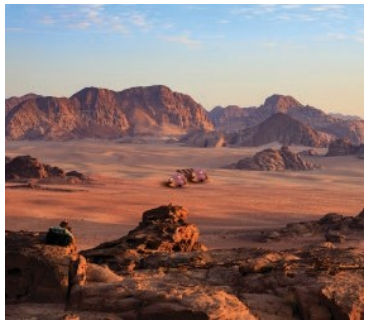
North America

Mars Expedition: Red Planet Mission on Earth




Trip Duration	13 days	**Trip Code:** SEM
Grade	Introductory	
Activities	Project-based, experiential, and expeditionary learning. Hiking, lifting, & camping.	
Summary	13-day trip, project-based, experiential and expeditionary learning, 6 nights in quad share hotel, 6 nights camping in Mars analog habitat.	

World Expeditions Schools

Thank you for your interest in our “Mars Expedition: Red Planet Mission on Earth” STEM program. At World Expeditions Schools, we are passionate about providing experiential programs focusing on cultural immersions, physical challenge, and humanitarian and conservation service alongside urban and wilderness exploration.

We aim to help build awareness, leadership skills, tolerance, and resilience in the young people of today as they prepare for life’s challenges ahead. We are committed to the safety of all our travelers, as well as making sure that our range of unique educational travel itineraries are designed to educate, engage and inspire.

Our carefully crafted itineraries will give you the very best travel experience, designed by people with incredible local knowledge who share our vision of authentic cultural exchange and real exploration with regenerative, responsible tourism.

Why World Expeditions Schools?

World Expeditions Schools (formerly known as World Youth Adventures) is the specialist school group travel division of one of the world’s leading adventure travel companies, World Expeditions.

Established in 1975, World Expeditions was one of the first adventure travel companies to offer school specific itineraries, and have designed and safely operated hundreds of educational travel trips and active school expeditions to more than 25 countries.

We are passionate about taking students out of their comfort zone and immersing them in environments that offer unique challenges and experiences, which have profound and rewarding life changing effects for students.

World Expeditions owns its operations in many areas of the world and provides exceptional educational value that includes STEM learning and college/university credit with above industry standard risk management protocols.

Mars Expedition: Red Planet Mission on Earth

As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in wilderness areas and discover planet Earth




Exceptional Expedition

The Mars Expedition is a revolutionary approach to STEM education for High School Students, which incorporates college level learning with travel and experiences in nature and wilderness areas. STEM learning is integrated into existing High School classes and covers one semester. The highlight is this 13-day journey of expeditionary and experiential learning.

Trip Dates

2023 High School Launch Dates are customized

World Expeditions does not require single travelers to pay a surcharge for travelling alone. We will arrange for you to share accommodation with another traveler of the same gender and if we cannot match you we will provide a single room at no extra charge.

For competitive airfares and stopover ideas, contact our expert staff today to receive a detailed quote.

Mars Expedition

As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in nature and discover planet Earth.

"I think fundamentally the future is vastly more exciting and interesting if we are a spacefaring civilization. You want to be inspired by things. You want to wake up in the morning and think the future is going to be great. And, that is what being a spacefaring civilization is all about. Failure is an option here. If things are not failing, you are not innovating enough."
Elon Musk

"Humanity currently sits at a precipice: our collective actions… have global consequences, but we are not yet in control of those consequences… planetary intelligence would be capable of steering the future evolution of Earth acting in concert with planetary natural systems.
International Journal of Astrobiology, 2022

