

ARKANSAS NORTHEASTERN COLLEGE CENTER FOR ALLIED TECHNOLOGIES



AVIATION MAINTENANCE PROGRAM STUDENT HANDBOOK

This student handbook is provided for informational purposes only. It is intended to address student information specific to the ANC Aviation Maintenance Department and does not replace or invalidate the college student handbook. We reserve the right to change policies herein without notification. Students are advised to visit the ANC website regularly for additional information.



STREET LEADS AVIATION MAINTENANCE PROGRAM

Meet ANC Lead Aviation Maintenance Instructor, Mike Street. Street's career in aviation began in 2013 at Midcontinent Aircraft Corporation in Hayti, MO. He enrolled in ANC's Aviation Maintenance program in 2013, and completed the program in 2016 with Highest Honors. Prior to finding his calling in aviation, he held a variety of jobs ranging from casino surveillance to prison guard. He joined the instructional team at ANC in August, and currently teaches and oversees the College's traditional Aviation Maintenance classes, as well as the ANC Technical Center classes for high school students looking to begin their studies in Aviation Maintenance.

Street enjoys his chosen field, and described working as an Aviation Maintenance Instructor at ANC as a "bucket list" item. His experience as a student at ANC is what drives him to grow the program, and to recruit as many students as possible into his classes. He is especially interested in growing the number of non-traditional students in the program, including female students, and emphasizes the fact that skills learned in this program translate into a wide variety of job opportunities.

"A person considering going into Aviation Maintenance should be aware of all the other opportunities that await a licensed Airframe and Powerplant Mechanic besides just direct aircraft maintenance. Students in the Aviation program receive training that is wanted by employers in many different fields due to the nature of the training," Street said. He continued, "Anywhere that precision machines exist and an attention to detail is required, they want an A&P mechanic. This includes elevator companies, cruise ships, amusement parks and industrial maintenance."

“ ANYWHERE THAT PRECISION MACHINES EXIST AND AN ATTENTION TO DETAIL IS REQUIRED, THEY WANT AN A&P MECHANIC. THIS INCLUDES ELEVATOR COMPANIES, CRUISE SHIPS, AMUSEMENT PARKS AND INDUSTRIAL MAINTENANCE. ”

Street also mentions that the program is constantly monitored to improve the student experience while maintaining its adherence to the Federal Aviation Administration (FAA) guidelines for curriculum. Citing a good mix of classroom and lab/shop work, Street says that the learning process is hands-on, engaging and very conducive to learning. He is proud to be an alumnus of the Aviation Maintenance program, and is proud to be a part of the instructional team at Arkansas Northeastern College.

"I would like to encourage anyone to consider our aviation maintenance program. Our program opens up many opportunities for people other than just your stereotypical 'greasy mechanic,' including inventory and clerical positions. I would like for people who wouldn't normally consider aviation maintenance to take a closer look at the opportunities available to a licensed mechanic."

CONTENTS

Introduction	3
Communication and Email	3
Class Schedule:	3
Program Costs	5
Attendance & FAA Policy	5
Class Cancellation	6
Make-Up Policy	6
Classroom/Theory Makeup Work	6
Lab/ Shop Project Makeup:	6
Field Trips	6
Grades	7
Grade Averaging	7
Minimum Required Grades	7
Tests and Quizzes	7
Grading Lab Guidelines for Lab Projects	8
Safety Policy & Student Expectations	8
FAA Testing & Information	9
Earning a College Degree	9
Transfer Credit	9
Required/Recommended Materials	10
Internships and Job Placement	11
Contact Us:	11



INTRODUCTION

The training that the ANC Aviation Maintenance Department offers is specifically authorized by our Federally approved curriculum manual. We teach the following series of classes:

- General Aircraft Knowledge - These classes are required by the FAA to receive a mechanic certificate with either Airframe or Powerplant authorization. If a student already holds either an Airframe or a Powerplant ticket, they need not take the General classes to earn the other.
- Airframe - These classes prepare students to work on the structure of an aircraft. Classes apply to small single seat aircraft up through large transport aircraft.
- Powerplant - These classes prepare students to work on aircraft engine and their accessories. They cover reciprocating engines, and turbine engines.

