

# Mars Desert Research Station 2023-2024 Applicant Instructions

**Please read through this document carefully and follow all instructions. Failure to follow instructions may result in your request to apply not being considered.**

Greetings! Thank you for your interest in participating as a crewmember at the Mars Society's Mars Desert Research Station. We welcome applications from individuals who would like to be placed with a crew of compatible analog astronauts and from self-organized teams who would like to come to MDRS together. If you apply as a team, please read the following guidelines for self-organized crews and meet them as much as possible.

Please read through this application carefully as some procedures have changed since last year.

1) All individuals, as well as leaders/commanders/external organizers of self-organized teams, must first contact Director Shannon Rupert at [srupert@marssociety.org](mailto:srupert@marssociety.org) before submitting crew applications. It is in your best interest to contact us as soon as possible. If you are invited to apply for a rotation, the application will be sent to you.

2) External directors may apply on behalf of a team. External directors may be supporting an educational team made up of students from a single department and/or course, organizing a team from a particular country, region or organization, or developing a research project requiring a single crew to complete. Be aware that any crew accepted into the MDRS program as part of any group with an external director will still be required to comply with all of the MDRS programs regulations and protocols. MDRS does not "rent" the campus to other groups.

3) Please use the following information as a guide for which positions you qualify for as a crewmember at MDRS. **Only apply for those roles for which you qualify.** This will be strictly enforced. Please note that you are only applying for these roles, and they will be formally assigned at the discretion of the MDRS management team.

**Commander:** The Commander gets the glory, but they are also responsible for the overall safety, organization and management of the mission. This means that they need to be in charge from the inception of the mission, by working on the planning and development of the crew's goals and how to accomplish them. They are responsible for the crew's logistics before, during and after the mission, although sometimes they turn some of those responsibilities over to the XO. The commander is the person held accountable for all things related to the mission,

and is in command of all things while at MDRS, although they still need to respect the overall authority of MDRS staff and the HSO in health and safety matters. Commanders almost always will have prior successful MDRS experience, but can also have gained their leadership skills in their own field and/or via school and field experience. **Commanders must have demonstrated leadership and experience in remote or challenging field areas.**

**Executive Officer (XO):** The XO's role shifts slightly depending on the style of leadership used by the Commander. Often XO's are in charge of the logistics prior to a mission and the day-to-day schedule while at MDRS. Not all crews require an XO and an XO should never be selected simply because a person has no other role they can fill. The XO needs to be able to deal fairly and justly with all crewmembers and support the Commander's decisions in overall mission planning. An XO should have prior logistic skills and experience in small group leadership.

**Health and Safety Officer (HSO):** The role of the HSO is dependent on the applicant's skill level. **They must have, at minimum, 16 hours of in person training that resulted in current certification in first aid and CPR.** They must provide proof of this prior to their crew's arrival at MDRS. First responder training is preferred and EMT's, nurses and doctors are highly desired. This position is also responsible for the operational safety of the crew and the campus.

**Crew Engineer:** The role of the Crew Engineer is the most misunderstood of all the positions at MDRS. The Crew Engineer is responsible for the maintenance and monitoring of the station, its buildings and systems. The person in this position has to think proactively and be able to think like a Martian in terms of active response to the physical environment at MDRS. In order for daily activities to proceed as scheduled, the crew engineer needs to routinely monitor the equipment being used by the crew and make sure it is ready for whatever is planned. In addition, when systems fail, the crew engineer needs to diagnosis the problem and contact Mission Support with a plan for solving the problem. While the Crew Engineer generally has an engineering background, experience proactively maintaining functionally of a large facility and/or project is more important than actual engineering skills.

**GreenHab Officer:** This person is responsible for keeping the crops alive and thriving in the GreenHab, as well as the overall maintenance and monitoring of the GreenHab's environmental controls. GreenHab Officers can have experience in biology and/or gardening. Professional experience growing plants in crop production and greenhouse management is highly desired. If they do not have this experience, they will be required to take a 16-hour online course offered by us. Volunteer experience at an in-person farm/plant nursery/plant research position can be considered in place of this course, but you will have to take and pass the exam from the course.