Join this revolutionary college level expedition and participate in enabling humans to become spacefaring and interplanetary. The core mission is to collaborate on inventing, designing, and launching a Mars analog expedition and basecamp in a remote location in the Colorado Plateau resembling Mars and future human habitation there. Simulate travel through space by engaging in immersive simulations, experience weightlessness, and study possibilities of life on alien planets. See firsthand existing technologies in the aerospace industry and look at future possibilities on how space development and exploration transforms the Earth and people. Explore the challenges of living off-the-land on Mars, and learn about sustainable development through field excursions and science in remote areas that resemble the geology and landscapes found on Mars. Understand the importance of climate for the development of life, gain appreciation for the wonder and awe of nature, and learn about sustainable development. Investigate and connect with the web of life and the "planetary intelligence" that life on Earth represents. Camp and engage in expedition skills, group meal planning, food preparation, self-reliance, and teamwork while fostering leadership skills, resiliency, and grit. The educator on tour is deeply connected to the aerospace industry in Colorado, which is at the center of the space program in the United States. **Learning and college course credit are guided by Ph.D. Aerospace Professional Dr. Eligar Sadeh.**

"The consequences of scientific illiteracy are far more dangerous in our time than in any that has come before. Ignorance is not an option."
Carl Sagan

"We came this way to explore space, and we discovered Earth."
Apollo Astronaut

Expert Leader

Eligar Sadeh, PhD, has been an Aerospace Professional for the past 40 years and is "The Man Who Wrote the Book '' on the human relationship to the space enterprise. Eligar (Eli) is Founder of Astroconsulting International LLC and the non-profit Astropolitics Institute; Chief Editor of the academic journal Astropolitics; and a Professor and STEM educator since 1999 of Aerospace Engineering, Astrophysics, Physics, Astropolitics, Business, Social Entrepreneurship, and Environmental Sciences. Professional experiences include work with NASA, Lockheed Martin Space Systems, SpaceX, University of Colorado, Colorado State University, U.S. Air Force Academy Eisenhower Center of Space and Defense Studies, U.S. Air Force Space Command, University of North Dakota Aerospace Sciences and Space Studies, International Space University, Western Colorado University, Embry Riddle Aeronautical University, and foreign national space agencies and academic institutions. Eligar's leadership in aerospace and seminal publications revolutionized the way we think about the development and exploration of space.

All USA professional tour leaders are certified in First Aid and CPR, and registered as official guides with the national parks. All of them are trained to guide hikes.

Mars Expedition: Red Planet Mission on Earth

As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in wilderness areas and discover planet Earth




What You Will Learn

Mars Expedition focuses on expedition planning and execution in the context of STEM education, critical thinking, and problem solving directed at developing and exploring outer space while addressing environmental challenges on Earth. This expedition offers a Mars analog environment to invent, design, and launch space-based solutions in the context of the global Sustainable Development Goals (SDGs). Engage in STEM disciplines of cosmology, planetary science, physics, ecology, geology, environmental sciences, and human factors through experiential, project-based, and expeditionary learning modalities.

- Explore the story of the universe from origins to the present day on Earth.
- Expand engagement in STEM education and career opportunities.
- Understand Earth analogs as a basis to explore space and learn Earth Science.
- Apply science and engineering to understand, design, and develop a Mars analog expedition and system.
- Develop critical thinking and problem solving through the scientific method and engineering.
- Cultivate resiliency and entrepreneurial thinking.
- Collaborate on a project team to address scientific and engineering problems.
- Communicate the progress of projects orally and in writing.
- Demonstrate capacity for project life-cycle planning, management, and leadership.
- Evaluate and analyze project outcomes.
- Integrate knowledge and ideas from different STEM disciplines.
- Develop a report on experiences drawing on STEM disciplines, project development, expedition planning, human factors, and sustainable development.

At a Glance

DAY 1: DENVER, COLORADO, MISSION BRIEFING & GALACTIC JOURNEY

DAY 2: TRANSFER TO BOULDER, COLORADO, AEROSPACE INDUSTRY TOUR

DAY 3: TRAIN LIKE AN ASTRONAUT IN WEIGHTLESSNESS

DAYS 4-5: LEADVILLE, COLORADO, LIVING OFF-THE-LAND & EFFECTS OF MINING

DAYS 6-12: MARS ANALOG BASECAMP EXPERIENCE (SIX NIGHTS)

DAY 13: DENVER, COLORADO, TRIP CONCLUDES

What's Included

- Private transport throughout
- 7 breakfasts,6 lunches, and 7 dinners
- 4 nights share hotel
- 3 nights Mars analog habitat
- Expert educator from the aerospace industry
- Wilderness guide/driver on trip/tour
- National park entry fees and sightseeing as specified
- Group camping equipment
- **Earn three college credits for STEM at an additional USD$170 per credit through Western Colorado University**
- **College course credit guided by PhD expert, Dr. Eligar Sadeh**

No local payments policy. Local cash payments are becoming increasingly popular with many operators. The policy seems to benefit the tour operators, more than the local economies or travelers, as it avoids local taxes and transfers the cost and risk of cash handling to travelers. In accordance with our Responsible Travel practices.