The General, Airframe, and Powerplant series of classes are taught sequentially. Each class we offer is governed by the FAA, which specifies just how much detail and practice is required for each subject. Our curriculum is designed to meet or exceed the requirements in all subjects. For more information, refer to FAR 147, appendix A, B, C, and D. Class hours are 50 minutes long and are usually followed by a 10-minute break. Students may leave the campus during break and meal times, provided that they are back at the end of the break. At the discretion of the instructor, the number and timing of breaks may be reduced during labs.

COMMUNICATION AND EMAIL

Your Student ID can be found on the statement given to you when you registered. It is the nine-digit number underneath the date on your statement from the business office. You will also be given an email address typically it is first initial, last name, and the last four of your student ID number. If you have trouble locating these items, contact Student Services at 762-1020, ext. 1105. **Students must be familiar with their ANC Email Address. Communication from the instructor regarding class assignments, cancellations, and other notable information from the college will be disseminated via email.**

CLASS SCHEDULE:

The Aviation Maintenance Department operates on the semester system. There are 16 weeks per semester. Each semester includes approximately 75 training days. Aviation Maintenance Department classes will follow the same schedule as other classes offered by ANC during the Fall and Spring semesters. Aviation classes are also in session during the summer college session. Schedules can be found on www.anc.edu

ANC Aviation Maintenance Technician Program					
ANC Course #	COURSE NAME	LEC HRS	LAB HRS	Total	ANC Credit Hours
AV 15004	Aviation Math & Physics	40	40	80	4
	Aviation Math	20	20	40	
	Basic Physics	20	20	40	
AV 15033	Aircraft Electricity I	45	49	94	3
	Basic Electricity	45	49	94	
AV 15143	Aircraft Drawing & Weighing	47	53	100	3
	Ground Operations & Servicing	15	20	35	
	Aircraft Drawings	12	13	25	
	Weight & Balance	20	20	40	
AV 15014	Aircraft Structures I	48	66	114	4

	Materials & Processes	32	38	70	
	Fluid Lines & Fittings	8	12	20	
	Cleaning & Corrosion Control	8	16	24	
AV 15023	Aviation Fundamentals	37	21	58	3
	Human Factors	18	0	18	
	Maintenance Publications	10	10	20	
	Maintenance Forms & Records	7	8	15	
	Mechanic Privileges & Limitations	2	3	5	
TOTAL HOURS -- GENERAL		217	229	446	
AV 15076	Aircraft Structures II	68	90	158	6
	Sheet Metal Structures	32	44	76	
	Wood Structures	6	6	12	
	Nonmetallic Structures	30	40	70	
AV 15083	Aircraft Assembly & Rigging	20	50	70	3
	Assembly & Rigging	20	50	70	
AV 15153	Aircraft Welding & Painting	28	42	70	3
	Welding	10	20	30	
	Aircraft Covering	5	5	10	
	Aircraft Finishes	13	17	30	
AV 15054	Aircraft Electricity II	48	48	96	4
	Aircraft Electrical Systems	48	48	96	
AV 15114	Aircraft Hydraulics & Pneumatics	55	69	124	4
	Hydraulic & Pneumatic Power Systems	30	32	62	
	Aircraft Landing Gear Systems	25	37	62	
AV 15103	Aircraft Instruments	41	44	85	3
	Position & Warning Systems	14	15	29	
	Aircraft Instrument Systems	14	15	29	
	Communication & Navigation Systems	13	14	27	
AV 15162	Aircraft Ice & Atmosphere	22	22	44	2
	Ice & Rain Protection Systems	8	8	16	
	Cabin Atmosphere Control Systems	14	14	28	
AV 15172	Aircraft Fuel & Fire	23	28	51	2
	Aircraft Fuel Systems	15	20	35	
	Fire Protection Systems	8	8	16	
AV 15183	Airframe Inspection	16	48	64	3
	Airframe Inspection	16	48	64	
TOTAL HOURS -- AIRFRAME		321	441	762	
AV 25007	Reciprocating Engines	45	135	180	7
	Reciprocating Engines	40	130	170	
	Reciprocating Engine Instrument Systems	5	5	10	

