JUDSON INDEPENDENT SCHOOL DISTRICT

Meeting Date: November 19, 2026

Submitted By: Dr. Kristin Saunders
Title: Chief of Instructional Services

Agenda Item: Consider and take action regarding approving TEA Innovative Course Introduction to Unmanned Ariel Vehicle (UAV) Flight for the Drone (UAV) CTE program of study offered at Wagner HS.

CONSENT ITEM

RECOMMENDATION:

It is recommended that the Board of Trustees approve TEA Innovative Course Introduction to Unmanned Ariel Vehicle (UAV) Flight.

IMPACT/RATIONALE:

The Drone (Unmanned Flight Vehicle) program of study at WHS teaches students to program as well as pilot drones which is a high wage/high demand field of study. Changing the Level I course from Introduction to Aerospace and Aviation to the Introduction to Unmanned Aerial Vehicle (UAV) Flight ensures students can focus on both programming and piloting of Drones as well as gives us the opportunity to hire a wider range of teachers including Computer Science, Engineering and Technology Applications certified instructors who can address both the programming and the piloting skills imbedded in the program.

BOARD ACTION REQUESTED:

Approval/Disapproval

Introduction to Unmanned Aerial Vehicle (UAV) Flight

PEIMS Code: N1304670
Abbreviation: PRINUAV
Grade Level(s): 10-12
Award of Credit: 1.0

State Approved Innovative Course

- Districts must have local board approval to implement innovative courses.
- In accordance with Texas Administrative Code (TAC) §74.27, school districts must provide instruction in all essential knowledge and skills identified in this innovative course.
- Innovative courses may only satisfy elective credit toward graduation requirements.
- Please refer to TAC §74.13 for guidance on endorsements.

Course Description:

The Introduction to Unmanned Aerial Vehicle (UAV) Flight course is designed to prepare students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations, and safety regulations. Students are also exposed to mission planning procedures, environmental factors, and human factors involved in the UAV industry.

Essential Knowledge and Skills:

(a) General Requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Principles of Transportation Systems. Students shall be awarded one credit for successful completion of this course.

(b) Introduction

(1) The Transportation, Distribution, and Logistics Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

(2) The Introduction to Unmanned Aerial Vehicle (UAV) Flight course is designed to prepare students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations, and safety regulations. Students are also exposed to mission planning procedures and environmental and human factors involved in the UAV industry.

(3) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(4) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(c) Knowledge and Skills

(1) The student demonstrates employability characteristics that lead to success in the Unmanned Aerial Vehicle (UAV) industry. The student is expected to:

(A) determine strategies for effective decision making in the UAV industry;

(B) demonstrate effective communication skills; and

(C) demonstrate effective leadership styles.

(2) The student discusses the professional standards required by the UAV industry. The student is expected to:

(A) identify current and emerging careers in the UAV industry;

(B) examine UAV industry information during the career planning process;

(C) identify the credentials and certification requirements for careers in the UAV industry such as licensed pilot;

(D) create personal career plans;

(E) research and compile health and safety policies, procedures, regulations, and practices of the UAV industry; and

(F) use UAV technological resources in diverse and changing personal, community, and workplace environments.

(3) The student researches and discusses professional, legal, ethical, and organizational norms of the UAV industry. The student is expected to:

(A) define legal terminology that is used in the UAV industry;

(B) discusses professional responsivity as it relates to the FAA part 107 license;

(C) discusses ethical UAV operation as it relates to current regulations; and

(D) identify common organizational norms present within the UAV industry;

(4) The student understands the terminology and regulations governing remote pilots in command. The student is expected to:

(A) define terminology applicable to the operation of UAVs in FAA documentation, including remote pilot in command;

(B) explain and analyze the application of emergency powers of a remote pilot in command.

(5) The student analyzes visibility requirements for UAV operation. The student is expected to:

(A) define visual line of sight in relation to the operation of an UAV;

(B) define and examine the role of visual observer flight operations, including observing the airspace around the pilot and aircraft;

(C) identify and interpret operational requirements for using a visual observer;

(D) evaluate the factors that impact visibility such as daylight time, weather, obstacles, and right of way as they relate to the operation of an unmanned aerial vehicle; and

(E) examine which additional technology or conspicuity requirements may exist in a given operational situation, such as automatic dependent surveillance-broadcast (ADS-B), transponders, traffic control avoidance system (TCAS), radio equipment, and conspicuity.