**Crew Scientist, Crew Geologist, Crew Biologist:** The role of a scientist on the crew is to conduct research and maintain the ScienceDome and its equipment. They generally plan the crew's EVAs based on their research goals. **They must have pre-approval from their home institution for any studies done at MDRS.** This is particularly important if the scientist is studying human factors. All human factors research is required to be approved by the home institution's IRB, even if it doesn't require an IRB. In that case, simple proof that it was reviewed and an IRB was not deemed necessary is all that is needed for the research.

**Crew Astronomer:** The crew astronomer must have both experience using a telescope and a research project that has been approved by the MDRS Astronomy Team. They will also need to take an online course in order to proceed. They will work with the Director of Observatories prior to their arrival at MDRS to complete the requirements of this position.

**Crew Journalist:** The Crew Journalist is responsible for the daily reports and photos sent from MDRS. This included a daily Journalist Report that is a record of your crew's daily life, but they should also be the organizer for the crew's media efforts. Professional writing experience is preferred.

**Crew Artist/Artist in Residence:** We welcome student and professional artists in all disciplines, including but not limited to fine art, graphic art, photography, film, journalism, and writing. In order to qualify as Artist-In-Residence, you must demonstrate that you make your living in that field or that you are an art major at university. The final decision on whether that person qualifies as Artist-in-Residence belongs to MDRS.

There is of course flexibility in each of these roles and you are also invited to propose another role for yourself based on crew need and/or experience and education.

3) Please use the following information as guidelines for developing a self-organized crew. Self-organized crews must meet these guidelines in order to be selected for a rotation. If you have any questions or concerns, contact us.

Please note that self-organized crews can consist of between 6-7 people. Six is a fully functioning crew. Please indicate the number of people in your team on your application. **Guidelines for self-organized crews will be strictly enforced. If you do not meet these guidelines you must address why you don't and how you will solve the loss of that component of your crew.**

Guidelines for self-organized crews:

- All must be healthy people, used to outdoor activity such as hiking and camping.

- They should all be people capable of eating all normal types of food.
- At least three of the crew must speak English well. At least one must be fluent.
- All teams from a single university must have a faculty advisor who will assist the team with their research proposals and also be available to the crew and Mission Support during their stay at MDRS. **This person must write a letter of commitment to the rotation that must be submitted with the team's application.**
- At least two of the crew should be natural scientists or natural science students. This is because the activity of the crew will be field exploration. If a crew does not have anyone who is qualified to fill the role of field scientist, along with their application they must submit a plan outlining the purpose of their field activities.
- At least two members of the crew should be people who are very good at fixing mechanical or electrical equipment. This is because in the desert things frequently require maintenance and a crew needs to have some ability to deal with such events.
- At least one of the crew should be a person capable of expressing himself or herself well in writing and be willing and able to send an account of each day's activity for publication on the Internet.
- One of them must have the maturity and judgment and experience to serve as crew commander. **In order to be commander of a self-organized crew, the applicant must meet one of the following criteria:**
  - **Must have served satisfactorily as crew commander in a prior field season**
  - **Must have served satisfactorily as a crew member in a prior field season and show previous leadership experience in their field**
  - **Must have served satisfactorily in a leadership role in a field expedition and/or a remote location**
- All crew commanders will be screened and approved by the selection committee prior to assignment.
- One person must have medical experience, at minimum first aid/CPR and wilderness first responder. Another person will need to have experience in managing crops in the GreenHab.
- One person should be reasonably knowledgeable with computer and network operations, specifically wired and wireless connectivity, router configuration and basic network commands.
- All should be people enthusiastic about space exploration in general, and Mars exploration in particular.
- All of them must be serious, responsible people. No people should be sent who like to do dangerous things for fun, or who are not careful with other people's property, or who are otherwise excessively immature.
- All crewmembers will need to spend two weeks at the station, arriving and leaving together. **At least two of them must be able to drive a car legally in the United States.**

- You need to choose a crew of people who can get along and work together well. There must be a minimum of six people on your main crew. You are **STRONGLY** encouraged to have 2-3 alternate crewmembers. They will need to fill out an application as well. If you find you need a replacement crewmember, it will be at the discretion of MDRS on who is assigned to your crew.
- The crew must all understand that they need to follow orders given to them by MDRS staff. We do not direct all the crew's activity. Much of their research program, for example, will be self-generated. But when we tell them they need to do something, or that they must not do something, they need to follow instructions. Crews that do not follow directives from Mission Support, and in particular the Director, will be removed from the station at their own expense.