AV 25015	Turbine Engines	58	80	138	5
	Turbine Engines	50	70	120	
	Auxiliary Power Units (APUs)	1	3	4	
	Unducted Fans	2	2	4	
	Turbine Engine Instrument Systems	5	5	10	
AV 25074	Powerplant Support Systems	46	69	115	4
	Induction & Engine Airflow Systems	7	8	15	
	Engine Exhaust & Reverser Systems	6	9	15	
	Engine Fuel Systems	5	10	15	
	Fuel Metering Systems	28	42	70	
AV 25084	Powerplant Electrical Systems	51	64	115	4
	Engine Electrical Systems	20	30	50	
	Ignition & Starting Systems	31	34	65	
AV 25023	Aircraft Lubrication & Cooling	30	38	68	3
	Lubrication Systems	24	24	48	
	Engine Cooling Systems	3	7	10	
	Engine Fire Protection Systems	3	7	10	
AV 25093	Propellers	30	40	70	3
	Propellers	30	40	70	
AV 25103	Powerplant Inspection	16	48	64	3
	Engine Inspection	16	48	64	
TOTAL HOURS -- POWERPLANT		276	474	750	

TOTAL AMT PROGRAM HOURS 814 1144 1958

TOTAL AMT PROGRAM CREDIT HOURS 76

The above table describes the FAA Program/Course Name in correlation with the ANC Course name.

PROGRAM COSTS

Refer to our ANC Course Catalog for the latest program costs and fees. Scholarships and financial aid information are available.

www.anc.edu

ATTENDANCE & FAA POLICY

The FAA requires this policy. Your instructors are **not** allowed to waive this requirement, regardless of any circumstances. All time missed must be made up. Times and dates for makeup are posted. Failure to show progress towards making up time missed may be grounds for expulsion from the Aviation Maintenance Department Program.

- Class attendance is mandatory. Attendance is taken hourly throughout the day. Any missed time will be entered into the student's record.
- Students that are late for class - either at the beginning of the day or after breaks during the day - will be marked absent for the time missed. Absence is marked in ½ hour blocks.
- All time and work missed must be made up for a student to receive any credit for a class or section. If student absence exceeds 15% of the hours of the class, that student **may** be dropped from the class, and that class will have to be repeated. In many cases, this could cause a delay of a year or more in receiving your mechanic certificate.

CLASS CANCELLATION

Should classes require cancellation for the weather (snow days, etc.) or other emergency, ANC will arrange for make-up dates and times. If an instructor is ill, a substitute teacher may be called. Scheduled replacement days are treated like any other class days.

MAKE-UP POLICY

All time and work missed must be made up outside of regular class hours or on days when class is not in session. All make-up will be in the same subject area as the material which has been missed. An authorized instructor will be assigned to supervise makeup time.

CLASSROOM/THEORY MAKEUP WORK

- Students will make up the time in person. Students are expected to review the material on their own. However, an instructor will be available to help whenever the need arises.
- Students are expected to schedule and keep their appointment for makeup time.
- There are some time slots in the regular classroom schedule that can be used for class study and makeup time if needed. These hours are not inside of the classroom FAA requirement but are in addition to.

LAB/ SHOP PROJECT MAKEUP:

- All shop projects either missed or incomplete will have to be made up. Alternate projects which teach the same concepts may be assigned at the discretion of the instructor. If the required projects are completed before the required time is done, any remaining time required will be made up in the same way as classroom theory.
- Students must complete the project assigned, regardless of the actual amount of clock hours required to do so.
 - **All time missed must be made up before testing out of the subject.**

The FAA requires 1940 class and lab hours.



