



# AVIATION MAINTENANCE SCIENCE

**STUDENT HANDBOOK**

# GREETINGS



AMS Students,

I want to congratulate you on your decision to join our learning community. Embry-Riddle has a rich history in aviation maintenance training, with generations of professionals who have completed our curriculum. Many have gone on to work for airlines, corporate flight departments, the government, aerospace manufacturers and space programs.

The discipline you have chosen is unique and technologically sophisticated. You will be learning to maintain some of the most cutting-edge aerospace systems in the world. Our faculty are experts in their respective fields and are always willing to help. They are committed to your success, so please feel free to reach out to them with any questions or concerns.

One area I would like to emphasize is that our department operates under strict adherence to its safety policies. Please adhere to these policies, as they will ensure your safety and that of those around you. Always be mindful of your surroundings and don't be afraid to ask questions. This handbook can be very helpful. It addresses the common areas where students most often generate questions.

Welcome aboard and we look forward to helping you achieve your educational goals. I wish you a successful semester as you work towards becoming a professional Aviation Maintenance Technician.

Kind Regards,

A handwritten signature in black ink, appearing to read "R. Eric Jones". The signature is fluid and cursive, with a large initial "R" and "E".

R. Eric Jones

*AMS Department Chair, Associate Professor*

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## AMS DEGREE PROGRAMS

### **ASSOCIATES OF SCIENCE DEGREE IN AVIATION MAINTENANCE SCIENCE (ASAMS)**

- › 66 Total credit hours
- › 18 credit hours of Gen Ed
- › The remaining 48 credit hours is the Technical Track
- › Technical track is subdivided into 3 core areas of concentration:
  - General
  - Airframe
  - Powerplant

### **BACHELOR OF SCIENCE DEGREE IN AVIATION MAINTENANCE SCIENCE (BSAMS)**

- › 126 (7) Total credit hours
- › 36 credit hours of Gen Ed
- › 48 credit hours in the technical track
- › 6 credit hours of UL open electives
- › 36 credit hours focused on 1 of 4 areas of concentration:
  - Maintenance Management
  - Safety Science
  - Flight
  - Avionics Cybertech & Security

## AOC CYBERTECHNOLOGY & SECURITY

This new AOC has been created to meet both the industry and the students needs. This rapidly growing sector in aviation, incorporates internet connectivity, satellite data transmission, and the protection of that information through cyber security measures. The focus of this new AOC centers around Cybertechnology and Security for connected aircraft.

## ADVANCED TOOL KIT

1. 3/16—3/8 Combo ignition wrench set with pouch
2. 3/8" drive ratchet set w/extension
3. 3/8" drive 12-pt socket, 3/8"
4. 3/8" drive 12-pt socket, 7/16"
5. 3/8" drive 12-pt socket, 1/2"
6. 3/8" drive 12-pt socket, 9/16"
7. 3/8" drive 12-pt socket, 5/8"
8. 3/8" drive 12-pt socket, 11/16"
9. 3/8" drive 12-pt socket, 3/4"
10. Tool control for sockets
11. 1/2" drive deep-well spark plug socket, 6-pt
12. 3/8" drive flex handle
13. 3/8" drive 6-pt socket, 7/16"
14. 3/8" drive 12-pt socket, 13/16"
15. 3/8" drive 6-pt. socket, 9/16"
16. 3/8" drive 6-pt socket, 7/8"
17. 3/8" to 1/4" adapter
18. 1/4" to 3/8" adapter
19. 3/8" to 1/2" adapter
20. 1/2" to 3/8" adapter
21. Torx T-20 bit or screwdriver
22. 1/4" drive flex handle
23. 12pt 1/4" drive socket set 1/4—9/16"
24. 1/4" drive ratchet
25. 1/4" drive 6" extension
26. 1/4" drive universal joint
27. Allen wrench set: .028", .035", 3/64", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8"
28. Feeler gauge, tapered leaf .0015-.025
29. Flexible magnet pick-up tool
30. Stripper for wire, size No. 14-22
31. 1/4" drive long shank driver
32. 10" Crescent Wrench
33. 40w soldering iron
34. 5" Flush cut plier

## AMS 116 TOOL LIST

1. Digital Multimeter with 50,000 OHMS/Volt DC-10,000 OHMS/Volt AC capability
2. Electronic parts kit—must be purchased at Bookstore
3. Scientific Calculator TI-30Xa

