

Stockton teachers are paid their regular hourly rate for time spent on MESA classes or clubs while Lodi teachers are paid dependent upon individual arrangements with their schools. More information is as follows for this school year's expectation sheet which can also be find on the <https://www.pacific-mesa.com/teacher-resources.html> site. The below also lists minimum requirements for advisor-led MESA programs as well as support provided by the Pacific MESA program.

2023-2024 MESA Advisor Expectations: "After School" and MESA Electives

Updated Stipend Information
<p>LUSD and SUSD teachers are paid for their outside of school time dedicated to MESA. SUSD teachers should report their hours to MESA monthly via a google survey which will be turned into a timecard that goes through educational services. LUSD teachers will also be covered by their district but should submit their hours along with their other working hours through their principals. Hours that teachers may report for MESA include but are not limited to:</p> <ul style="list-style-type: none">- After school MESA club time- Advisor meetings, PD, trainings- MESA events and MESA partnered/sponsored events- Awards banquet, other MESA celebrations- Parent events <p>Hours are covered at a teacher's normal hourly rate.</p>

Minimum Requirements for Advisor-led Programs

- ✓ Meet at least once weekly with student group for at least 45 minutes (starting by September)
- ✓ Have at least 20 enrolled students in group and at least 7-10 students per meeting
- ✓ Meet deadlines
 - MESA enrollment
 - Event registrations
- ✓ Attend at least two MESA meetings per semester (one of which must be an in-person meeting)
- ✓ Attend MESA Day and have at least 5 students competing in online or in-person competitions
- ✓ Fulfil one MESA programmatic responsibility (i.e. event judge, activity training etc.)

*Enrollment numbers for new programs may be smaller.

Support Provided by Pacific MESA

- ✓ Designated Pacific liaison where needed.
- ✓ Advisor training and additional advisor opportunities.
- ✓ Continuing education support, scholarships, summer program and leadership opportunities for HS students.
- ✓ All project materials.
- ✓ Online and in-person workshops, competitions, and family activities.
- ✓ Student performance incentives.
- ✓ Direct student communications and reminders through Remind and Instagram.
- ✓ Open curriculum and project and event materials organized via the MESA Website www.pacific-mesa.com

III. MESA Calendar

The Pacific MESA calendar will contain tentative and confirmed events, deadlines, trainings, and advisor meetings. The most updated calendar will be located on the <https://www.pacific-mesa.com/calendar-and-events.html> site, but updates will also be sent to advisors via e-mail and provided at advisor meetings. The website shows calendar updates by semester.

Below is the calendar for the upcoming school year:

MESA Advisor Calendar 2023-2024

Key: **Advisor events** **Online Events** Student and family events
School Site Events

<i>July</i>	<i>August</i>	<i>September</i>
31 st All-Day Advisor Training	Catapults	7 th Advisor Conference Call 16 th Advisor Enrichment and Collaboration Day 23 rd , 26 th , 28 th Virtual Statewide Advisor training
<i>October</i>	<i>November</i>	<i>December</i>
5 th In-Person Advisor Meeting 23 rd -27 th Online Quiz Bowl prelims	2 nd Advisors Conference Call 4 th H2O Hackathon and Expanding Your Horizons 9 th Quiz Bowl Finals 30 th In-Person Advisor Meeting	Gingerneering 15 th Submit Gingerneering Photos for Raffle <u>MESA Day 1st Registration</u>
<i>January</i>	<i>February</i>	<i>March</i>
11 th Advisor Conference Call 19 th T-Shirt Designs <u>26th Final Date to Enroll in MESA</u>	8 th Online Escape Room <u>21st Final MESA Day Registration</u> 24 th Virtual MESA Day Events 27 th NEDC Technical Interview 29 th In-Person Advisor Meeting and MESA Day Walk-Through	2 nd MESA Day & Engineering Design Challenge
<i>April</i>	<i>May</i>	<i>June</i>
4 th Advisors Conference Call 20 th Regionals TBD 27 th Great America HS Leadership Trip	8 th - 13 th Spring Challenge 9 th In-Person Advisor Meeting 21 st Awards Banquet	Summer Programs 3 rd -7 th Summer Bridge Program 9 th -15 th DS ⁴ 10 th – 15 th Black Star Rising