



A.S.E.R (Agricultural Space Exploration Rover)

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Opportunity: California Space Grant Consortium



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The rover is focused on planetary space research with an emphasis towards exploring and

collecting data on the environment that responds to the possibility of establishing agriculture on a planet. The rover will encompass key sensors, a solar panel to track the sun, and a robotic arm that will measure the natural components of the celestial body. Some of the sensors that the rover will be equipped with will include a camera, a temperature and humidity sensor, a soil moisture sensor, an air quality sensor, ultrasonic, and an NPK sensor. The sensors and features will work together to analyze and collect data in order to determine if the environmental conditions will be sufficient in establishing agriculture. In addition to the sensors and

solar panel, the rover will be controlled via joystick through the usage of antennas. Reliable movement and ease of use is the product of only needing two motors to power the entire ground vehicle. The "tank-like" wheels consisting of a large surface area and grooves, provides our rover with the ability to maneuver over and around space debris. The final end goal of the rover is to find areas within different nearby planets that provide a terrain suitable for plant life and agriculture. This information will be key to one day pave the way for humans to establish settlements beyond Earth.

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