

# Cowley College

September 2, 2020

## New Program Request Form

AVIATION MECHANIC - POWERPLANT  
ASSOCIATE OF APPLIED SCIENCE DEGREE



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## New Program Request Form

## CA1

## General Information

Institution submitting proposal	Cowley College
Name, title, phone, and email of person submitting the application (contact person for the approval process)	Dr. Tina Grillot Associate Vice President Workforce & Community Education 620.441.5376   tina.grillot@cowley.edu
Identify the person responsible for oversight of the proposed program	Dr. Tina Grillot
Title of proposed program	Aviation Mechanic - Powerplant
Proposed suggested Classification of Instructional Program (CIP) Code	47.0608
CIP code description	Aviation Powerplant Technology/Technician
Standard Occupation Code (SOC) associated to the proposed program	49-3011.00
SOC description	<p>Aircraft Mechanics and Service Technicians</p> <p>Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists.</p> <p>Sample of reported job titles: Aircraft Maintenance Technician (Aircraft Maintenance Tech), Aircraft Mechanic, Aircraft Technician, Airframe and Powerplant Mechanic (A and P Mechanic), Aviation Maintenance Technician (AMT), Aviation Mechanic, Helicopter Mechanic</p>
Number of credits for the degree <u>and</u> all certificates requested	Certificate A (19cr) Certificate C (55cr) AAS (64)
Proposed Date of Initiation	August 2021
Specialty program accrediting agency	Federal Aviation Administration (FAA)
Industry certification	FAA Powerplant license

Signature of College Official Michelle Schorn Date 8/13/2020

Signature of KBOR Official \_\_\_\_\_ Date \_\_\_\_\_

## Narrative

### Program Description

- *Catalog description:*  
The Aviation Mechanic - Powerplant program is jointly designed by Cowley College and GE Aviation to provide the background knowledge and practical shop experience to qualify for a Federal Aviation Administration (FAA) Aviation Maintenance Technician Certificate, with the Powerplant rating. The combined sequence of courses for Powerplant technicians requires two years of school. Additional academic work at the college may also qualify the students for an Associate Degree. Aviation Mechanics that graduate from the program are in high demand in aviation and related careers that require a high degree of mechanical knowledge.
- *Program Objectives:*
  1. Facilitate proficiency in content knowledge and skills for the College's general education competencies.
  2. Promote technical competency, professional knowledge and ethical responsibility.
  3. Prepare students for entry into the agricultural workforce or for further study in the field.
- *Student Learning Outcomes:*
  1. Articulate reasoned judgments and/or conclusions.
  2. Exhibit a higher level of critical thinking processes
  3. Deliver effective oral presentations.
  4. Perform effective data/information management.
  5. Utilize technology relevant to disciplines of study.
  6. Demonstrate the ability to use skills or concepts learned.
- *List and describe the admission and graduation requirements for the proposed program.*

#### POLICY 250.00 ADMISSION

Admission to Cowley County Community College is open to all individuals who can academically benefit from its educational programs. Before full admission can be granted, students must provide the following:

- High school diploma or GED certificate.
- Transcripts from all colleges previously attended.
- Assessment scores or ACT scores demonstrating an ability to benefit from college level coursework.

Cowley College reserves the right to deny a student admission or readmission if it is determined to be in the best interests of the college community to do so, or if the college is unable to provide the services, courses or program(s) needed to assist the student in meeting educational objectives.

#### Provisional Admission

Applicants may be provisionally admitted for a maximum of 12 credit hours pending submission of the required documents.

#### Ability to Benefit

Students who do not meet the ability to benefit guidelines will be admitted on a provisional basis, pending satisfactory progress in the essential skills curriculum. These students may enroll in a

maximum of 13 credit hours and must earn a semester GPA of 2.0 to be eligible for continued enrollment.

### Guest Students

Students of other colleges and universities and other applicants not seeking a degree from Cowley may be admitted as guest students. Guest students may earn a maximum of 12 credit hours. To enroll in additional hours, the student must first be fully admitted by providing the documents listed above. Guest students who have completed a degree will be exempt from the credit hour limit. Students in this category are considered non-degree seeking and will not declare a major.

### High School and Gifted Students

Students who have not received a high school diploma and are currently enrolled as a high school sophomore, junior, or senior may obtain special student status and be admitted to the College if they meet minimum grade point and assessment requirements and obtain written authorization from the school principal. Freshmen who are gifted and the IEP documents their ability to benefit from college coursework or have been accepted for enrollment at an eligible postsecondary educational institution, may also obtain special student status and be admitted to the College if they meet minimum grade point and assessment requirements and obtain written authorization from the school principal.

### International Students

Cowley welcomes students who are citizens of other nations and are able to meet admissions and U.S. Citizenship and Immigration Services (USCIS) requirements

### POLICY 216.00 GRADUATION REQUIREMENTS

Successful completion of at least 62 credit hours, documentation of high school graduation or GED, fulfillment of the General Education requirements, a minimum 2.0 grade point average at Cowley College and a cumulative 2.0 grade point average including transfer course work is required for all associate degrees and certificates. Official transcripts of high school graduation or GED and any other prior college work at other institutions must be on file in the Registrar's Office prior to issuance of a diploma.

Complete a Degree Application and submit it to the Registrar's Office. The deadline for submitting a Degree Application is:

- July 1 for summer graduation
- October 1 for fall graduation
- March 1 for spring graduation

Students who fail to file the Degree Application by the deadline may appeal to graduate the following semester and request a waiver of current enrollment status.

Students will be awarded a diploma or certificate upon successful completion of the degree or certificate. The diploma or certificate will be issued at the end of each semester. Commencement will be held once a year in May. Those students who need to take nine (9) or less hours in the summer term may participate in the graduation program in May of that academic year.