## MDRS Crewmember Fees Field Season 2023-20234

Every participant is expected to pay their deposit of \$250 per person or a minimum of \$1500 per crew no later than six sixty days after formally being awarded a crew spot. **Crew fees must be paid five months prior to your rotation.** If these fees are not paid, your rotation may be assigned to another crew.

Standard crew fees are below.

Professional fees are \$1750 a week or \$3500 for a standard two-week rotation.

Students who qualify will pay fees of \$1000 per week or \$2000 for a standard two-week rotation.

Note: We reserve the right to adjust fees 6 months prior to the beginning of the field season dependent on current costs at that time. You will be notified of any change, should it occur, in early 2023.

Experienced analog astronauts who qualify can receive a \$500 reduction in crew fees for each level completed. See information on our website about our ratings program.

Crews with less than 6 participating crewmembers at the time of their rotation will still be required to pay a fee of \$250 for each missing crewmember. In addition, crew members who do not show up for their rotation will forfeit their \$250 deposit.

Included in the participation fee paid to The Mars Society is:

- Transportation by car to and from Grand Junction, Colorado

- All food and beverages provided during your time at MDRS
- Water, heating, electrical power, and internet at MDRS (except batteries)
- Use of science and engineering and general equipment, etc., rovers, and MDRS vehicles per established protocols
- Use of EVA spacesuits

Not included in the participation fee:

- Fuel for the trip from Grand Junction to MDRS and the return trip to Grand Junction. (160 miles one-way)
- Costs of any hotel nights in Grand Junction before and after your rotation.
- Cost of any hotel stay in Hanksville except as approved by the Director in an emergency
- Any medical expenses incurred as a result of your participation
- Travel expenses from your home to Grand Junction and back.
- Transportation expenses for crewmembers whose travel plans are different than the majority of the crew from Grand Junction.
- Meals not consumed at MDRS.

**In order to qualify as students, applicants must be full-time students in a degree-seeking program at an accredited institution of higher learning. Students must send proof of their educational status to the Mars Society one month prior to your rotation or when requested.** Failure to be pro-active about this may result in you being assessed a professional rate. For a crew that all attend the same university, a single letter from the registrar or the department chair will suffice as proof. Other documents we will accept are a current unofficial transcript and a letter from the registrar or a university for a single individual. These documents must be in English.

The \$250 deposit will be due from each participant within sixty days of notification of crew selection (\$1500 for a six-person crew). This deposit will be refundable after your rotation provided your crews does not damage, destroy or willfully mismanage MDRS facilities and resources. This also includes the understanding that if they do not leave the station clean and organized for the next crew, each crewmember will be charged a cleaning fee. This deposit will not be refunded should the crewmember not attend their crew's rotation. The only exception to this is if the mission dates are affected by the pandemic and/or at the discretion of The Mars Society.

# MDRS Crew Application for 2023-2024

**PLEASE NOTE:** In the past we have considered applications that did not follow the instructions completely. For this field season, no application will be accepted if instructions have not been followed. You are applying to participate in a professional program and following instructions is a required part of being an analog astronaut.

