

The Spaceport America Cup and IREC 2017



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2017 IREC Updates

Yes!! There will be another IREC in 2017. ESRA has been working with Spaceport America in New Mexico to team up and offer colleges and industry an even better opportunity to collaborate and compete. Starting next year IREC will become part of a brand new event call the Spaceport America Cup (SAC) (<http://spaceportamericacup.com/>).

The Intercollegiate Rocket Engineering Competition will be the main event at this year's Spaceport America Cup. There are plans to build on the SAC, and add not only more college level events, but events for industry and even high schools. This being are first year of hosting the SAC, we will be focusing on the IREC portion. But rest assured, there will be great new things coming in 2018 as we start to grow.

For teams starting on their projects, we hope to have both the competition rules and design guidelines posted by the end of the month. In the meantime, feel free to look at the Basic (</basic-category-rules.html>) and Advanced (</advanced-category-rules.html>) category rules form the 2016 IREC. The rules and guidelines that will dictate the design of your rocket will mostly stay the same as previous years. We say "mostly" because there are a few amazing announcements below that are major changes. If you haven't already, please visit the Spaceport America Cup page (<http://spaceportamericacup.com/>) and sign up for more information. We will be collecting emails and emailing you as information becomes available.

And now for some vague, but awesome announcements made possible by teaming up with Spaceport America!!

2017 Spaceport America Cup Categories for the IREC.

This year there will not be any cap on the amount of teams allowed in any category.

COTS = commercial-off-the-shelf

SRAD = student researched and developed

- 10,000 ft AGL apogee with COTS solid or hybrid rocket propulsion system
- 30,000 ft AGL apogee with COTS solid or hybrid rocket propulsion system
- 10,000 ft AGL apogee with SRAD solid rocket propulsion system
- 30,000 ft AGL apogee with SRAD solid rocket propulsion system
- 10,000 ft AGL apogee with SRAD hybrid or liquid rocket propulsion system
- 30,000 ft AGL apogee with SRAD hybrid or liquid rocket propulsion system

Payload Changes

Functional Payloads will still be evaluated and scored by Space Dynamics Laboratory (SDL). That being said, there are a few changes to the rules on payloads.

PAYLOAD MASS

The launch vehicle shall carry no less than 8.8 lb of payload. Payload is defined as being replaceable with ballast of the same mass with no change to the rocket's trajectory in reaching the target apogee. This payload may be assumed present when calculating the launch vehicle's stability. In other words, launch vehicles entered into the IREC need not be stable without the required payload mass

on-board.

PAYLOAD GEOMETRY

The portion of payload associated components/systems submitted for weighing shall be integrated into one or more structures, whose stowed outer mold line (OML) are described by the CubeSat Standard (eg 1U, 2U, 3U, 3U+, etc). The CubeSat-style payload(s) may connect to other payload associated components (eg leads to sensors located variously throughout the airframe, deployment mechanisms, etc...) when integrated with the launch vehicle; however, the CubeSat-style assemblies alone will be weighed by competition officials.

RESTRICTED PAYLOAD MATERIALS

Payloads shall not contain significant quantities of lead or any other hazardous materials. Similarly, any use of radioactive materials shall be limited to atomic clocks. Finally, payloads shall not contain any live animals.



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