(6) The student applies the principles of containment and loss of positive control. The student is expected to:

(A) apply the concepts of confined area of operation and operational boundaries;

(B) apply the principles of loss mitigation and positive control risk of UAV operation using a flight simulator; and

(C) examine the uses of geo-fencing in real-world applications such as mapping obstacle avoidance routes or restricted air spaces.

(7) The student understands the rules and regulations on operational limitations in certain airspaces. The student is expected to:

(A) define and discuss extra-operational requirements, including pre-flight inspection and mission plan;

(B) identify geographical locations subject to extra-operational requirements such as the use of a visual observer or airspace restrictions;

(C) explain the differences between prohibited or restricted areas of UAV operation;

(D) compare the differences between class A, B, C, D, and G air space; and

(E) determine if a given area is designated by notice to airmen by using aeronautical sectional charts.

(8) The student understands the rules and regulations on external loads and dropping objects. The student is expected to:

(A) explain the rules and regulations related to dropping objects from a UAV;

(B) calculate appropriate external load for a given UAV; and

(C) explain the towing of objects with an UAV, including safety or risk assessment.

(9) The student interprets inspection, maintenance, and airworthiness directives. The student is expected to:

(A) define airworthiness and discuss the factors that impact airworthiness;

(B) perform inspections and maintenance of common UAV systems; and

(C) interpret airworthiness directives issued by governmental bodies.

(10) The student analyzes responsible UAV operator provisions. The student is expected to:

(A) discuss careless operation and methods to prevent careless operation; and

(B) explain restrictions on UAV operators, including the prohibition on drug and alcohol usage by UAV operators.

(11) The student analyzes the effects of weather on small unmanned aircraft performance. The student is expected to:

(A) explain the concepts of visibility, ceiling, and density altitude as they relate to UAV operation;

(B) define atmospheric stability and describe its impact on UAV operation;

(C) discuss the effects of and determine best practices when encountering weather conditions such as clouds, fronts, tornadoes, icing, hail, lightning, fog, and thunderstorms on UAVs;

(D) identify and explain the potential effects of structural icing on operational components; and

(E) interpret measurements of atmospheric pressure and temperature/dew point.

(12) The student applies standard radio communication procedures. The student is expected to:

(A) explain and employ the North Atlantic Treaty Organization (NATO) phonetic alphabet;

(B) monitor manned aircraft communications via the common traffic advisory frequency;

(C) operate the automatic terminal information service;

(D) propose traffic advisory procedures for manned aircraft pilots, such as self-announcing or position and intentions; and

(E) distinguish between airport radio communication procedures when operating with and without a control tower.

Recommended Resources and Materials:

Online Curriculum Resources:

Edu-Drone. *Drones: Airborne Innovation*. Retrieved February 8, 2018, from www.edudrone.org

U.S. Federal Aviation Administration. *Federal Aviation Administration Safety Team: Safer Skies Through Education.* Retrieved February 1, 2018, from https://www.faasafety.gov/

U.S. Federal Aviation Administration. *Pilot's Handbook of Aeronautical Knowledge.* (2016, August 24). Retrieved February 1, 2018 from https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/

Printed Curriculum Resources:

U.S. Federal Aviation Administration (2016). *Remote Pilot – Small Unmanned Aircraft Systems Study Guide*. Flight Standards Service.

U.S. Federal Aviation Administration (2018). Federal Aviation Administration Safety Team. *Remote Pilot Knowledge Test Guide*.

Recommended Course Activities:

- flight simulator time
- written papers
- industry interviews
- flight time with UAV's
- multimedia videos
- visits to industry sites

Suggested methods for evaluating student outcomes:

- classroom/homework assignments
- independent and group projects
- teacher-developed assessments

Teacher qualifications:

Computer Science: Grades 8-12

Mathematics/Physical Science/Engineering: Grades 8-12

Technology Applications: Grades 8-12

Trade and Industrial Education: Grades 6-12.

