

Gateway STEM High School

Learners Today, Leaders Tomorrow!



Advanced Unmanned Aircraft Systems


Aviation Building E001

COURSE SYLLABUS

2024-2025

INSTRUCTOR: Andrew Craig
E-Mail: andrew.craig@slps.org
Office: 314-345-5670

PLANNING PERIOD: 4th & 8th



In order to fly your drone under the FAA's Small UAS Rule (Part 107), you must obtain a Remote Pilot Certificate from the FAA. This certificate demonstrates that you understand the regulations, operating requirements, and procedures for safely flying drones.

COURSE FRAMEWORK:

The purpose of this course is to provide an overview of Unmanned Aircraft Systems (UAS). Topics that will be discussed include the history of UAS, regulations, specific implications related to industry and society, employment opportunities, ethics, and the necessary basic components required to operate a UAS. In addition, the student will be provided opportunities for hands-on experience with UAS principles of flight and operation principles via simulation and other activities.

Gateway STEM High School Certification Offerings: Small Unmanned Aircraft Systems (UAS) Remote Pilot Certificate

LEARNING OUTCOMES:

Once a student passes all required courses and FAA license examinations they will receive their FAA Remote Pilot Certificate.

COURSE OUTLINE:

- Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation
- Airspace classification and operating requirements, and flight restrictions affecting small unmanned aircraft operation
- Aviation weather sources and effects of weather on small unmanned aircraft performance
- Small unmanned aircraft loading and performance
- Emergency procedures
- Crew resource management
- Radio communication procedures
- Determining the performance of small unmanned aircraft
- Physiological effects of drugs and alcohol
- Aeronautical decision-making and judgment
- Airport operations
- Maintenance and preflight inspection procedures
- Operation at night

REQUIRED MATERIALS:

- Federal Aviation Administration Remote Pilot – Small Unmanned Aircraft Systems https://www.faa.gov/sites/faa.gov/files/regulations_policies/handbooks_manuals/aviation/remote_pilot_study_guide.pdf (free download)
- Pen or pencil
- Notebook
- Calculator

CLASSROOM EXPECTATIONS/POLICIES:

Appropriate classroom conduct at the high school level includes being on time and prepared for class. It includes behaving respectfully towards other students and instructors at all times. Disrespectful behaviors are beneath the standards of high school level students and may result in your being excused from this class.

Cell phones and electronic devices must be turned off for the duration of the class period. No phone calls, text messages, or other uses of electronic devices will be tolerated.

GRADING POLICY/SCALE:

Assignments	Descriptions	Value
Lecture Grade	Average of lecture test, quizzes, and homework assignments	= 50%
Lab Grade	Average of all projects, quizzes, and homework assignments	= 50%
		TOTAL = 100%

Semester Grade Policy:

Grading Policy: Students will follow the grading scale issued by the district which is as follows:

<u>Grade</u>	<u>Grading Scale</u>
A	100 – 90
B	89 – 80
C	79 – 70
D	69 – 60
F	59 and below

Parents may have internet access to their student's grades and assignments, upon Administrative approval at <https://sis.slps.org/SLPS/Default.aspx>

GRADE COMPUTATION

A student's final grade in each course in the curriculum is a combination of his/her lecture grade (50%) and laboratory grade (50%). A minimum final grade of "C", equivalent to a numeric grade of 70%, is required for successful completion of all courses. All laboratory projects must be successfully completed before a passing grade of "A", "B" or "C" may be given for a course.

ATTENDANCE

Attendance is mandatory. Instructors are required to take roll each class period. It is the student's responsibility to contact the instructor in advance of absences whenever possible or immediately thereafter, to arrange make-up time where appropriate and to obtain handouts or other material from classes missed.

Students are expected to be in class and lab on time. Absences are a matter of record and stored in the Gateway's computerized Student Information System (SIS).

Absence and Makeup Time

Attendance at all scheduled lecture sessions is required. Lecture absences can be made up in the following manner:

- A. By reading assignments which are to be substantiated by passing an examination.
- B. By submission of a written report covering, in detail, the topical area missed.
- C. By attending lecture(s) covering the missed topics.
- D. By individual tutoring by a faculty member.
- E. By other teaching means including, but not limited to, video instruction or computer based training.

Attendance at all scheduled laboratory sessions is required. Laboratory absences can be made up in the following manner:

- A. By completion of required and/or optional laboratory projects under the supervision of a faculty member, in the appropriate laboratory environment.

ACADEMIC INTEGRITY/ PLAGIARISM:

Plagiarism is taking words or ideas that are not your own and presenting them as though they were. Plagiarism is a serious violation of school rules and will result in a zero on the assignment with no opportunity to make up that assignment. Incidents of plagiarism will also be referred to school administration and a call home.