**Note:** The Advanced Toolkit is required for both the Airframe and the Powerplant A&P courses.

## GENERAL TOOL KIT

1. Duckbill pliers, 7 3/4" long
2. Diagonal cutting pliers, 6 1/3" long
3. Needle nose Pliers, 6" long
4. 6" Slip-joint pliers
5. Center punch, 5" long
6. Pin punch 3/32" diameter
7. Pin punch 1/8" diameter
8. Pin punch 5/32" diameter
9. Pin punch 3/16" diameter
10. Pin punch 1/4" diameter
11. Chisel, 1/2" wide x 5 1/2" long
12. Ball peen hammer, 8 oz.
13. Plastic tip hammer, 16 oz.
14. Hacksaw for 10-12" blades
15. Hacksaw blades 32 teeth (2 ea.)
16. Flat file, 10"
17. Half round file, 10"
18. Round file, 10"
19. Flat file, 6"
20. 4" file set
21. Adjustable file handle
22. 6" divider
23. 6" ruler with 1/64, 1/32, 1/16, & 1/8" scales
24. 10' flexible steel tape, 3/4 blade
25. Combination square with 1/64", 1/32", 1/16", & 1/8" scales
26. Safety glasses
27. Hearing Protection, ear muffs control pouch (Must withstand a min. of 23 decibels)
28. Double point scribe
29. No. 2 Phillips screwdriver 6" long
30. 6" long, 5/16" Straight Slot Screwdriver
31. Aviation snip set (straight, right, left cut)
32. 3/32" Twist drill
33. 1/8" Twist drill (2 ea.)
34. 5/32" Twist drill
35. 3/16" Twist drill
36. 5/16" Twist drill
37. 7/16" Twist drill
38. 3/8" Twist drill
39. 1/4" Twist drill
40. No. 03 Twist drill
41. No. 10 Twist drill.
42. No. 11 Twist drill
43. No. 21 Twist drill
44. No. 22 Twist drill
45. No. 27 Twist drill
46. No. 29 Twist drill
47. No. 30 Twist drill (2 ea.)
48. No. 31 Twist drill
49. No. 40 Twist drill
50. No. 41 Twist drill
51. No. 51 Twist drill
52. Letter F twist drill
53. Letter I twist drill
54. Letter Q twist drill
55. Tool Bag
56. Flashlight
57. Inspection mirror
58. Fractional, Numbered, and Letter Drill Control Pouch
59. Respirator
60. Tool Control Pouch for Combo Wrenches
61. Combo 12-pt wrench 3/8"
62. Combo 12-pt wrench 7/16"
63. Combo 12-pt wrench 1/2"
64. Combo 12-pt wrench 9/16"
65. Combo 12-pt wrench 5/8"
66. Combo 12-pt wrench 11/16"
67. Combo 12-pt wrench 3/4"
68. Combo 12-pt wrench 7/8"
69. Combo 12-pt wrench 15/16"
70. Combo 12-pt wrench 1"
71. Combo 12-pt wrench 1/4"
72. Combo 12-pt wrench 5/16"

**Note:** The General Toolkit is required for General A&P courses.

## AVIONICS LINE MAINTENANCE MINOR

- › Avionics Line Maintenance (ALM) addresses the industry's increasing reliance on avionics and the changing technologies.
- › ALM encompasses general aviation avionics systems, air transport avionics systems, and relevant advanced test equipment.
- › The ALM curriculum is accredited by the National Center for Aerospace & Transportation Technologies (NCATT)
- › ALM classes follow the AMS calendar, however, the ALM schedule meets daily each semester. Classes are held M-F from 08:00 to 15:00

## ALM CERTIFICATIONS AND LICENSES

- › Federal Communications Commission (FCC)
- › General Radio Telephone Operators License (GROL)
- › NCATT Aircraft Electronics Technician (AET)
- › Endorsements to the AET
- › Autonomous Navigation System
- › Dependent Navigation Systems
- › Radio Communication Systems
- › Electronics Technician Association International
- › Associate Certified Electronic Technician (CET)
- › Avionics Journeyman CET

## ALM GENERAL TOOL KIT

1. Digital Multimeter
2. Small electrical flush cut pliers
3. Magnifying glass



## SAVING TIME AND MONEY

- › Block tuition: 12—16 hours
- › A student in good standing who enrolls in a full academic schedule (12 cr. hrs. of Gen Ed. or AOC courses) can add one more course of up to 4 cr. hrs. without incurring any additional cost.
- › Block tuition is also available to students who enroll in a full schedule of AMS technical track courses (12 cr. hrs.) Assuming there are no scheduling conflicts

## ATTENDANCE REQUIREMENTS

- › Under the requirements of CFR Part 147, attendance is MANDATORY!
- › All material missed, including labs, must be made up, prior to the course final exam
- › Poor Attendance
- › Excessive absences will result in a Student Performance Report, generated by the Instructor
- › 10% absenteeism prompts a referral to the assigned advisor
- › 15% absenteeism will result in an automatic “ F ” for the course
- › AMS Summer Classes start a week prior to the rest of the University



# NOTES



# NOTES

## DRESS AND SAFETY CODES

- › All Lab environments require students to have long trousers, shirt or blouse with sleeves (no midriff showing) and closed toe athletic or work shoes  
“NO EXCEPTIONS”
- › All Labs require the use of safety glasses to be worn at ALL times. Safety glasses must meet Z87+ specifications
- › Students not conforming to these policies will be asked to leave the Lab environment, making him or her responsible for making up material missed