Trade and Industrial Education: Grades 8-12.

Additional information:

While there is material that is not covered in this class listed on the exam objectives, the omitted material has historically not been addressed on the FAA exam.

New Course or Change in Courses

A new course proposal must first be approved by the school principal before being submitted for district consideration. Principal approval assumes discussion of student need, cost, additional personnel, appropriateness, and state awarding credit has been verified. Discussion with the District content specialist, via appropriate Director/budget manager, is also required prior to course proposal.

Date of submission:
Friday, October 23, 2026

School submitting proposal:
Wagner HS

Person submitting proposal and/or contact person:
Michaela Steele

Please submit your request to the appropriate Executive Director. The Executive Director will work with you to review your request and once approved, will present it to the appropriate committee(s).

Please indicate the type of request:
Addition of a new course (documentation is required): * Attached should include a course outline and TEKS for the course; * If proposal is for an honors course, additional approval from advance academics coordinator is required; * If the proposal is not a state approved course, but is an innovative course proposal, a completed TEA innovative course proposal must be included If the proposal is not a state approved course, but is an innovative course proposal, a completed TEA innovative course proposal must be included.

Upload Course Outline and TEKS for the course:
intro-to-uav-flight.pdf

Title (name) of proposed course:
Introduction to Unmanned Aerial Vehicle (UAV) Flight

PEIMS # / Service ID:
N1304670

Grade Levels:
9, 10, 11, 12

Level:
HS

Semesters:
two

Credit:
Innovative Course

Credit:

	Yes	No
Advanced Placement		X
College Board Approved		X
Dual Credit		X
Honors		X
Innovative Course	X	
Local		X
Pre-Requisite		X

Regular		X
State	X	

Credit Weight:
1

Board Approved:
(if needed!)
No

If no, pending to be completed by:
(date)
11/19/2026

Has MOU been approved?
No Response

Date approved?
No Response

If no, pending to be completed by?
(date)
11/19/26

Rationale:
(for adding or dropping the course, or changing a prerequisite)
Based on student interest and labor market statistics, the Aviation program of study at Wagner HS transitioned its focus to the programing and piloting of Drones.The current Level I course for the Drone (Unmanned Flight Vehicle) program of study at WHS is Introduction to Aerospace and Aviation. This course covers a wide range of Aviation topics so TEA recommends the teacher for this course be someone with flight experience. The Introduction to Unmanned Aerial Vehicle (UAV) Flight is more aligned to the current Drone program and allows for a wider variety of certifications which will ensure we are able to high qualified certified teachers for the program.

Student Need:
The Drone (Unmanned Flight Vehicle) program of study at WHS teaches students to program as well as pilot drones which is a high wage/high demand field of study. Changing the Level I course from Introduction to Aerospace and Aviation to the Introduction to Unmanned Aerial Vehicle (UAV) Flight ensures students can focus on both programming and piloting of Drones as well as gives us the opportunity to hire a wider range of certified teachers including Computer Science, Engineering and Tech Apps certified instructors who can address both the programming and the piloting skills imbedded in the program.

Description of new course/changed course as it would appear in course description:
(for revisions to course description please edit as you wish to be printed)
The Introduction to Unmanned Aerial Vehicle (UAV) Flight course prepares students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations and safety regulations. Students are also exposed to mission planning procedures, environmental factors and human factors in the UAV industry.

Certification/qualification required for teaching the course (as applicable):
Computer Science 8-12
Mathematics/Physical Science/Engineering Grades 8-12
Technology Applications Grades 8-12
Trade and Industry Education Grades 6-12 & 8-12.

Will offering the course require additional personnel?
(If yes, please explain)
No current staff are qualifed to teach this course

History
Started by Michaela Steele at 10/23/2026 4:04 PM
Recalled by Michaela Steele at 10/23/2026 4:17 PM
Started by Michaela Steele at 10/23/2026 4:17 PM

Remaining

Approval by Amber Palmer (Staff Member)
Approval by Kristin Saunders (Staff Member)
Freeflow by Amber Palmer (Staff Member)
Notification to Amber Palmer (Staff Member)
Notification to Rebecca Defenbaugh (Staff Member)