

Articulation Agreement
Northwestern Michigan College/Detroit Public Schools Community District

College: Northwestern Michigan College
Program: Aviation
CIP code: 49.0101

School District: Detroit Public Schools
Community District DPSCD Location:
Golightly Career & Technical Center
Program: Airline/Commercial/Professional
Pilot and Flight Crew (Private Pilot) CIP
code: 49.0102

NMC will award credit to students who complete the following Detroit Public Schools Community District course according to the conditions and requirements listed below.

Golightly CTE Airline Private Pilot A & B (2 Semesters)

These courses replace the following NMC courses, provided conditions and requirements below are met:

AVG 101	Private Ground School	5 Credits
AVF 111	Private Pilot Flight	5 Credits

Conditions/requirements:

1. Student must be accepted into the NMC Aviation program and enroll at NMC.
2. Credits will be awarded following submission of NMC Application for Articulation Credits.
3. Student must provide transcript evidence of a grade of B or higher for each Detroit Public Schools class for which he or she desires to receive NMC credit.
4. Student may seek NMC credit for any or all of the courses listed above, depending on conditions and requirements met.
5. Student must provide evidence of a passing score on the FAA Private Pilot Written Exam to satisfy requirements for AVG 101 credit.
6. Student must provide evidence of successfully passing the FAA Private Pilot check ride to satisfy requirements for AVF 111 credit.
7. Credits must be requested within two years of their high school graduation date.
8. The NMC Aviation Division will cover/waive any NMC fees charged for articulated credits.

Detroit Public Schools Community District

Dr. Nikolai P. Vitti
Superintendent

Date

11/7/2025

Northwestern Michigan College

DocuSigned by:

Alex Bloye

12/20/2024

Director of Aviation

Date

Stephen Siciliano

1/6/2025

Vice President for Educational Services

Date

Effective date: 09-12-2024

Expiration date: 09-12-2027

Articulation Agreement

Northwestern Michigan College/Detroit Public Schools Community District

College: Northwestern Michigan College
Program: Uncrewed Aerial Systems
CIP code: 49.0101

School District: Detroit Public Schools
Community District DPSCD Location:
Golightly Career & Technical Center School
District: Detroit Public Schools Community
District DPSCD Program:
Aeronautics/Aviation/Aerospace Science
and Technology (General Aviation/Drones)
CIP code: 49.0101

NMC will award credit to students who complete the following Detroit Public Schools Community District course according to the conditions and requirements listed below.

Golightly CTC Aero Av Aerosp Sci Tech A & B (2 Semesters)

These courses replace the following NMC courses, provided conditions and requirements below are met:

UAS 107 Remote Pilot Ground 3 Credits

Conditions/requirements:

1. Student must be accepted into the NMC UAS program and enroll at NMC.
2. Credits will be awarded following submission of NMC Application for Articulation Credits.
3. Student must provide transcript evidence of a grade of B or higher for each Detroit Public Schools class for which he or she desires to receive NMC credit.
4. Student may seek NMC credit for any or all of the courses listed above, depending on conditions and requirements met.
5. Student must provide evidence of a passing score on the FAA Part 107 Remote Pilot Written Exam to satisfy requirements for UAS 107 credit.
6. Credits must be requested within two years of their high school graduation date.
7. The NMC Aviation Division will cover/waive any NMC fees charged for articulated credits.

Detroit Public Schools Community District

Dr. Nikolai B. Vitti
Superintendent

Date

Northwestern Michigan College

DocuSigned by:

Alex Blay

12/20/2024

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Stephen Siciliano

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Vice President for Educational Services

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COURSE SYLLABUS

FAA Remote Pilot

August 2024 - June 2025

PM CTE Schedule:

(12:10 – 2:50)



Program Manager

Captain Christopher Meyer

Christopher.Meyer@DetroitK12.org

Supplementary Instructor

Captain Nicholas Tupper

Nicholas.Tupper@DetroitK12.org

Golightly Front Office Phone: (313) 822-8820

D-103 Room Phone: (313) 347-7549

Address: 900 Dickerson Ave, Detroit MI 48215

PROGRAM DESCRIPTIONS:

