NESSP's 2023-2024 National Student Challenge
Artemis ROADS II Mission Objectives

MO-1: Mission Development Log
A Mission Development Log is the record of your mission, beginning to end. Document your plans, findings, failures, and successes. Each member should contribute!

MO-2: Mission Patch
A mission patch is an important symbol of any NASA mission, reflecting the team, the object of study, the spacecraft, the mission goals, or a combination! How will you represent your Artemis ROADS mission and crew with imagery?

MO-3: Getting to the Moon
A safe, powerful rocket will take Artemis astronauts to the Moon. But before NASA gets that far, they test prototypes hundreds or even thousands of times! For this mission objective, you will make and test at least two different rocket designs.

MO-4: Building Habitats on the Moon
When you go on a long journey, you can't always bring everything with you. This is why NASA is looking for ways to build a habitat on the Moon using mostly lunar materials. Teams will research different habitats and design, build, and test their own scale model structure that can protect astronauts from the harsh conditions at the south pole of the Moon.

MO-5: Gardening on the Moon
Living and working on the Moon will require things like eating and breathing on the Moon! Plants can help with both of these life requirements, but only if we can figure out how to grow them in barren Moon soil or in hydroponic (water only) systems.

MO-6: Observing the Earth from Moon
Humans on Earth have been observing the Moon since time immemorial and creating scientific and cultural explanations of what they see. What will astronauts on the Moon see when they look back at the Earth? What scientific and cultural stories will they create?

MO-7: ROV-ing on the Moon
Humans aren't the only ones who will be working on the moon--robotic rovers will be there before us and working alongside human crews. How will your ROV assist the astronauts? Your team will demonstrate that it can design, build, and program a supply delivery rover in the Mission Objective.

MO-8a: Complete the Mission at a Final Challenge Event!
IT'S GO TIME! Your team has modeled and tested its mission, and now it's time to launch. Teams who choose to go to an in-person Final Challenge Event will present their MDL to the judges and use what they have learned to complete their mission live on the Final Challenge Course.

MO-8b: Complete the Mission by Submitting Results Online!
Teams who cannot make it to a Final Challenge Event will complete their final mission on their own printed or homemade courses and submit their MDL and a video of their Final Mission on the NESSP website.

WILW: Wing it Like Winglee
As NESSP's founding director, Dr. Winglee, might remind us, sometimes you gotta wing it! Describe something you tried for Artemis ROADS II that didn't go as expected. What happened, what did you learn, and what happened next?