Mars Expedition: Red Planet Mission on Earth

As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in wilderness areas and discover planet Earth




Fast Facts

Singles: A single supplement is not available for this trip

Group Size Min:
10

Group Size Max:
14

Leader:
Expert Local Leader & Escort

This trip is not suitable for people with limited mobility.

Thoughtful Travel

The environments we travel through are fragile. It is our responsibility as visitors to minimize the impact of our presence.

World Expeditions were the proud recipients of the inaugural Australian National Travel Industry's Environmental Achievement award for our Responsible Travel Guidebook.

This detailed guide to responsible & sustainable travel is provided to all World Expeditions clients before they travel. Please ask your consultant if you have not received your copy of our award-winning book.

Alternatively, you may like to download a copy from our website www.worldexpeditions.com

What's Not Included

- Flights and airport taxes
- Cost of laundry, soft drinks, and beverages
- Travel insurance (compulsory)
- Visas, if required
- Medical treatment
- Personal expenses and items of a personal nature, and tips
- Airport transfers
- Sleeping bag, pillow, and day pack

Detailed Itinerary

This College level program spans one High School semester. Learning and assignments begin in the classroom. The 13-Day Expeditionary component is shown below. Following travel, project report work takes place as part of the post-course work following the Mars Expedition.

DAY 1 Arrive Denver, Colorado, Mission Briefing & Galactic Journey

Following expedition briefing, take part in an immersive art experience focused on alien, intelligent civilizations. Engage in an exoplanet, alien world experience. Inquire how rare Earth is and the multiplicity of drivers that affect habitability and sustainability on Earth. Make use of the Drake Equation and explore uncertainties in determining how many civilizations exist elsewhere in the cosmos. Discuss the ethical implications of extraterrestrial intelligent civilizations. For the past 60 years, humans developed and explored space, and this decade humans will become interplanetary on the Moon and Mars. Explore social and cultural aspects of humanity as a spacefaring species. **Meals: D**

DAY 2 Transfer to Boulder, Colorado, Aerospace Industry Tour

Learn about space development and exploration, cosmology, and planetary science through experiential and immersive experiences. See hardware being developed at the center of the aerospace industry in the United States. Inquire and discuss the state and capabilities of aerospace technology. Experience immersive Science on a Sphere or a planetarium presentation on planetary science and cosmological dynamics. **Meals: B,L,D**

DAY 3 Astronaut Training in Weightlessness

Experience astronaut analog training through weightlessness. Train on simulators for developing and exploring space. Engage, explore, explain, elaborate, and evaluate astronaut training experiences. Analog experiences are replicated from NASA protocols, and conducted through SCUBA diving in a swimming pool. **Meals: B,L,D**

DAYS 4-5 Leadville, Colorado, Living Off-The-Land, Effects of Mining

See the immensity of Colorado's Rocky Mountains and expansive mountain wilderness. Imagine how environmental protection can sustain the wonder and awe of these majestic mountains, and how preserving this snow fed watershed will benefit 40 million people. Nearby discover the historic mining town of Leadville, Colorado, where due to lack of environmental regulations there exist slack heaps and environmental devastation. Study the economic and environmental costs of this superfund site. Witness environmental consequences of extractive industry through a hiking tour of mining sites in the Rocky Mountains near Leadville, Colorado. Inquire how and in what ways should we live off-the-land on Mars. Should we be guided by ethics to protect the environment of Mars? Explore issues of planetary protection. **Meals: B,L,D**

Mars Expedition: Red Planet Mission on Earth

As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in wilderness areas and discover planet Earth




Trip Grading

Introductory

Introductory adventures are designed with the first-time trekker in mind. They are challenging enough to make it a real adventure holiday, however, the daily physical exercise is around six to eight hours and altitudes generally less than 4,200 meters. Introductory adventures are not necessarily easy. There will be long steep ascents and rough ground to cover. Remember that trekking rarely involves flat terrain.

