Standing Requirements

Program Mission Statement

The mission of the Aviation Maintenance Sciences program is to prepare students for immediate productivity and career growth while providing broad-based education with emphasis on technical and analytical skills.

It is the intent of the Aviation Maintenance Sciences program to accomplish its mission by (a) utilizing top quality faculty and instructional staff to educate students, (b) developing skills in mathematics, physics, communications and technology, (c) preparing students for the FAA Airframe and/or Powerplant certification, (d) providing innovative directions in aviation education, (e) employing advanced technology, equipment, and facilities, (f) collaborating with industry leaders and aviation experts worldwide, and (g) supporting each student's personal development by encouraging participation in internship programs.

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ERAU University Mission Statement

Our mission is to teach the science, practice and business of aviation and aerospace, preparing students for productive careers[1] and leadership roles in service around the world.[2]

Our technologically enriched, student-centered environment[3] emphasizes learning through collaboration and teamwork,[4] concern for ethical and responsible behavior,[5] cultivation of analytical[6] and management abilities,[7] and a focus on the development of the professional skills needed for participation in a global community.[8] We believe a vibrant future for aviation and aerospace rests in the success of our students. Toward this end, Embry-Riddle is committed to providing a climate that facilitates the highest standards of academic achievement[9] and knowledge discovery,[10] in an interpersonal environment that supports the unique needs of each individual.[11] Embry-Riddle Aeronautical University is the world's leader in aviation and aerospace education. The University is an independent, non-profit, culturally diverse institution providing quality education and research in aviation, aerospace, engineering and related fields leading to associate's, baccalaureate's, master's and doctoral degrees.

Program Alignment to University Mission

Select all that apply.

- [1]Preparing students for productive careers
- [3]Technologically enriched environment
- [4]Emphasize learning through collaboration and teamwork
- [5]Concern for ethical and responsible behavior
- [8]Develop the professional skills needed for participation in a global community
- [9]Facilitating the highest standards of academic achievement
- [10]Facilitating knowledge discovery
- [11]Providing an interpersonal environment that supports the unique needs of each individual

Standing Requirements

Program Outcomes

AS Aviation Maintenance Science Outcome Set

Outcome

Outcome	Mapping
DB_ASAMS_PO_01 Application of Math and Physics Graduates of the Aviation Maintenance Science program will demonstrate application of aviation mathematics and physics relevant to aircraft airworthiness issues. (AABI 2.3.1.a)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.a
DB_ASAMS_PO_02 Effective Communication Abilities Graduates of the Aviation Maintenance Science program will effectively communicate their knowledge of issues facing the aviation maintenance industry in both written and spoken format. (AABI 2.3.1.e)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.e
DB_ASAMS_PO_03 Aviation Maintenance Technical Competence Graduates of the Aviation Maintenance Science program will apply their aviation maintenance technical competence to solve common maintenance problems.(AABI 2.3.1.b)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.b
DB_ASAMS_PO_04 Knowledge of Human Interaction and Teamwork Graduates of the Aviation Maintenance Science program will identify key issues related to leadership and management principles in both teamwork and supervisory roles.(AABI 2.3.1.c)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.c
DB_ASAMS_PO_05 Knowledge of Aviation	**INTL- AABI- Aviation Accreditation Criteria for**

Environment Graduates of the Aviation Maintenance Science program will demonstrate their knowledge of the aviation environment by accurately returning aircraft to service within various environments. (AABI 2.3.1.g)	**Associate Degree Programs:** 2.3.1.g
DB_ASAMS_PO_06 Application of Specialized Training Graduates of the Aviation Maintenance Science program will appropriately use special equipment and tools in the practice of aviation maintenance. (AABI 2.3.1.h)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.h
DB_ASAMS_PO_07 Ability to Interpret Technical Instructions Graduates of the Aviation Maintenance Science program will appropriately interpret written and/or electronic technical instructions.	No Mapping
DB_ASAMS_PO_08 Professional and Ethical Responsibilities Graduates of the Aviation Maintenance Science program will demonstrate knowledge of professional and ethical behavior in their role as maintenance technicians and/or supervisors. (AABI 2.3.1.d)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.d
DB_ASAMS_PO_09 Ability to Engage in Life-long Learning Graduates of the Aviation Maintenance Science program will use their education and training to actively engage in life-long learning relevant to their work environment. (AABI 2.3.1.f)	**INTL- AABI- Aviation Accreditation Criteria for Associate Degree Programs:** 2.3.1.f

FL - Embry-Riddle General Education Competency Set (Copy 1)