FAA REMOTE PILOT (1 year program):

Introduction: The FAA Remote Pilot CTE program is designed to introduce the student to many topics related to the field of aviation. We however will be concentrating on and spending most of our instruction on unmanned aviation. The need for unmanned aviation is growing exponentially from year to year and the forecast career trend looks very promising. Some of the many industries looking to incorporate unmanned aviation include real estate, construction progress monitoring, roof inspections, topographical surveying, agricultural inspections, police & fire departments, film & television crews, oil gas and power inspections, photography including weddings and events, forest services, department of transportation, search and rescue, anthropology, the military and border patrol, private security. The FAA enforces all the rules for unmanned aircraft and requires a FAA Remote Pilot Certificate to enter this job market. Students earning this certificate is the number one priority of this program. For those of you interested in manned aviation, the material taught during this program would be a perfect transition into learning about manned aviation in our FAA Private Pilot CTE program.

Program Certification Prerequisites:

16 years old (Before the month of May which is when we test with the FAA)

Michigan State Identification Card (By the end of Quarter 1) (DL, Passport, Permanent Resident)

Read, Speak, Write & Understand the English Language (No accommodations on FAA test)

No Physical or Mental Condition (Anything that could interfere with drone safety, FAA requirement)

No Drug Convictions or Marijuana Use (FAA prohibits ALL marijuana usage even legal by state)

US Citizen or US Permanent Resident (FAA requirement)

Not on any Do Not Fly List (TSA requirement)

Provide Own Transportation to FAA Testing Center (45 min drive to Canton, MI to the MIAT FAA Testing center in May) (Parent/Guardian must call student out for a ½ day during the school day to test)

FAA Remote Pilot Certification: The student will be required to pass the FAA Unmanned Aircraft General Written Exam which must be administered at an approved FAA testing center. The requirements to take the exam are the student must have a government issued identification card with a current address and the student must be able to read, write, speak and understand the English language. Students must pass this exam with a 70% or better. After the student passes the exam, they will apply for a FAA Remote Pilot Certificate at which point the TSA will perform a thorough background check on the student checking mostly for drug/alcohol convictions as well as to verify that the student is 16 years or older. If the student meets these requirements the FAA will issue the student, their own FAA Remote Pilot Certificate. This certificate will allow the student to fly a small Unmanned Aircraft System (sUAS) commercially for profit within the many industries explained above.

sUAS Flight Training: sUAS flight skills will be introduced to each student through the use of sUAS simulators and basic indoor sUAS. As the students' progress in their training first person view (FPV) indoor sUAS, commercial grade indoor sUAS and commercial grade outdoor sUAS will be utilized. Flights will include preflight, checklist usage, basic flight maneuvering, figure eights through pylons, precision landings, FPV racing, and use of commercial grade sUAS cameras to produce commercial quality photos, videos, and three-dimensional imagery and mapping called photogrammetry.

FAA REMOTE PILOT- Z (2nd year studies):

This program is eligible for those students who complete the first year FAA Remote Pilot course and are labeled as a Concentrator Plus or Completer (C or better Semester 1 and 2). The student should have also received their FAA Remote Pilot Certificate. Instructor recommendation is also required.

sUAS Advanced Studies: Students will use their industry FAA Remote Pilot Certificates to practice advanced piloting skills such as:

- Aerial Photography
- Aerial Videography
- Photogrammetry

sUAS Work Based Learning: Students will be encouraged to use their industry FAA Remote Pilot Certificates to gain work-based learning opportunities throughout the year.

Instructor Aid: Students might be asked to help first year students and assist the instructor during certain times.

HIGH SCHOOL CREDIT EXCHANGE:

If you become a course completer of the first year CTE course you will have the option to exchange those credits toward high school graduation requirements in one of three ways:

- Elective Credit
- 2nd Year Foreign Language Credit
- 3rd Year Science Credit

Note: Make sure you talk to your home school councilor as to what your CTE course will be used for.

Note: Second Year Z section CTE courses do not count for credit exchange, you must take a different CTE course to benefit from this credit exchange. For example, you could take the FAA Private Pilot CTE program to take advantage of an additional credit exchange.