## TOOL REQUIREMENT

- › Every student is required to have his or her own tools
- › Tools can be purchased from any source, as long as you have the complete kit described on tool kit listing
- › Complete General and Advanced kits are available

**IMPORTANT NOTE:** Due to the similarity of the tool bags, Students are encouraged to clearly identify their bags with their name

## FOR MORE INFORMATION

concerning all costs associated with our program, please visit [www.erau.edu/ams](http://www.erau.edu/ams)

## USE OF TOBACCO & NICOTINE

- › Embry-Riddle Aeronautical University is a Tobacco Free Institution
- › Students are prohibited from using any form of tobacco products to include cigarettes, cigars, pipes, dipping/snuff, smokeless cigarettes, electronic cigarettes/vaping, hookahs and chewing tobacco
- › If you are observed using ANY tobacco or nicotine products in or around the AMS Building, to include behind AMS Hangar, and 2nd or 3rd floor Observatories, you will be reported to the Dean of Students Office

## RANDOM DRUG TESTING

In an effort to uphold ERAU's highest standards of conduct and promote a healthy and safe environment for our students, our department has instituted a random drug testing program.

- › Students are randomly selected by a computer
- › Upon selection, students must check-in for the test in accordance with the date and time established on the notification
- › Testing is conducted by licensed independent medical personnel who adhere to state and federal testing requirements
- › Students who refuse to submit to a test may be subject to disciplinary procedures, which may include immediate dismissal
- › Additional information on the University's drug policy can be found in the Student Handbook

# GRADING POLICY

- › The Aviation Maintenance Science Department operates under FAA approved grading policy
- › Grading under this policy is calculated on a 7-point scale:

LETTER GRADE	GRADE SCALE	STD. GPA
A	93 – 100	4
B	85 – 92	3
C	77 – 84	2
D	70 – 76	1
F	69 and below	0

- › University policy requires that all grades be reported throughout the course of a semester: early, mid-term, and final
- › Any student not making satisfactory progress will have an interim grade of unsatisfactory reported into the system
- › Unsatisfactory progress in the AMS curriculum is considered to be any grade below a 77

## AMS COMPREHENSIVE EXAMS

- › AMS Comprehensive Examinations (Comp Exam) are the means by which a student completes our AMT school requirements and earns a completion certificate. This certificate will be used for testing purposes
- › There are 2 test dates every semester:
  - Initial Exam date – prepaid costs associated
  - Re-Test date – additional costs
- › Students cannot register for Comp Exams after the “Last day of late registration” in every semester
  - You must register for Comp Exam via Campus Solutions
    - General – AMS 190
    - Airframe – AMS 290
    - Powerplant – AMS 390
  - 100% refund of comp exam charges can be obtained up to the last day of late registration
- › Students are encouraged to take their first comp exam after they have successfully completed the General curriculum

# AIRFRAME & POWERPLANT CERTIFICATION

- › It is highly recommended that students begin their certification process as they progress through the program
- › Waiting until the end is NOT recommended
- › There are 3 core areas:
- › General
- › Airframe
- › Powerplant
- › Each core area is tested with a written, an oral, and a practical exam
- › Written exams are taken at the FAA testing Center located in the Advanced Flight Simulation Center, building #311
- › Orals and Practical's (O & P) will be administered by one of the Aviation Maintenance Science (AMS) Department's Designated Mechanic Examiners (D.M.E.)





# AVIATION MAINTENANCE SCIENCE DEPARTMENT

FACULTY/STAFF	TITLE	EXT	ROOM
Billette, Travis	Assistant Professor	67041	EBM 211
Beckwith, Rick	Instructor	67969	EBM 226
Fulbright, Neill	Instructor	66651	EBM 218
Geraci, Mitch	Associate Professor	66773	EBM 214
Hammer, Kris	Assistant Professor	38082	EBM 210
Hancock, Doug	Associate Professor	66376	EBM 213
Horning, Chuck	Associate Professor	67693	EBM 212
Jones, Eric	Department Chair	66769	EBM 216
Kent, Tim	Assistant Professor	67755	EBM 308E
Klaus, Cristin	Assistant Professor	66377	EBM 308F
Kuhn, Derren	Associate Professor	66787	EBM 208A
Lacy, Jay	Instructor	67108	EBM 209
Lee, Chris	Assistant Professor	66795	EBM 308D
Malis, Jim	Assistant Professor	35067	EBM 227
Martinez, Isaac	Program Coordinator	66788	EBM 219
Mikesell, Lorrie	Admin. Assistant	66779	EBM 225
Piccone, Chris	Instructor	66775	EBM 308A
Sault, Earl	Supply Specialist	66782	EBM 113B
Spahn, Chris	Instructor	64938	EBM 111B
Tetterton, Marshall	Associate Professor	66833	EBM 215
Wheeler, Ian	Instructor	66772	EBM 308C
Yanus, Tom	Associate Professor	35079	EBM 217



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