

# Introduction to Unmanned Aircraft

## Course Description

This Introduction to Unmanned Aerial Systems course is designed to engage hands-on learners to explore operations associated with Unmanned Aerial Systems (UAS). The UAS Industry is growing rapidly with constant innovation as the Federal Aviation Administration (FAA); FCC, and industry partners provide the necessary oversight for these systems. Students who participate in the class can expect to obtain the necessary foundation to explore real-world opportunities associated with UAS. Additionally, an inquiry-based learning environment will engage students to challenge and explore their personal creativity within this domain. Students will be expected to participate in performance-based assessments demonstrating their individual and small group UAS skills. Only students who possess basic R/C flying skills should consider this class.

## Course Highlights & Activities

* AMA Competition rules and practice
* Small UAV airframe and powerplant
* Flight controller programing
* Intro to photogrammetry & remote sensing
* Autonomous flight programming
* Data and video downlink using Amateur Radio
* Electronic system construction
* Indoor & outdoor flying both UAV and sport models flying
* Business planning
* Student conducted research on the UAV industry
* Career opportunities
* GIS and software applications for UAS use
* UAS safety procedures
* FAR 101 & 107
* Societal impact of UASs
* Guest speakers
* Field Trips

## Grades

Students will earn a final grade each quarter based on mastery of the course learning outcomes. The cumulative semester course work, assessments, projects, quizzes and tests will comprise 80% of the final semester grade. A cumulative quarter exam will comprise 20% of the final semester grade. The final semester grade will be used in determining a student’s grade point average (GPA).

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| **West Michigan Aviation Academy Grading Scale** | | | |
| **Letter Grade** | **Percentage** | **Grade Point** |
| A | 95-100% | 4.0 |
| A- | 90-94% | 3.7 |
| B+ | 87-89% | 3.3 |
| B | 83-86% | 3.0 |
| B- | 80-82% | 2.7 |
| C+ | 77-79% | 2.3 |
| C | 73-76% | 2.0 |
| C- | 70-72% | 1.7 |
| F | 0-69% | 0.0 |
| INC | Incomplete Coursework | N/A |

## Character

Additionally, students will be evaluated on their character choices for each course. The character evaluation will reflect student mastery of WMAA’s critical character expectations: be respectful, be responsible and do your personal best.

3 – Exceeding Expectations

2 – Meeting Expectations

1 – Currently Not Meeting Expectations

## Gradebook – Available Online

Powerschool: <http://ps.westmichiganaviation.org/public/>

## Academic Integrity

Citizens of a free and democratic nation must strive to live lives full of honesty and integrity. Authors have worked hard the material they create. All work should be your own and when necessary, sources should be cited. Students involved in cheating or plagiarism will redo the assignment; perform an additional assignment researching the ethics of such behavior; and other appropriate actions will be determined at the time of the offense.

1st Offense = Complete assignment for second time and appropriate discipline assigned by the instructor

2nd Offense = Conference with student’s parents

## Coursework

WMAA will provide additional opportunities for students to show mastery of standards. Communication will occur frequently between teachers, students, and if necessary their parent/guardian concerning missing work. It is the student’s responsibility to meet with the teacher to determine a plan of action.

If coursework is not turned in on time, a zero will be recorded in the grade book until the work is submitted. This zero will be accompanied in the grade book with a “missing” marker so that the reason for the zero is evident. If the allowable time period to make up the work has passed, the zero will become a permanent grade. Additionally, late work will only be awarded a maximum of 80% of the total original value. **After a chapter or unit of instruction has been completed, no late work will be accepted for that chapter.**

## Attendance and Tardies

**Attendance:** Students are expected to arrive on time daily, sign in, and fully participate in the class activities without infringing upon the rights of others and to conduct themselves in accordance with the expectations of WMAA and the Aviation world of work. Class attendance is important. Daily content builds on the previous day’s work. When students are absent it is their responsibility to contact the instructor and make-up missed work.

**Tardies**: Students are expected to be in the classroom when class starts, as this results in the most effective shared learning environment. We are accountable to each other (as learners) as well as to those in positions of authority (teachers, admin…) Tardiness without an excused note from the school office or another teacher will result in the student being marked tardy. Accumulation of tardies may result in discipline in accordance with the current policy in the WMAA Parent and Student Handbook. If the problem persists, further action will occur with the Dean of Students to determine an appropriate plan of action.

## Personal Electronic Devices

Personal electronic devices will only be allowed for academic purposes during class. During that time their use is ***expected***. The playing of electronic games, communication via texts, or social media unrelated to academic content is strictly prohibited and will ***not*** be tolerated.. Cell phones, tablet computers, or other personal electronics become a significant safety and classroom management risk and thus are strictly prohibited during class time. Students found using these items will earn the right to be technology free for the remainder of the class period and follow the WMAA Student Handbook policy/process. Additional infractions will result in further opportunities for clear thinking!

**With your full participation and focus this will be a revelatory, rewarding, and enjoyable unit of aeronautical learning. Welcome… to WMAA UAS! ☺**