Two to three months prior to departure you should spend thirty minutes to one hour exercising three or four times per week. Hard walking, jogging or cycling is recommended. To prepare for the trip, take every opportunity for aerobic fitness.

Adventure Travel

By its very nature, adventure travel involves an element of the unexpected. In remote and developing countries, do not expect standards you are used to at home.

Remote areas are sometimes unpredictable and itineraries may be altered. To get the most out of your adventure, it is important that you are flexible, positive and eager to take on all the challenges that arise. If you are uncertain about your suitability for this trip, we recommend that you speak with your consultant.

Important Note

These trip notes represent the most current information for this itinerary, and may supersede any information in the current brochure, including but not limited to, the itinerary and price.

This Itinerary Is subject to change with any change in community regulations, as well as governmental changes and natural circumstances beyond our control

DAYS 6-12 Mars Analog Basecamp Experience

Invent, design, and launch a Mars Habitat, engage in field science, and explore sustainable development on Mars and Earth. Live for six days in a basecamp for a Mars Analog expedition in the Red Canyon area of Canyon de Chelly National Monument. This Canyon is home to the Navajo Peoples (*Tseyi* in the Navajo language indicating “the sacred place within the rocks”), and is designated by NASA as a Mars analog site. Develop a project plan for the Mars expedition to address sustainable development drawing on STEM disciplines of cosmology, planetary science, physics, biology, geology, environmental sciences, and human factors. Experience scientific and technology related fieldwork and project-based learning. Engage in journaling, discussion with experts, simulations, project planning and realization, and group presentations. **Meals: B,L,D**

DAYS 13 Expedition Concludes, Transfer to Denver, Colorado

Debrief following the Mars expedition. Outline a project report on the Mars Expedition covering all aspects of the program, including STEM disciplines, project development, expedition planning, human factors, and sustainable development. The development of the project report takes place as part of the post-course work following the Mars Expedition journey**. Meals: B**

Country Information

The Rockies are the high backbone of the lower 48 States, with rows of snow-capped peaks, rugged canyons, and wild rivers running over the USA’s West. Here we only see the remnants of ancient volcanic activities – in lava flows, hot springs, volcanic fissures, and calderas. The area of red rocks in Southwest USA is known as the “Colorado Plateau”, “Canyon Country”, and the “Grand Circle”. It is a wonderland of eroded sandstone rock like nowhere else on Earth. The Grand Canyon, specifically, is 277 river miles (446 km) long, up to 18 miles (29 km) wide, and 1 mile (1.6 km) deep. It is an overwhelmingly large area displaying unique combinations of geologic color and erosional forms.

Climate

Be prepared for a wide range of temperatures while on your expedition. Remember that Western USA experiences a swing in temperatures, depending not only on season and location, but also on altitude. This trip will travel through areas of wide differences in climates. Western USA is as far south as southern Europe, experiencing strong sunshine. Make sure you protect yourself against the strong sun. At altitude, and in spring and autumn, morning temperatures are often brisk or cold, warming up fast after the strong sun rises. Therefore, we recommend a layering system for clothing, so you can adapt to the temperature changes without problems. As in most deserts, it is the sun that determines the temperatures, making night time temperatures much colder than daytime. Summer (June – early September) temperatures are always hot.

Typical Day

As there is one driver and wilderness guide, and one educator, group participation is necessary where preparing your daily packed lunch is concerned and with group dinners. It is important to understand that you cannot compare the style of this expedition and number of staff with a trip in Asia, South America, or Africa.

