

## Project Ellie: Hokies go to the Edge of Space

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This poster describes a successful high altitude balloon mission carried out by eleven students from VA Tech's ECE 2984: Exploration of the Space Environment class. The balloon went 32,708 meters (107,310 ft) in altitude and the payload was recovered. The mission was designed to give students a sense of the system aspects of space flight. The students addressed the regulatory environment, mass and link power budgets, sensors, structure, planning and organization, and "test like you fly" mission assurance. The 1.7 kg payload carried two cameras, a VHF radio with an Automatic Position Reporting System (APRS) modem, and a GPS receiver. In addition to the cameras, the payload also carried a simple magnetometer, a three axis accelerometer, an atmospheric pressure sensor, and two temperature sensors. The sensor data was recorded with an on board data logger as well as transmitted to the ground via the APRS. One of the mission objectives was to develop the expertise and infrastructure to do more complex missions in the future.



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