FIELD TRIPS

Field trips may be scheduled during regular class hours. These are intended to supplement and enhance the approved curriculum, and will relate to the subject being taught. These are a mandatory part of the curriculum. The ANC Aviation Maintenance Department may offer optional field trips that cannot be scheduled during ordinary class hours. These are not mandatory, but recommended.

GRADES

Grades are earned as percentages and as letter grades. Letter grades and correlated percentages are as follows: **FAA requirement is a 70% or above** is the only acceptable level of performance. There will be NO grading curve.

A	90% - 100%
B	80% - 89%
C	70% - 79%
D	No grade of "D" issued
F	0% - 69%

GRADE AVERAGING

The Aviation Maintenance Department trains students for both college and FAA credit. Because the 2 types of credit are not the same, we have to maintain separate styles of records for each. FAA subjects are graded separately for your FAA transcript. For the college transcript, several FAA subjects are combined into one college score. Your college course grades will be determined by averaging each of the FAA courses contained in the college courses. Your final FAA course grades will be computed in the following manner.



Option 1: For a course with quizzes		Option 2: For a course without quizzes	
Labs	50%	Labs	50%
Quizzes	10%	Tests	50%
Tests	40%	Total	100%
Total	100%		

MINIMUM REQUIRED GRADES

In order to pass any class, both the lab average and the final test score must be at least 70%. If a student scores less than 70% on a final, they will be allowed a retake. The retake test will be similar but not identical to the original test, and will be taken within 2 weeks. Even if the student scores higher than 70% on the retake, the test score is entered as a 70% on the final record. If the student fails the retake, they will be required to repeat the class when it is offered again. In the case of failing lab averages, the student will be required to redo one or more of the labs which were failed. As with the retakes on the test, the lab average will then be entered as 70%.

TESTS AND QUIZZES

A final test will be given at the end of each FAA class. Additional quizzes will be given whenever the instructor feels they are necessary. Students may or may not have advance warning for quizzes.

At the instructor's discretion, when FAA subjects include less than around 20 clock hours, the instructor may give the final for that subject along with the final(s) of another subject. The instructor must be able to assign a separate final grade for each subject.

Tests are considered controlled items, and are not available for review except immediately after the test, so that students may check their grades. Tests and answer keys are kept under lock and key. All tests must be returned to the instructor after completion.

GRADING LAB GUIDELINES FOR LAB PROJECTS

Shop grades are based on the following characteristics:

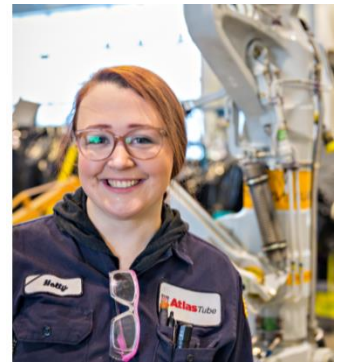
- Job Knowledge - student possesses and demonstrates a clear understanding of the responsibilities and tasks they must perform.
- Job Performance - Neatness, thoroughness, accuracy, and overall quality of the student's work. Return to service standards.
- Job Productivity - Student demonstrates a commitment toward achieving results. Tasks are completed efficiently and effectively.
- Dependability - Student can be relied upon to complete assigned tasks in the allotted time frame. Conscientious about attendance.
- Cooperation and Initiative - Student works willingly with other students and instructors. Student thinks and acts independently within the scope of the project.
- Work Environment and Safety - maintains a safe and pleasant environment. Contributes towards a safe workplace.

SAFETY POLICY & STUDENT EXPECTATIONS

Failure to meet these standards may be grounds for expulsion, either temporary or permanent.