POST SECONDARY CREDITS EARNED:

FAA REMOTE PILOT CERTIFICATE: Earns 3 credits at most colleges with an aviation program.

A few Universities with aviation programing include:

Western Michigan University (Remote Pilot articulation agreement in the works)
Northwestern Michigan College (Remote Pilot articulation agreement in the works)
Eastern Michigan University
Bowling Green State University
Purdue University
Kent State University
Embry Riddle Aeronautical University
North Dakota University
Saint Louis University
University of Windsor

DAILY IN PERSON SCHEDULE:

Each class will be 2 hours and 40 mins in length Monday – Friday.
PM class is from 12:10pm – 2:50pm.

Typical Class Schedule:

Attendance & Warm-up	20 mins
Direct Instruction	70 mins
Hands on Activities	60 mins
Clean up	10 mins

VIRTUAL LEARNING PLATFORMS:

Clever – This will be used by both students and parents/guardians as the starting point to access the two platforms we will use this year: Microsoft Teams and PowerSchool. The instructional video and the link are listed below.

<https://web.microsoftstream.com/video/abd6b98a-e575-4cc3-ad2b-80444e5a717f>

<https://clever.com/>

Microsoft Teams – This platform will primarily be used to communicate between the instructors and individual students using the Chat function. At times we will also use the video function for snow days or parent conferences. Please check your Teams account daily for messages.

PowerSchool – This platform will be used as your official gradebook. Instructors are expected to have a minimum of 2 grades posted every week. You should expect that grades are posted no later than 7 days after an assignment is due. I pride myself on posting grades within 2 days most of the time. You will be required to monitor your grades and if you see a mistake (which happens from time to time) bring it up to the instructor ASAP.

PARTICIPATION:

Participation is mandatory each class period and unapproved cell phone use or sleeping will not be tolerated.

Attendance is extremely important. If the student is absent 18 days within the 175 day school year the student will be categorized as Severely Chronically Absent. Basically, this means if a student misses one day every two weeks they will fall into this category.

GRADING SCALE:

<u>Student Work:</u>	Average 5 - 20 pts per assignment	(Classwork / Homework)
<u>Hands On Training:</u>	Average 5 - 20 pts per assignment	(Simulator and Drone Flight Training)
<u>Student Evaluation:</u>	Average 20 – 100 pts per assignment	(Quizzes / Exams / Projects / Leadership)

Note: This course is worth 3 class grades on transcript/GPA. You must receive a CCC or better to complete this course each semester.

ASSIGNMENTS:

Assignments will all have a due date. For most assignments there will be a late penalty of 10% for each 24 hour period that it is late.

LEADERSHIP:

Student leadership is a State of Michigan requirement for ALL students who decide to participate in any CTE program. You will be required to be involved in some sort of leadership role to be eligible to graduate or be a course completer.

Leadership opportunities include:

- Participating in a CTSO (Career Tech Student organization) leadership course. Skills USA, BPA etc.(Competition is not considered leadership)
- Being involved in a CTE classroom leadership activity or initiative that is organized by students and monitored by instructor.
- Another leadership specific activity that the Instructor approves (proof of completion is required)

TEXTBOOKS:

FAA Remote Pilot Study Guide	sUAS Advisory Circular 107-2	FAR / AIM
Jeppesen-Sanderson Private Pilot Manual	Airmen Knowledge Testing . Supplement Remote & Private Pilot	MDOT Aviation Sectional Chart
www.faa.gov	172SP Pilots Operating Handbook	Flight Computer and Plotter
www.faa.dronezone.gov	www.skyvector.com	www.aviationweather.gov

WORK BASED LEARNING:

One of the most important objectives to all CTE programs is to give students experiences and hopefully a "leg up" to enter the workforce of your chosen CTE program of study. It is also a requirement that ALL students participate in some sort of work-based learning during the CTE course to graduate and be a course completer. There are multiple tiers of work-based learning. Below is a representation of the lowest tier of work-based learning to the highest tier level. Some experiences will be organized by your instructor while others will be sought after by the student themselves. The higher the tier you achieve the better your resume will look and the more opportunities will be available to you for job placement.