General Education Competencies

Competency	Mapping

Critical Thinking (DB, PC, WW) The student will apply knowledge at the synthesis level to define and solve problems within professional and personal environments.	**Embry-Riddle General Education Competency Set:** Critical Thinking (DB, PC, WW)
Quantitative Reasoning (DB, PC, WW) The student will demonstrate the use of digitally-enabled technology (including concepts, techniques and tools of computing), mathematics proficiency & analysis techniques to interpret data for the purpose of drawing valid conclusions and solving associated problems.	**Embry-Riddle General Education Competency Set:** Quantitative Reasoning (DB, PC, WW)
Information Literacy (DB, PC, WW) The student will conduct meaningful research, including gathering information from primary and secondary sources and incorporating and documenting source material in his or her writing.	**Embry-Riddle General Education Competency Set:** Information Literacy (DB, PC, WW)
Communication (DB, PC, WW) The student will communicate concepts in written, digital and oral forms to present technical and non-technical information.	**Embry-Riddle General Education Competency Set:** Communication (DB, PC, WW)
Scientific Literacy (DB, PC, WW) The student will be able to analyze scientific evidence as it relates to the physical world and its interrelationship with human values and interests.	**Embry-Riddle General Education Competency Set:** Scientific Literacy (DB, PC, WW)
Cultural Literacy (DB, PC, WW) The student will be able to analyze historical events, cultural artifacts, and philosophical concepts.	**Embry-Riddle General Education Competency Set:** Cultural Literacy (DB, PC, WW)

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DB AS Aviation Maintenance Science 2014-2015

Courses and Activities Mapped to AS Aviation Maintenance Science Outcome Set

	Outcome								
	DB_ASAMS_PO_01 Application of Math and Physics Graduates of the Aviation Maintenance Science program will demonstrate application of aviation mathematics and physics relevant to aircraft airworthiness issues. (AABI 2.3.1.a)	**DB_ASAMS_PO_02** Effective Communication Abilities Graduates of the Aviation Maintenance Science program will effectively communicate their knowledge of issues facing the aviation maintenance industry in both written and spoken format. (AABI 2.3.1.e)	**DB_ASAMS_PO_03** Aviation Maintenance Technical Competence Graduates of the Aviation Maintenance Science program will apply their aviation maintenance technical competence to solve common maintenance problems.(AABI 2.3.1.b)	**DB_ASAMS_PO_04** Knowledge of Human Interaction and Teamwork Graduates of the Aviation Maintenance Science program will identify key issues related to leadership and management principles in both teamwork and supervisory roles.(AABI 2.3.1.c)	**DB_ASAMS_PO_05** Knowledge of Aviation Environment Graduates of the Aviation Maintenance Science program will demonstrate their knowledge of the aviation environment by accurately returning aircraft to service within various environments. (AABI 2.3.1.g)	**DB_ASAMS_PO_06** Application of Specialized Training Graduates of the Aviation Maintenance Science program will appropriately use special equipment and tools in the practice of aviation maintenance. (AABI 2.3.1.h)	**DB_ASAMS_PO_07** Ability to Interpret Technical Instructions Graduates of the Aviation Maintenance Science program will appropriately interpret written and/or electronic technical instructions.	**DB_ASAMS_PO_08** Professional and Ethical Responsibilities Graduates of the Aviation Maintenance Science program will demonstrate knowledge of professional and ethical behavior in their role as maintenance technicians and/or supervisors. (AABI 2.3.1.d)	**DB_ASAMS_PO_09** Ability to Engage in Life-long Learning Graduates of the Aviation Maintenance Science program will use their education and training to actively engage in life-long learning relevant to their work environment. (AABI 2.3.1.f)
Courses and Learning Activities									
AMS 115 Aviation Mathematics and Physics	I								
AMS 116 Fundamentals of Electricity	P		I				I		
AMS 117 Tools, Materials, & Processes						I			
AMS 118 Aircraft Familiarization & Regulations	P	I		I	I			I	I
AMS 261 Aircraft Metallic Structures						I			
AMS 262 Aircraft Composite Structures							P		
AMS 263 General Aviation Aircraft Systems		P		P	P			P	
AMS 264 General Aviation Aircraft Electrical & Instrument Systems					P				
AMS 271 Aircraft Reciprocating Powerplant & Systems						P			
AMS 272 Powerplant Electrical and Instrument Systems			P				P		
AMS 273 Propeller Systems						P			
AMS 274 Aircraft Turbines Powerplants & Systems			P	P					
AMS 365 Transport Category Aircraft Systems		M						M	
AMS 366 Transport Category Aircraft Electrical & Instrument Systems	M		M				M		
AMS 375 Repair Station Operations					M	M			
AMS 376 Powerplant Line Maintenance			M	M			M		
Grad Stud Asses Indirect - Survey	M	M	M	M	M	M	M	M	M