- Comply with the ANC Academic integrity policy and all guidelines and documentation set forth by ANC and instructor. Please review the current ANC Student Handbook for detailed information. <https://www.anc.edu/docs/student-handbook.pdf>
- Protective Equipment
 - Eye protection must be worn whenever students are on the shop floor. This does not apply to walkways and designated break areas.
 - Appropriate protection should be worn when working with high temperatures, sharp tools, or corrosive substances.
 - Footwear should be appropriate for the shop. No open toes or slip on footwear are permitted.
 - Appropriate hearing protection may be required when working around loud noises. This includes running engines and riveting.
- Safe Conduct
 - There are many safety hazards associated with maintenance and operation of aircraft. Maintain alertness around jacked aircraft, running engines, and equipment. Always follow basic safety guidelines, including safe distances and locations
 - Absolutely no horseplay will be tolerated in the shop or in the aircraft run-up area.
 - Do not operate any machine or tool which you have not been trained to operate.
 - Use safety guards and shields where appropriate. This includes runs stands for engines as appropriate.
- Substances

- Students may not work in the shop while on any prescription or nonprescription medication which may cause drowsiness or include warnings about operating machinery or driving.
- The excessive use of caffeine is discouraged.
- Cleanliness
 - A clean work area is safer and more pleasant to work in than a dirty work area, and is a sign of professionalism. Students are required to clean up after themselves at the conclusion of each project, and to periodically clean the shop and classroom area. Failure to clean up at the conclusion of a project will result in a significant reduction of grade. Refusal to clean the shop or classroom when asked is considered insubordination, and may be grounds for expulsion.



These are minimum requirements. Specific requirements for specific projects may require additional precautions. Always follow your instructor's guidelines. Arkansas Northeastern College is not responsible for injuries.

FAA TESTING & INFORMATION

The Aviation Maintenance Department prepares students to take the FAA tests required for certification and certifies that the students are eligible to take those tests. The FAA requires the following tests:

- **Computer Based Written Test** (each section) - These are provided through the FAA's computer based testing centers. The General test may not be taken until you have completed either Airframe or Powerplant. A list of FAA-approved facilities will be provided to the student upon section completion. These are referred to as your CBTs (computer based tests).
- **Oral and Practical Test** (each rating) - These are provided through the FAA's DME (Designated Mechanic Examiner) program. ANC is not affiliated with a DME. Typical fees and periods for this test vary widely by examiner. A list of DMEs will be provided to the student upon completion of each section. These are referred to as your O&Ps (oral and practical). It is **recommended** that a student take the CBT or O & P as soon as completion of General and Airframe, and/or Powerplant.
- **Practice Tests** - After the completion of Airframe and Powerplant, the Aviation Maintenance Department will administer a practice test, consisting of the same form and level of the FAA CBT for that section. This test is not for a grade in the program, but a score of at least 80% is required on two different tests before ANC will sign-off students to take the CBT. You must take the CBT before you can take O&Ps.

Website for testing information located here: <https://faa.psiexams.com/faa/login>

EARNING A COLLEGE DEGREE

In addition to providing training towards FAA certification, training also counts towards an Associates of Applied Science – Aviation Maintenance and Repair, Technical Certificate – Aviation Maintenance and Repair, and/or Certificate of Proficiency – Aviation Maintenance and Repair. All students wishing to enter the Aviation Maintenance Program, will need to complete all ANC admissions requirements. Admissions requirements and information is located www.anc.edu/admissions

TRANSFER CREDIT

Students who have already earned credit in FAA-certificated maintenance schools may qualify for transfer credit. In general, the program they attended should be accredited by the North Central Association of Colleges and Schools, Commission on Colleges, or a similar accrediting body. Generally, to qualify for transfer credit the student must provide a transcript from the registrar of the school of previous attendance to the registrar of ANC at the time of enrollment and the courses for transfer were taken during the most recent academic year of the admitting institution. Any transfer student may be asked to complete a competency test. The competency test will be equal in content to the final test for the same subject taken by enrolled students and the standard grading

scale will apply. A practical skill demonstration may also be required, and the student may have to pay a testing fee for a competency test. Contact the admissions department and the Dean for Allied Technologies for more information regarding transfer credit.