1. Career Awareness: A single day workplace tour, field trip, guest speaker, career fair, or visiting parents at work.
2. Career Exploration: Students witness work being performed, with experiences including mock interviews, job shadows, volunteering for non-profit organizations, or a virtual exchange with a business partner.
3. Career Preparation: Integrated project with multiple interactions with professionals, student-run enterprise with partner involvements.
4. Career Training: Internships, clinical experience, on-the-job training, class project or challenge.
5. Youth Apprenticeship: Part time job or apprenticeship using your industry earned credential.

REMOTE PILOT COURSE UNITS FOR FALL 2024:

Week 1-2	Syllabus / Paperwork / Safety Tests	Week 13-15	National Airspace System
Week 3	Aviation Industry and Careers General	Week 16-18	Aeronautical Sectional Charts
Week 4-8	Aerodynamics / Load Factor / Performance	Week 19	Review / Semester Exam
Week 9-12	Federal Aviation Regulations		
HANDS ON UNITS			
Week 1-10	Paper Airplane Design, Basic Simulator Maneuvers & Basic sUAS Indoor Maneuvers	Week 11-18	Basic sUAS Indoor Maneuvers, sUAS Coding, FPV Racing and Construction

REMOTE PILOT COURSE UNITS FOR SPRING 2025:

Week 20-21	Airport Communications & Procedures	Week 30-31	Human Factors
Week 22-26	Meteorology	Week 32-34	Remote Pilot Exam Review & FAA Testing
Week 27-28	Effects of Weather on Aircraft Performance	Week 35-37	Cumulative Drone Project
Week 29	sUAS Maintenance & Emergency Ops	Week 38	Review / Final Exam
HANDS ON UNITS			
Week 10-30	Advanced sUAS Indoor Maneuvers, Drone Soccer Competitions, DJI Mini2 Indoor Missions	Week 31-38	Advanced Simulator Maneuvers & DJI Phantom 4Pro+ Outdoor Missions

SAFETY AND PROFESSIONALISM: Safety is the number one priority in our flight training program. We will have many opportunities throughout the year to study many safety protocols. Expect many quizzes associated with these safety studies as it is a State requirement to document every safety related instruction given. Students will be operating simulators with large force feedback controls, and high voltage. sUAS drones will be flown at high rates of speeds. Students will also be completing activities in a very low lighted room during simulation training. Due to these activities, it is imperative that the class rules be followed by all students at all times. There will be zero tolerance and disciplinary action will be enforced for those that do not adhere to the strict safety policies and procedures.

ELECTRONICS: As per the 2024-25 DPSCD Student Code of Conduct all student phones, smartphones and tablets are to be off and out of sight. The only exception to this rule is if they are specifically approved to be used for educational purposes for limited durations. Phones can be confiscated if this policy is not followed, and staff is not responsible for the loss, theft, damage, or vandalism of your device. Computers will be used for educational purposes only.

ENJOYMENT: It is my goal that each student who enters my class, leaves with a greater love of aviation each and every day. It is my belief that the student with the greatest passion at the end of the course, not the student who has performed the best will go the farthest in the field of aviation which requires one to persevere through many trials and tribulations. So I encourage each and every one of you to smile and enjoy each day of this course and always be ready to learn.

*"It was the love of the air and sky and flying,
the lure of adventure,
the appreciation of beauty....
that led me into aviation"*

-Charles A. Lindbergh.

I have reviewed and understand the above
CTE Golightly Remote Pilot syllabus
in its entirety

Student Name (Print)

Student Signature

Student E-mail address

Good Telephone #

#1 Parent/Guardian Name (Print)

Relation

Parent/Guardian Signature

#1 Parent/Guardian E-mail address

Good Telephone #

#2 Parent/Guardian Name (Print)

