FAR 1030 June 1, 2019 $25 Registration Fee $10 FAR fee per attendee per day

Rocketry competition open to college, university and amateur rocket enthusiasts.

- **30K Open class:** Build and launch a rocket to 30,000 feet using any motor, commercial or experimental
- **10K Open class:** Build and launch a rocket to 10,000 feet using any motor, commercial or experimental

Competition Scoring:

- Combination of closest to target altitude, mission success, motor type
- Must be recovered in launchable condition

Custom Trophies for 1st and 2nd in each category!

Competition requirements:

- 2.2 lb (1.0 kg) payload. Must be removable as a separate unit from the airframe. May include avionics, video cam, telemetry, and experiments. Any ballast weight needed for stability must be water (for safety).
- Minimum 3" (75 mm) airframe
- Redundancy required in the following systems:
  - Dual igniters, dual ejection system per stage, dual altimeters/flight computers; at least one altimeter must be COTS (commercial off the shelf) to be used for altitude verification.
- Dual deployment. Main deploys 500' – 1500' AGL. No component should exceed 100 ft / sec during recovery.
- Tracking system required. Either GPS telemetry, Radio Beacon or other approved in advance location method.
- 40,960 N·sec total impulse maximum limit 'O' impulse motor
- Choice of 5 scientific payload 'mission' options required (see below) with point award for successful completion.
- Open Rocket file (**http://openrocket.info/**) of launch vehicle to be **emailed no later than May 11, 2019**.

Bring to the event:

- One page rocket specification sheet with payload option (See Sample provided)
- Pre-flight Checklist, Launch Checklist: Everything needs to be turned on before igniter installed for launch.

Competition consists of the following 3 phases:

1. Check In and inspection: **Friday May 31: 5 PM – 7 PM,** and **Saturday June 1: 7 AM – 9 AM**.
   a. Your rocket will be inspected to insure that it meets safety standards.
   b. A review your specification sheet, pre-flight and launch checklists.
   c. All rockets ***must pass inspection prior to 9 AM Saturday*** morning.
   d. After inspection and review your team will receive a flight card.
2. Flight and Recovery: **Saturday 9 AM – 5 PM** (WARNING: Wind typically picks up in the afternoon, launch early)
   a. Present your flight card to the RSO.
   b. You are limited to 1/2 hour pad time, so please be ready to fly. Bring own launcher if more time needed.
3. Post flight inspection: **Saturday 10 AM – 6 PM**
   a. Bring your recovered rocket for post flight inspection.
   b. Inspectors will record your measured altitude from the COTS altimeter and note it on your flight card.
   c. Inspectors will examine your airframe to insure that it is flyable and make notation on your flight card.

Launch rails provided: 10 foot 1010 rails, 20 foot 1515 rails, towers available per FAR website or BYO.
Please bring at least 2 igniters to the event for your rocket.

Free camping available on site Fri-Sun. Motels available in California City & Mojave 40 minutes away.

*****Registration limited to the first 20 team registrations received*****

For 1030 information and registration: rocketrycontest@gmail.com and http://www.friendsofamateurrocketry.org *

*Please note, the **FAR-1030** and the **FAR/Mars Society Launch Competition** are two different competitions/dates

the '5R' options for the required payload:

Option One: Rover. Rocket must deploy a rover that leaves the rocket and travels a minimum of 10 feet from the rocket after touchdown with live video on the ground from rocket landing till at least ten feet of distance has been traversed since leaving the rocket. Point award: 1,000

Option Two: Remote Sensing. Upon landing, a remote video camera will record the landing surroundings in a 360 degree horizontal panorama for transmission to launch control. Note: 360 degree video cams do not qualify. The video must be autonomously rotated in air or upon touchdown to image the landing surroundings. Point award: 1,000

Option Three: Remote Sensing. Rocket must transmit live video from liftoff to touch down. Video must be recorded by the ground launch receiving station for viewing by the judges. Point award: 500

Option Four: Reconnaissance. Glider deployment on rocket descent with live video transmission. Point award: 1,000

Option Five: Reconnaissance. Release of drone below 400' altitude or landing with live video and drone return to launch control by autonomous or remote control. Point award: 2,000

In place of a transmitted video, a video recorded to a memory card can be used for no additional point award; selection of this option carries a 500 point deduction if not successfully completed.

Scoring

Highest score 'wins'. 1-point awarded for every foot altitude to the target altitude of 10,000' or 30,000'.
1-pont will be deducted for each foot over the target 10,000' or 30,000' altitude class entry.

1,00 points will be added for experimental solid (non COTS) motor…use of student built motor encouraged.
1,500 points added for use of experimental hybrid and 2,000 points added if motor is a bi-propellant liquid.

Rocket specification sheet:

Your specification sheet needs to have your school name and team lead and class competing for (10K or 30K).

Motor type (commercial or experimental) solid, liquid, or hybrid.

Motor class and total impulse (must be less than or equal to 40,960 Nsec).

Total weight and length of rocket.

Type of launch rail required…we have 1010 and 1515 rails and adjustable towers for rockets without guides.

Type of altimeter/flight computer used…competition scoring to be made with the mandatory COTS one.

Payload description, weight and weight of and water used for ballast.

Tracking type (GPS, RF beacon and frequency, other).

Video transmission frequency.

Contact information (name, phone number, and email address). Also install contact information on/in the rocket.