Legend : I Introduced P Practiced M Mastered

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DB AS Aviation Maintenance Science Program Outcomes Assessment per Cycle

Courses and Activities Mapped to AS Aviation Maintenance Science Outcome Set

	Outcome								
	DB_ASAMS_PO_01 Application of Math and Physics Graduates of the Aviation Maintenance Science program will demonstrate application of aviation mathematics and physics relevant to aircraft airworthiness issues. (AABI 2.3.1.a)	**DB_ASAMS_PO_02 Effective Communication Abilities** Graduates of the Aviation Maintenance Science program will effectively communicate their knowledge of issues facing the aviation maintenance industry in both written and spoken format. (AABI 2.3.1.c)	**DB_ASAMS_PO_03 Aviation Maintenance Technical Competence** Graduates of the Aviation Maintenance Science program will apply their aviation maintenance technical competence to solve common maintenance problems.(AABI 2.3.1.b)	**DB_ASAMS_PO_04 Knowledge of Human Interaction and Teamwork** Graduates of the Aviation Maintenance Science program will identify key issues related to leadership and management principles in both teamwork and supervisory roles.(AABI 2.3.1.c)	**DB_ASAMS_PO_05 Knowledge of Aviation Environment** Graduates of the Aviation Maintenance Science program will demonstrate their knowledge of the aviation environment by accurately returning aircraft to service within various environments. (AABI 2.3.1.g)	**DB_ASAMS_PO_06 Application of Specialized Training** Graduates of the Aviation Maintenance Science program will appropriately use special equipment and tools in the practice of aviation maintenance. (AABI 2.3.1.h)	**DB_ASAMS_PO_07 Ability to Interpret Technical Instructions** Graduates of the Aviation Maintenance Science program will appropriately interpret written and/or electronic technical instructions.	**DB_ASAMS_PO_08 Professional and Ethical Responsibilities** Graduates of the Aviation Maintenance Science program will demonstrate knowledge of professional and ethical behavior in their role as maintenance technicians and/or supervisors. (AABI 2.3.1.d)	**DB_ASAMS_PO_09 Ability to Engage in Life-long Learning** Graduates of the Aviation Maintenance Science program will use their education and training to actively engage in life-long learning relevant to their work environment. (AABI 2.3.1.f)
Courses and Learning Activities									
2008-2009 Assessment Cycle									
2009-2010 Assessment Cycle									
2010-2012 Assessment Cycle									
2012-2013 Assessment Cycle									
2013-2014 Assessment Cycle									
2014-2015 Assessment Cycle	✔	✔							
2015-2016 Assessment Cycle			✔	✔					
2016-2017 Assessment Cycle					✔	✔			
2017-2018 Assessment Cycle							✔	✔	
2018-2019 Assessment Cycle									✔
2019-2020 Assessment Cycle	✔	✔							

Legend : ✔ = Aligned

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2018-2019 Assessment Cycle

Assessment Plan

Measures

AS Aviation Maintenance Science Outcome Set

Outcome

Outcome: DB_ASAMS_PO_09 Ability to Engage in Life-long Learning

Graduates of the Aviation Maintenance Science program will use their education and training to actively engage in life-long learning relevant to their work environment. (AABI 2.3.1.f)

Measure: Ability to Engage in Life-long Learning PO #9

Course level Direct - Exam

Details/Description:	Graduating students will demonstrate knowledge of how their education and training can be used to engage in life-long learning relevant to their work environment.
Criterion for Success:	Student enrolled in AMS 118 will be tested on their knowledge of Human Factors relevant to the maintenance environment. The results of Unit exam #1 will be used to measure their introductory knowledge of the topic. A minimum score of 77% will denote success in this measure.
Timeframe of Data Collection:	Data for this assessment will be collected from the FAA approved grade sheet archives and it will be collected at the end of the Fall and Spring semesters.
Key/Responsible Personnel:	The key person responsible for course content and development of written assessment tools is the assigned course monitor.

Measure: Graduating Student Assessment Question Number 7 (PO9)
Program level Indirect - Survey

Details/Description:	Graduating students will indicate to what extent has their experience in the ASAMS degree program contributed to their development of specific skills and knowledge. Question #7 will allow the student to self-assess his or her ability to recognize the need for as well as his or her ability to engage in life-long learning.
Criterion for Success:	A Likert scale will be used to gage the level of agreement with various skills and knowledge attained. The minimum level of agreement that will denote success for this measurement will be "Some".
Timeframe of Data Collection:	After degree completion and during the exit survey.
Key/Responsible Personnel:	The Institutional Research department at ERAU will be responsible for harvesting and making available the data relevant to this measurement.

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