Relation

Parent/Guardian Signature

#2 Parent/Guardian E-mail address

Good Telephone #

Official Instructional Design 2024-25

	CIP 49.0101	Year 1	Year 1
	Aeronautics/Aviation/Aerospace Science and Technology (referred to as General Aviation and Drones)	Semester 1	Semester 2
	PSN 20465	FAA Remote Pilot	FAA Remote Pilot
PCC	Competencies	Christopher Meyer	Christopher Meyer
A	A1	X	
A	A2	X	
A	A3	X	
A	A4	X	
A	A5	X	
B	B1		X
B	B2		X
B	B3		X
B	B4		X
B	B5		X
B	B6		X
C	C1	X	
C	C2	X	
C	C3	X	
C	C4	X	
C	C5		X
C	C6		X

"Z" Course:

Year 2 (Semester 1 and 2)

Advanced Drone Applications Training

- Photography
- Videography
- Photogrammetry

Golightly CTE Curriculum Pacing Guide

CIP 49.0101 FAA Remote Pilot

Program Manager: Christopher Meyer

Week	Perkins Course Competency Code	Competency Content Area	Competency Statement/Objective	Direct Instruction Topic	Hands -On Activity	DPSCD Sprint Goals
Start Semester 1 / Quarter 1						
1	-	-	-	Getting to Know Each Other VASI Game	Fixed Wing Simulator Cockpit View	S P R I N T #1
2	-	-	-	Classroom Rules FAA UAG Pre Test	Fixed Wing Simulator Takeoff	
3	A1	Aviation General	Examine the major topics in the aviation industry and compare the different pathways	Aviation Careers / Airport Safety	Fixed Wing Simulator Traffic Pattern	
4	A1	Aviation General	Examine the major topics in the aviation industry and compare the different pathways	Lipo Battery Safety	Fixed Wing Simulator Landing	
5	A5	Loading and Performance	Calculate and evaluate the appropriate aircraft limiting load factor for optimal performance	Aerodynamics: Parts of a fixed wing aircraft, Movements, CG	Paper Airplane Glide	
6	A5	Loading and Performance	Calculate and evaluate the appropriate aircraft limiting load factor for optimal performance	Aerodynamics: Four forces, Lift, Stalls, AOA, Performance, Load factor	Paper Airplane Landing	
7	C1	Regulations	Explain and apply the general regulatory requirements of operating a private aircraft	FAA Remote Pilot Certification Process, sUAS Operation Types Recreational Safety Test	Quadcopter Simulator Introduction	
8	C1	Regulations	Explain and apply the general regulatory requirements of operating a private aircraft	General Overview CFR Part 1, 21, 48, 89, 91, 107, 137, 171	Quadcopter Simulator Box Pattern	
9	C4	Regulations	Examine and employ the operating and registration rules and requirements for an US registered civil aircraft	CFR Part 48, 107 sUAS Registration requirements	Quadcopter Simulator Box Pattern	
Start Quarter 2						
10	C1	Regulations	Explain and apply the general regulatory requirements of operating a private aircraft	CFR Part 107 Accidents, Operations from moving Vehicles, Alcohol	Quadcopter Simulator Figure Eights	
11	C1	Regulations	Explain and apply the general regulatory requirements of operating a private aircraft	CFR Part 107 Night, VLOS, Preflight, Limitations,	Small Green Quadcopter Introduction	