## PART ONE OF THE APPLICATION:

**Please answer the following questions on the first page of your application. Do not include the questions, only your answers. Applications with the questions included will not be considered.**

1. Please write your name. Include the following: Surname/Family name, Given name        Title (optional). What would you like to be called by your crewmates (if not your given name)?
2. Please write your postal address complete with postal code and country and denote whether the address is: Home, Work, School, or Other (please specify)
3. Do you have US citizenship, permanent resident status, a US visa that will remain enforce through June 2022, or will you acquire a tourist or other visa in order to visit?
4. Please list the email address you want to use for all correspondence from the Mars Society (one only).
5. Please give us your telephone number. Please include the country code if the number rings outside the US or Canada.
6. Please give us your date of birth as day month year, e.g. 16 July 1994
7. Are you applying as: an individual applicant or as part of a self-organized team? Please list the name of your self-organized team's name, if applicable.
8. Are you applying as a student or as a professional? If applying as a student, you will need to show proof of current registration prior to your arrival at MDRS. Please see other qualifications for students in instructions.

9. Please enter the dates of the rotations (listed below) that you are available to serve on a MDRS crew.

*NOTE: You should have discussed this with the director of MDRS when you were invited to apply. Note all possible dates that you discussed.*

Please add any optional comments or explanations concerning your available dates.

**NOTE: Crew rotation numbers and dates are tentative and will probably change depending on crew assignments.**

10. Please list your ILR level of English language proficiency according to the self-assessment at <http://www.govtilr.org>:

Elementary 1 2 3 4 5 Native/Bilingual

11. Do you have any dietary restrictions or food allergies? If so, please describe. If not, please enter "none". Please be aware that it is your responsibility to address solutions to any food restrictions on your own. MDRS is not responsible for providing crewmembers with special food during their time at MDRS.

12. Do you have a driver's license valid in the US?

13. If you have served on a space analog crew or long-term expedition crew in the past, please list your experience. Specify the facility or location, the duration of your mission, the number of crewmembers serving with you, and your role in the mission.

14. For safety reasons, MDRS crew members must be physically fit enough to perform outdoor work in cold and/or hot conditions wearing heavy mock space suits. They should have sufficient fine motor skill for typical hand writing and typing tasks, and sufficient (corrected) visual and hearing acuity for independent (non-assisted) participation in all aspects of the crew's work and communications. Please choose one of the responses - if you choose the second, and are otherwise qualified to join a crew, just let us know what accommodations to your limitations are required. Please write the following statement that applies to you on your application:

- I attest that I am sufficiently able-bodied to do all of these things.
- I am unsure about my fitness level, sight or hearing, and would like to discuss my situation with one of the MDRS management team. (Also include what about your fitness level, sight or hearing that you may have and how you will manage it at MDRS.)



15. MDRS is located at least 45 minutes from the nearest emergency medical service and about 2.5 hours from the nearest full service hospital. If you have a major health condition that could impact your stay at MDRS (e.g. diabetes, asthma, high blood pressure, cancer, cardiovascular disease, blood clots, mental illness, autoimmune disease, major allergies or substance abuse issues), or have a history of any of these health conditions including heart attack or stroke, you should obtain clearance from your physician before participating at MDRS. Please write the following statement that applies to you on the application:

- I attest that I do not have, and have no history of, any of the above-mentioned health conditions.
- I would like to discuss my situation with one of the MDRS management team. (Also include your health condition and how you will manage it at MDRS.)

16. Crews at MDRS live in close physical proximity to each other. If you carry a communicable disease which can be passed from person to person in a normal living environment (e.g. tuberculosis, Hepatitis C) we expect you to discuss your situation with your doctor and disclose it with us. If you select the second option, and are otherwise qualified to join a crew, we may contact you. Please write the following statement which applies to you on your application.

- I attest that I do not carry any communicable diseases.
- I would like to discuss my situation with MDRS management. (Also include your communicable disease and how you will manage it at MDRS.)

17. Are you fully vaccinated for COVID 19? Proof will be required prior to your arrival at MDRS as long as it is recommended by the CDC.

## **PART TWO OF THE APPLICATION**

**Please address the following in a short summary paragraph:**

Read over the skill sets for the crew positions in a typical MDRS crew in the instructions that accompany this application and decide which ones are best suited to your skills, experience and interests. Roles include Commander, Executive Officer, Health and Safety Officer, Crew Engineer, GreenHab Officer, Crew Geologist, Crew Biologist, Crew Astronomer, Crew Scientist, and Crew Journalist/Artist/Communicator/Media Officer. If you are applying as a professional Artist-in-Residence, please indicate this. Professionals may indicate their preference for a crew role other than those listed above. However, it is the responsibility of the applicant to provide evidence that they are qualified for this role and also that a significant part of their work at MDRS will reflect this role. It is at the discretion of the Crew Selection Committee to grant titles other than those listed.

