NARRATOR: A team of engineers at NASA’s Kennedy Space Center in Florida branched out from their usual work on rockets to launch an instrument package from a high-altitude balloon.

Working from specifications provided by Johnson Space Center, participants in NASA’s Rocket University oversaw the construction of the six-pound aerodynamic capsule they would work with. The engineers built an instrument package for the capsule, packing in an altimeter, accelerometer and two cameras, plus the navigation and tracking devices. The control board was also loaded with software to conduct precisely timed operations on the capsule without a human controller being involved.

The team took the capsule and a high-altitude balloon to Melbourne Beach, just a few miles south of Kennedy, and released it into the sky. Participants were able to track the payload as it floated thousands of feet into the air.

A glitch occurred around 80,000 feet, and the capsule did not separate from the balloon as planned. Instead, it climbed higher and higher until, at 105,000 feet - or more than 19 miles above Earth - the balloon burst.

The capsule started falling back at this point, and readings from
the instrument showed that it held position as it was supposed to.

The small package fell 55,000 feet before automatically deploying its own parachute.

From there, the Rocket University participants gave chase,

tracking the parachute as it floated down from 50,000 feet, almost twice as high as an airliner's cruising altitude.

One of the teams positioned west of the space center gathered up the capsule in Central Florida.

The increasingly complex missions are meant to give the Rocket University engineers

more chances to learn by doing unusual things.

The payload demands will increase again on the Rocket U participants as they prepare a

200-pound capsule to fly on a much larger balloon next year from a launch site in New Mexico.