ANC is not authorized to give transfer credit from proprietary or vocational schools which are not accredited as above. Credit earned at such an institution MIGHT be counted towards a sign-off to take the A&P exam, but it cannot be counted towards an AAS degree. Any credit earned at any institution not specifically certificated by the FAA cannot be honored by the Aviation Maintenance Department.

REQUIRED/RECOMMENDED MATERIALS

Students are required/recommended to purchase the following materials.

- Students are expected to provide their own common hand tools.
- Specialty tools will be provided by the Aviation Maintenance Department.
- Tools should be as high quality as you can reasonably afford. Speak with your instructor or financial aid department to see if there are any grants or programs to assist with purchasing these materials.
- Only standard (inch) tools are required in this program.
- You are responsible for safekeeping of your own tools.

Jeppessen- A&P Technician Textbook	
General Textbook	Aviation Dictionary
General Study Guide	Nondestructive Testing for Aircraft
Airframe Textbook	Advanced Composites
Airframe Study Guide	AMT FAR's (Current Edition)
Powerplant Textbook	AC 43.13-1B and 2B
Powerplant Study Guide	
Required Tool List:	Recommended Tool List:
<ul style="list-style-type: none"> ○ Screwdrivers ○ #1, 2, and 3 Phillips. 1/4, 7/32, 5/16 Flat tip. ○ Scratch Awl ○ Pliers ○ Needle Nose ○ Channel Locks (10-12 inch) ○ Slip Joint Pliers (standard size) ○ Diagonal Cutters (Dikes) ○ Vise Grips ○ Wrenches ○ 1/4" through 1" Combination Wrenches ○ Adjustable wrenches - small and medium ○ 1/4 inch socket handle with: Universal Joint Extension Set ○ 7/32 to 9/16 sockets - 12 point ○ 3/8 inch socket handle with: Universal Joint Extension Set ○ Socket sizes from 3/8 to 7/8 ○ Deep Well Socket set ○ Ball Peen Hammer ○ Dead Blow hammer or rubber mallet 	<ul style="list-style-type: none"> ○ Scientific Calculator ○ Ratcheting Screwdriver w/hex bits ○ 1/4" deep well sockets ○ 3/8 drive speed handle Magnetic retrieval tool Pliers ○ Duck Bill Pliers ○ Safety Wire Pliers ○ Snap Ring Pliers ○ Hemostat ○ Wrenches ○ Gear Wrench type ratcheting wrenches ○ Hex Wrenches ○ Hack Saw ○ File Set ○ Feeler Gauge ○ Sheet Metal Snips ○ Spring Loaded Center Punch ○ 6" Brass Drift ○ 4 Color Set of Sharpies ○ Padlock for tool box ○ Digital Multimeter

- | | |
|---|--|
| <ul style="list-style-type: none">○ Punch set○ Hook and Pick set Small Flashlight Inspection Mirror○ 6" machinists scale and a 12" ruler○ Safety Glasses○ Tool Box (No roll away carts) | |
|---|--|

INTERNSHIPS AND JOB PLACEMENT

ANC offers Career Services for existing and graduates of the Aviation Maintenance Programs. Internships are a great way to supplement training experience with real-world experiences. Depending on job placement and availability of internships, students may work part-time outside of their classroom schedule. Internship information can be found here:

<https://www.anc.edu/thesolutionsgroup/internships.htm>

As part of the Career Services department, students will be sent job information regularly to their student email address. Jobs will also be posted on the ANC Area Job's page www.anc.edu/areajobs

Companies such as ART, Nucor, Mid-Continent, as well as others have employed aviation students and graduates. Not only do Aviation Students learn the A&P trade, but they also become successful detailed mechanics that can work on heavy equipment, production lines, and other pieces of manufacturing machinery.



PAID INTERNSHIPS

CONTACT US:

Admissions: 870-838-2955 <https://www.anc.edu/admissions>

Financial Aid: 870-762-3108 <https://www.anc.edu/financialaid>

Advising: 870-762-3194 <https://www.anc.edu/advising/>

ANC Center for Allied Technologies: 870-763-6222