Southmoreland School District
Drones and Avionics Curriculum Overview

Overview
Drones & Avionics is an exciting opportunity for students to immerse themselves in a hands-on learning opportunity where the sky is no longer the limit. Students will learn and utilize the Tello Drone System, which offers a variety of functions such as HD cameras and video, pre-programmed flight and sightless flight capabilities. Students will be challenged to complete various projects using drones to replicate real world scenarios. Students will also have the opportunity to take the FAA Part 107 certification test and earn their commercial drone operators license.

Module Titles:
Module 1: Getting Started
Module 2: Air Traffic Safety
Module 3: Beyond the Line of Visual Sight
Module 4: Aerial Inspection
Module 5: Help Is on the Way!

Module Overviews:

Module 1:
Students will review the historical development of flight and develop a working knowledge of drone classification and the principles of quadcopter flight using wireless technologies.

Module 2:
Students will develop an understanding of how air traffic safety is implemented during flight. Specifically, students will have to master air traffic control lingo, understand no-fly zones and respect margins of safety during flight.

Module 3:
Students will enhance their skill set of drone operations beyond the line of visual sight by developing their camera utilization using both photography and videography to relay images to the operator during flight.

Module 4:
Students will perform simulated inspections of construction sites, power lines and other aerial situations where boots on the ground are not possible. They will be introduced to safety and zoning codes that pertain to various construction sectors.

Module 5:
Emergency search and rescue missions will allow students to demonstrate their mastery of pre-planned and spontaneous flight while conducting aerial reconnaissance and aide delivery.