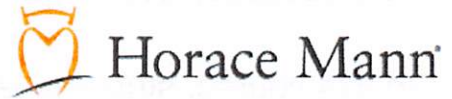




MASSP IS PROUD TO PARTNER WITH



Minnesota Association of Secondary School Principals

Star of Innovation Award Application Form

School Name Red Rock Central High School Grade Levels 10-12
Name of School District Red Rock Central School District
Name of Principal Greg Ewing
Application Submitted By Greg Ewing
School Street Address 100 6th Ave. East
City, Zip Lamberton, MN 56152
Telephone Number 507-540-0559
MASSP Division Southwest Division
Name of Program "Flying Sky High With Drones"

Please answer the following questions on a separate sheet/s of paper.

- Description of the program.
- How has it impacted your school?
- What difficulties did you encounter in its implementation?
- What issue/s might another school encounter in replicating this program?
- Do you have any data to show the impact of this program? If so, please share it with us.

Applications must be submitted to MASSP offices by March 1.

PHONE: 612-361-1510 • FAX: 612-361-6340
MASSP • 2 Pine Tree Drive • Suite 380 • Arden Hills, MN 55112

Questions? Please contact:
Bob Driver, Executive Director
612-361-6159

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1. Description of Program: "Flying Sky High with Drones"

In this course, students learn different regulations and variables that affect the flight of drones. Students learn about drone operation regulations, how weather affects flight, airport operations, flight at night, etc. By the end of this course students will be able to take and pass the Part 107 Remote Pilot Certificate Exam and earn their pilot's license.

Our building leadership team met in the Fall of 2021 to review all of our Career and Technical Education (CTE) offerings. It was determined at that time that there was a void in our offerings that our community needed. Multiple area businesses expressed concern over the fact that the FFA was beginning to create regulations concerning drone flights and specifically around the area of untrained pilots. We determined that with the right curriculum we could help this situation in our area. Using pilot licensing as our focus our team then began the search for a curriculum that met that important need. Once the best curriculum was found, at the school level we determined the process that needed to happen for us to implement a quality educational program. In the end it was a 2 year process to launch this great opportunity for our students.

2. How has it impacted your school?

This program has impacted our school in multiple ways. The primary impact is that it has engaged a different set of students who may not have taken Agriculture classes over the course of their High School careers. A second way that our Drones class has impacted our school is that Ms. Moe, the instructor, has done a superior job of engaging the class with several community businesses. By placing the students in real world situations, ie..taking pictures and video of work sites, taking pictures and video of building sites, taking pictures and video of telecommunication equipment and antennas, and mapping agricultural fields during planting and harvest, students have seen the real opportunities that this type of class might provide them in the future. It has become one of our more popular Agriculture classes.

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3. What difficulties did you encounter in its implementation?

There were a number of challenges that had to be overcome to be able to implement this class.

- a. Finding the best curriculum possible we chose a curriculum from a company called "Sky-op"
- b. Getting our instructor, pilot certified - this was a requirement of Sky-op to allow purchase of their curriculum. This certification also needs to be renewed every 2 years. The renewal is free of charge
- c. Obtaining High Quality Drones
- d. Safety, Security and Storage of the Drones
- e. Class size being limited by the number of drones that can be safely flown in one area at one time.
- f. Educating the students of the benefits of the class and getting them to follow through with the testing. Testing costs are \$180.00 per test attempt at an FAA approved testing Center. We are currently working on creating a scholarship fund to reimburse successful tests.

4. What issues might another school encounter in replicating this program?

- a. Cost of "Sky - op" Curriculum -
 - i. \$7,050.00 - 1st year
 - ii. \$2,600.00 - 2nd year
 1. Teacher materials
 2. Student materials
 3. Flight simulator
 4. Flight training obstacle course
- b. Cost of Instructor Training - 3 online classes over multiple weeks and 1 in person 4 day training in Buffalo, New York.
 - i. Online training classes - \$ 950.00
 1. Intro to Drones for Commercial Users

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2. Part 107 Prep Class
 3. Introduction to the Learning Management System
 - ii. In person training class - \$ 1586.00
 1. In-person Flight Training
 - iii. Training travel expenses - \$ 1,748.44 Flight, Hotel, Rental Car
- c. Cost of Drones, batteries, chargers and cases -
- i. 2 - Mavic III Drones - \$3,574 each
 - ii. 5 - Ryze Tello Drones - \$300.00 each
 - iii. 5 - Cyma Drones - \$100.00 each
- d. Ability to fly drones legally in an airspace nearby regular airports -
- Depending on the airspace regulations for the nearest airport, outdoor flights may be limited in scope and duration
- e. Costs of Pilot test after completion of course.
- f. Finding local businesses who come in every school year to share with our students how they use drones in their businesses and also sharing with students the job opportunities that are available if they obtain their pilot's license.

5. Do you have any data to show the impact of this program?

Spring of 2023

Test data from first class was: 8 out of 10 students passed the Final Exam which is the same as the actual Flight test. 1 student went on to take and pass their Flight Certification test with an 85 % score.

Spring of 2024

Originally 8 students enrolled and 2 left when they found out the class's academic requirements.

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According to our research there are a total of 12 schools that offer any kind of Drone class and of those only 1 school teaches a comprehensive course that allows for students to take the Pilot license test at the end.