List the positions for which you are qualified to serve and rank them in order of preference. Please do not apply for a position for which you are not qualified. Fully justify, through your education and experience, why you are applying for the position. If you are applying as a team, please list **only** that role for which you have been assigned in that team, although you still must justify why you were selected for that role. If you are applying as both part of a team and as an individual, please indicate this in your answer to this question. Briefly describe your qualifications/training for each position and your interest in serving in each one. (250-500 words)

## **PART THREE OF THE APPLICATION**

Please let us know about any of the following skills or experience you have that would make you a particularly valuable member of a MDRS crew. On your application, list **only those things** that you have notably more experience in than a normal MDRS crewmember. Give a short summary of your background and skills in all areas of expertise that you have listed.

**Do not list any of these things on your application for which you have no special skills or experience. Remove them from your application.**

Member of The Mars Society or affiliates (e.g. Mars Society Australia, etc.)

Prior MDRS or FMARS crewmember

Prior member of other analog facility expedition (e.g. HiSEAS, NEEMO, D-RATS, etc.)

Member of a team whose home institution/group has a multi-year history of successful participation at MDRS

Analog astronaut (simulation)

Mars Analog research (no simulation)

Medical Training (e.g. First aid, First responder, EMT, nurse, M.D.)

Greenhouse management

Field research (Geology/Geophysics, Biology, Meteorology, etc.)

Lab research ( Chemistry, Biology, Physics, Horticulture, etc.)

Living off-grid

Living/working in wilderness/remote setting

Working in extreme environments

Leadership

Group participation showing a long term commitment, for example, clubs that you have participated as an active member over a period of time (does not have to be Mars/Space related)

Home repair and maintenance (e.g plumbing, carpentry, electrical, heating/cooling, propane and water pumps)

Mechanical skills (e.g engine repair and maintenance)

Electronic skills (e.g. soldering, measurement, testing, troubleshooting and repair)

IT skills (e.g.operation, configuration and connectivity of computers, Wi-fi, networked devices, basic network commands)

Communications (e.g. ham radio operator, repeater operations)

Aviation experience, including drones

Cooking

Travelling by ATV and/or 4WD

GPS and map reading

Expedition management

Social media

Multi-lingual

Communication and collaboration with diverse cultural groups not centrally located

Maintenance and cleaning of a research facility

Maintenance and cleaning of a communal living facility

Graduate education

Specialized training related to analog research

Relevant licenses/certificates held

Prior published research on Mars analog research

Any other skills you feel are relevant to being a crewmember at MDRS

## **PART FOUR OF THE APPLICATION:**

**To complete your application, please attach the following as the final page(s) of your application:**

a) A simple resumé or curriculum vitae including the names and addresses of three references. Please submit as a word doc and do not include a photo. If you are a student or a crew of students, one of your references must be an academic mentor/advisor. If you are part of a team with an external director, he/she must be one of the references for each member of the team.

b) A formal one-page summary of all research (scientific and engineering), outreach, education and media activities you will be proposing for your stay at MDRS. Be sure to include names of collaborators and sponsors, as well as your institutional affiliation for this research. If the research involves human factors, please include your plans for IRB approval. If you will require special permission for land use, and/or special use of MDRS facilities, please include this in your research. You will be asked to update these documents within 30 days of your arrival at MDRS, but it is important that you give us as many details as you can for your applications.

c) Any additional paperwork required by your crew per application instructions.

**Please email your completed application as a SINGLE word document (no pdf's or other formatted documents will be accepted) to [MDRSapplications@marssociety.org](mailto:MDRSapplications@marssociety.org).**

You may also attach a team proposal to your application, as long as we also receive a **separate** completed individual application for all applicants.

On to Mars!