



CREW MANIFEST

MISSION: Expedition Mars

Mission Date: _____ # of Students: _____ Grade: _____

Teacher's Name(s): _____ School: _____

Instructions for completing this form are provided on page 2. **## Required to fly Expedition Mars**

	TEAM	MARS TRANSPORT VEHICLE CREW	MISSION CONTROL CREW
1	COM <i>Communications</i>	## _____ _____	## _____ _____
2	NAV <i>Navigation</i>	## _____ _____	## _____ _____
3	ROV <i>Rover</i>	## _____ _____	## _____ _____
4	Weather <i>Weather</i>	## _____ _____	## _____ _____
5	MED <i>Medical</i>	_____ _____	_____ _____
6	BIO <i>Biology</i>	_____ _____	_____ _____
7	BOT <i>Robotics</i>	_____ _____	_____ _____
8	LS <i>Life Support</i>	_____ _____	_____ _____
9	GEO <i>Geology</i>	_____ _____	_____ _____



CUSTOMIZE YOUR CREW

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The crew is customizable based upon the number and talents of your students. We recommend filling in the teams in a manner that fits the strengths of your students and teaching objectives.

To start, review the team descriptions on page 3. This will provide you with details needed to place your students on the most appropriate team. Then follow the guidelines below for completing the crew form on page 1.

Each Team includes at least one student on the Mission Control crew and one student on the Mars Transport Vehicle crew.

- A minimum of 8 students are needed to fly Expedition Mars. We have space for a maximum of 30 students.
- The most important jobs to fill are the top 4 jobs: **COM, NAV, ROV and WEATHER**. These jobs only need 1 person on each side in the MTV and MC but there is room for more for larger groups.
- Once you have assigned one (1) student to the top four (4) teams of both crews start to fill in the rest of the teams

If you have questions about completing the Crew Manifest, please call the Challenger at (815) 338-7722 or email Lee Ann at lgill@aurora.edu .



TEAM DESCRIPTIONS

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Review each of these job descriptions to familiarize yourself with the type of work being conducted during the mission.

	TEAM	DESCRIPTION	JOB TITLES
1	COM <i>Communications</i>	<ul style="list-style-type: none"> • Provide communications support between astronauts and Mission Control • Discover and reprogram missing communication satellites • Key Skills: Comfortable reading out loud & multi-tasking 	Communications Engineer CAPCOM
2	NAV <i>Navigation</i>	<ul style="list-style-type: none"> • Calculate and plot the course for the Spacecraft to reach and navigate to Mars from Phobos • Perform critical pre-flight checks to ensure the MTV is ready to fly • Key Skills: Understanding written and oral instructions, perseverance and likes math 	Pilot
3	ROV <i>Rover</i>	<ul style="list-style-type: none"> • Build and test a remotely operated vehicle (R.O.V.) to search Mars for signs of water, installing critical equipment and components and retrieving data • Key Skills: Strong oral communication and ability to process auditory directions to build a structure. 	Mechanical Engineer Electrical Engineer
4	Weather <i>Weather</i>	<ul style="list-style-type: none"> • Locate a missing satellite and track other objects in the Martian sky • Track and observe dust storms on the Mars surface. • Key Skills: Observation and reading 	Space Weather Forecaster Meteorologist
5	MED <i>Medical</i>	<ul style="list-style-type: none"> • Monitor the health of the crew with a focus on radiation • Run various diagnostics on different team members, blood pressure, monitoring radiation levels, heart rate and temperature check on the MTV crew. • Key Skills: Comfortable interacting with teammates and carrying a tablet 	Doctor Nurse
6	BIO <i>Biology</i>	<ul style="list-style-type: none"> • Testing soil to determine the presence or absences of microbes • Checking the spacecraft for signs of beneficial or harmful bacteria • Key Skill: Following written instructions 	Biologist
7	BOT <i>Robotics</i>	<ul style="list-style-type: none"> • Examine different Martian rocks through the use of robotic arms • Execute basic programs for unmanned rovers to gather their payloads • Key Skill: Spatial reasoning 	Computer Scientists Mechanical Engineer
8	LS <i>Life Support</i>	<ul style="list-style-type: none"> • Work hand in hand with their peers to ensure safe conditions for all team members on the spacecraft • Manage life support emergencies as they emerge • Key Skill: Compiling data from several sources 	Systems Engineer Technical Specialist
9	GEO <i>Geology</i>	<ul style="list-style-type: none"> • Examine different Martian rocks for key elements and minerals using a robotic arm and a glove box. • Research and map possible dig sites for important minerals • Key Skills: Spatial reasoning and observation 	Geologist