Mars Expedition: Red Planet Mission on Earth

As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in wilderness areas and discover planet Earth




Dietary Requirements

Provided we are advised in advance of your departure we can cater for vegetarian diets and can assist with medically recommended diets (allergies and intolerances). Please ensure you discuss your requirements with us well in advance (at least one month prior to your trip) to determine whether we can cater to such dietary requirements on your chosen adventure. Please note that options are likely to be limited in very remote locations or alternatives may be more expensive or unavailable. There may be times when those with special requirements may need to provide their own food. We are unable to guarantee a peanut-free or allergen-free trip, and therefore, we strongly encourage that travelers with life-threatening or severe allergies take all necessary medical precautions to prepare for the possibility of exposure. Passengers must travel with all necessary medications for food allergies and must self-administer these medications.

Accommodation on the Trip

Accommodation is in twin share while camping and multi-share bunks in youth hostels for participants. Teachers will be accommodated together if of the same gender in hotels and provided with single tents whilst camping.

What you Carry

During all walks, you will need a daypack. In your daypack, you will need to carry extra warm clothing (depending on the altitude, location and weather), a rain jacket, water bottle, film and camera gear, valuables and personal items, such as sunscreen, lip balm etc.

Equipment Required

Specialist gear required include walking boots, day pack and a good rain jacket (a comprehensive gear list is provided in the pre-departure information provided on booking).

Special Visa Requirements

Many travelers to the USA (including those from Australia, New Zealand & the UK) must have a pre-arranged travel entry authorization in place. This is obtained electronically for passport holders from countries eligible for the Visa Waiver Program. The authorization must be in place prior to arrival to the USA and can be obtained at the following website https://esta.cbp.dhs. gov. Please consult your World Expeditions reservation consultant if you have any questions regarding your eligibility for the Visa Waiver Program. All other nationalities should check with your nearest embassy or consulate.

Wildlife

Wildlife depends on habitat. In the mountains of the Rockies we find: black bear, elk, herds of mule deer, coyote, and the occasional wolf along with a wide range of rodents (marmots, beaver, etc). There are a lot of birds here, including eagles, hawks, jays and blue birds. In the Rockies, you are also likely to see herds of wild bison, brown bear, wolf packs, moose, antelopes, bighorn sheep, mountain goats, porcupines, skunks and fox. The Rockies are a birder's paradise, producing birds such as cranes, singing swans, white pelican, bald eagles and many migratory species.

Carbon Neutral

World Expeditions Schools absorbs the cost of credits mitigating 100% of the unavoidable carbon emissions. This is our commitment to being part of the solution to climate crises.

Mars Expedition: Red Planet Mission on Earth




As we explore space, we learn more about Earth and ourselves. Explore, experience, and engage with a Mars-like expedition in wilderness areas and discover planet Earth

Subscribe to Our E-newsletter

Subscribe to our e-newsletter! To keep up to date with our new and exciting adventure opportunities, special promotions and adventure news, subscribe to our monthly e-newsletter! You can do this online through our website, www.worldexpeditions.com or contact our office.

Social Networking

Don't forget to tag us for the chance to have your content featured on our socials:
Instagram - @worldexpeditionsschools
Facebook.com - @WorldExpeditionsSchools
Twitter - @WEXSchools

Trip Availability

If this trip seems right for you, then we encourage you to call us now to check availability as we operate strictly small group adventures. Our adventures require us to secure services on your behalf. The demand for these services is increasing each year making it difficult to join a trip last minute. To ensure we can assist you onto your adventure of a lifetime we ask that you check your trip availability with our team at your earliest convenience.

How to Book

Booking this school adventure is simple. You can either book online through our secure reservations system, or complete a paper Booking Form, which you can receive by contacting your nearest Youth Adventure Expert. On completion, scan/email or post the form to your nearest World Expeditions Schools office along with your non-refundable deposit. If you are under 18, your parent or guardian will need to sign the form or accept our terms and conditions if booking online. World Expeditions Schools has access to competitive airfares. Call your nearest World Expeditions Schools office for assistance with your travel arrangements including flights, travel insurance and additional accommodation.

WORLD expeditions SCHOOLS