12	C2	Regulations	Examine the requirements associated with certification in the aviation industry and align with career options	CFR Part 107 Eligibility, Certification, Renewal, Exam Requirements, Failures	Small Green Quadcopter Box Pattern	S P R I N T #2
13	C1	Regulations	Explain and apply the general regulatory requirements of operating a private aircraft	CFR Part 107 Bird Strikes, Hazmat, RPIC Responsibilities, Restricted areas	Small Green Quadcopter Precision Landings	
14	C3	Regulations	Analyze the FAA waiver policy and requirements and justify its use related to sUAS	CFR Part 107 Waivers, Airspace Authorizations	Small Green Quadcopter Figure Eights	
15	C1	Regulations	Explain and apply the general regulatory requirements of operating a private aircraft	CFR Part 89 and 107 Remote ID and Operations over People, Kinetic Energy	Small Blue Quadcopter Figure Eights Hoops	
16	A2	Airspace Classification	Compare and contrast the aspects of airspace classification	Aeronautical Charts, Controlled vs Uncontrolled airspace	FVP Quadcopter Simulator	
17	A2	Airspace Classification	Compare and contrast the aspects of airspace classification	Class A, B, C, D airspace	FVP Quadcopter Simulator	
18	A3	Airspace Classification	Explain and apply airspace operational requirements	Class E, G airspace & Special Use airspace	FVP Quadcopter Simulator	
19	A4	Airspace Classification	Plan flights while applying factors related to operations conducted within FAA airspace	Use B4UFLY app, locate airspace along a route of flight Mid Term Exam	Small Red Quadcopter FPV Hoops	
Start Semester 2 / Quarter 3						
20	A4	Airspace Classification	Plan flights while applying factors related to operations conducted within FAA airspace	Use B4UFLY app, locate airspace along a route of flight	Coding Quadcopter / Ring Race Simulator	
21	A2	Airspace Classification	Compare and contrast the aspects of airspace classification	Class A-G airspace putting it all together	Coding Quadcopter / Ring Race Simulator	
22	A2	Airspace Classification	Compare and contrast the aspects of airspace classification	Class A-G airspace putting it all together	Build Soccer Drone / Ring Race Simulator	
23	B2	Operations	Discuss and explain aspects of airport operations	ATIS, NOTAMS, Runways, Variation, CTAF, TOWER, Unicom, True vs Magnetic North	Build Soccer Drone / ATC Simulator	
24	B2	Operations	Discuss and explain aspects of airport operations	Airport Lighting, Towers, Security Sensitive Areas, Photogrammetry, Runway alignment	Soccer Drone Practice / ATC Simulator	
25	B3	Operations	Communicate using appropriate radio procedures	CTAF, TOWER, Find the aircraft from ATC/CTAF communication, Airport signs and markings, SIDA, Lat/Long, FAA UAG Mid Test	Soccer Drone Practice / ATC Simulator	

26	C5	Weather	Locate and analyze the sources of weather information	Atmosphere, Convection, Adiabatic process, Temperature Lapse Rates	Soccer Drone Competition
27	C5	Weather	Locate and analyze the sources of weather information	Lifting Force, Moisture Content, Atmospheric Stability, cloud formation	Soccer Drone Competition
Start Quarter 4					
28	C5	Weather	Locate and analyze the sources of weather information	Fronts, Airmass, Fog, Microburst, Frost, Thunderstorms	DJI Mini 2 Interior Photography
29	C6	Weather	Calculate and evaluate the effects of weather on aircraft performance	METAR and TAF's, Airmet, Sigmet	DJI Mini 2 Interior Videography
30	C6	Weather	Calculate and evaluate the effects of weather on aircraft performance	Pressure and Density Altitude Calculations	DJI Mini 2 Interior Videography
31	B1	Operations	Demonstrate and define good decision-making and assess impact on aeronautical factors	GPS, Lost Link, Flyways, ADM, CRM, Risk Management	DJI Mini 2 Interior Videography
32	B6	Operations	Analyze the physiological factors affecting pilot performance	PAVE, IMSAFE, Hazardous Attitudes	DJI Mini 2 Video Editing
33	B4	Operations	Use appropriate procedures in emergency situations related to aircraft operations	Accident Chain, Situational Awareness	DJI Mini 3 Outside Checklist Usage LAANC Approval DJI Geo Fence Photography
34	B5	Operations	Maintain and inspect aircraft using appropriate policies and procedures	24 items during a preflight, maintenance records FAA UAG Post Test/Final Exam FAA Unmanned Aircraft General Testing at FAA Testing Center	DJI Mini 3 Outside Checklist Usage LAANC Approval DJI Geo Fence Videography
Seniors Graduate					
35	-	-	-	FAA Unmanned Aircraft General Testing at FAA Testing Center	DJI Mini 3 Outside Videography
36	-	-	-	FAA Unmanned Aircraft General Testing at FAA Testing Center FAA Remote Pilot Application and Certification	DJI Mini 3 Video Editing
37	-	-	-	FAA Remote Pilot Application and Certification	DJI Mini 3 Outside Photogrammetry
End of School Year					