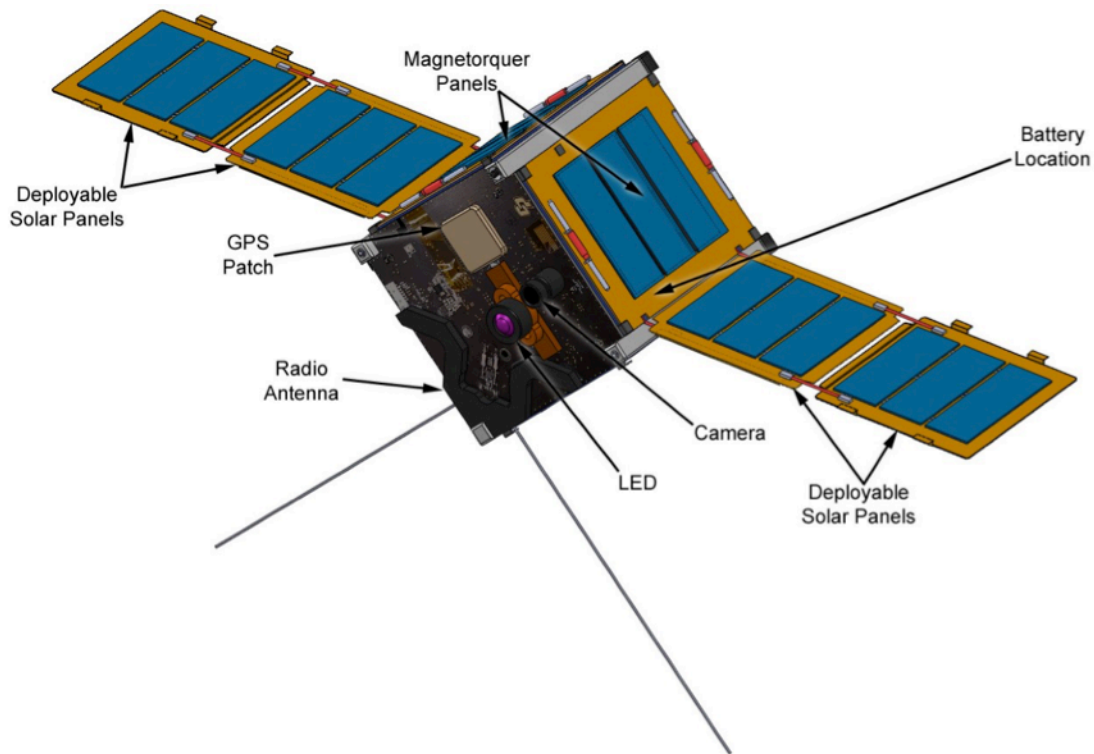


Woodbridge High School
IRVINE01 CubeSat – 1U



Mission description: Irvine01's main mission is to take pictures of the moon and planets and send them to the ground station where they will be used for educational purposes. The primary instrument is a 3 MP camera. In addition, magnetorquers will be used for attitude control, and solar panels will be used for power.

Physical description of the spacecraft: IRVINE01 conforms to the 1U CubeSat specification, with a launch mass of 1.2 kg. Basic physical dimensions are 100mm x 100mm x 106mm, with two solar panels with 170mm x 85mm x 2mm extended dimensions. The IRVINE01 solar panel structure is comprised of two 100mm x 100mm plates that are extended. The solar arrays are spring-loaded and burn-wire deployed. Power storage is provided by Lithium-Ion cells. The batteries will be recharged by solar cells mounted on the body of the satellite and on the two deployable solar panels. IRVINE01 attitude is approximately determined using the magnetic field vector, measured by onboard magnetometers. The IRVINE01's attitude will be controlled by a 3-axis magnetorquer controller.