The associate degree requires 15 credit hours earned in residence at Cowley College. CLEP, advanced standing, or other non-graded hours awarded by Cowley College will not count toward satisfying residence hours. Developmental courses cannot be used to fulfill degree requirements.

Students who do not maintain continuous enrollment for the AA, AS or AGS degree will be required to follow the graduation requirements that are in effect at the time of re-enrollment. When a student enrolled in an AAS or Certificate program returns after three (3) or more years, the student will be required to follow the graduation requirements that are in effect at the time of re-enrollment.

If the vocational student has worked in the trade they can apply for Life Experience credit (up to 20 hours) or complete a competency examination (up to 20 hours) for vocational classes and pay the appropriate tuition and fees.

Students who have not worked in the trade but have background knowledge may request a competency examination and pay the appropriate tuition and fees for the credit hours awarded.

Testing fees must be paid in full prior to taking the test(s).

### **Demand for the Program**

- *Using the Kansas Department of Labor's Long Term Occupational Outlook, (<https://klic.dol.ks.gov>) identify employment trends and projections: occupational growth, occupational replacement rates, estimated annual median wages, and typical education level needed for entry.*

### **Employment Trends, Projections, and Growth**

Projected Annual Openings (<https://klic.dol.ks.gov>)

<b>Occupation</b>	<b>Total Annual Openings</b>	<b>Average Due to Growth</b>	<b>Due to Replacement</b>
Installation, Maintenance, and Repair	1,795	435	1,360

### **Median Wage ([onetonline.org](http://onetonline.org))**

<b>Location</b>	<b>Pay Period</b>	<b>2019</b>		
		<b>Low</b>	<b>Median</b>	<b>High</b>
United States	Hourly	\$18.22	\$30.81	\$48.59
	Yearly	\$37,890	\$64,090	\$101,070
Kansas	Hourly	\$20.20	\$28.96	\$36.90
	Yearly	\$42,020	\$60,230	\$76,760
St. Joseph, MO-KS Metro Area	Hourly	\$11.25	\$30.93	\$35.95
	Yearly	\$23,410	\$64,340	\$74,780
Kansas City, MO-KS Metro Area	Hourly	\$16.37	\$30.22	\$38.56
	Yearly	\$34,050	\$62,870	\$80,200
Wichita, KS Metro Area	Hourly	\$20.78	\$29.47	\$37.20
	Yearly	\$43,230	\$61,290	\$77,380
Topeka, KS Metro Area	Hourly	\$8.97	\$27.93	\$31.35
	Yearly	\$18,660	\$58,090	\$65,200
Kansas Balance of State	Hourly	\$17.05	\$25.94	\$34.91

Location	Pay Period	2019		
		Low	Median	High
	Yearly	\$35,470	\$53,960	\$72,600

### Entry Level Education

Aviation mechanics and service technicians typically enter the occupation after attending a Part 147 FAA-approved aviation maintenance technician school.

These schools award a certificate of completion that the FAA recognizes as an alternative to the experience requirements stated in regulations. The schools also grant holders the right to take the relevant FAA exams. Applicants must pass written, oral, and practical exams that demonstrate the required skills within a timeframe of 2 years. Applicants must be at least 18 years of age to eligible to take the FAA exams at the conclusion of their program of study.

- *Show demand from the local community. Provide letters of support from at least three potential employers, which state the specific type of support they will provide to the proposed program.*

The following Letters of Support are attached:

- General Electric Aviation - Strother Field Arkansas City, KS
  - Provide oversight/maintenance of the Aviation Training Center
  - Serve on Advisory Board
  - Assist Cowley in recruiting subject matter experts to serve as instructors
  - Assist Cowley with partnerships and grant applications
- General Aviation – Winfield, KS
  - Serve on Advisory Board
  - Assist Cowley in recruiting subject matter experts to serve as instructors
  - Assist Cowley with partnerships and grant applications
- Air Plains
  - Serve on Advisory Board
  - Provide student interviews, internships
  - Assist Cowley in recruiting subject matter experts to serve as instructors
  - Donate equipment, tools, materials when feasible
- Elected Members of Kansas Legislation
  - Support of program signed by
    - Senator Larry Alley
    - Senator Bruce Givens
    - Representative Jesse Burris
    - Representative Cheryl Helmer
    - Representative Kyle Hoffman
    - Representative Bill Rhiley
- Describe/explain any business/industry partnerships specific to the proposed program.  
*If a formal partnership agreement exists, agreement explaining the relationship between partners and to document support to be provided for the proposed program must be submitted to the Board office independently of the CAI materials for review purposes. The agreement will not be published or posted during the comment period.*

Cowley College and GE Aviation – Strother Field are working together to jointly develop, administer, and offer an FAA certified Aviation Mechanics- Powerplant program. Once Cowley College has gained approval of the program curriculum, a formal partnership agreement will be

drafted between the two parties. Based on the GE Letter of Support (Attachment F), the structure of this partnership and the responsibilities of each entity is as follows:

- Cowley College & GE Aviation – Strother
  - Curriculum Development: The General and Powerplant curriculum outlines are provided by the FAA. Cowley College and the GE Curriculum Committee (now members of the Program Advisory Board) focused on the development of course procedures outlined in this packet. The Program Advisory Board will continue to review FAA Advisory Updates and revise courses as needed.
  - Aviation Maintenance Technician School (AMTS) FAA certification administration
- Cowley College
  - Program Administration
  - Student recruitment, advising
- GE Aviation –Strother Field
  - On-site training facility development, management, and maintenance
  - Program equipment and tools management and maintenance

### Duplication of Existing Programs

- *Identify similar programs in the state based on CIP code, title, and/or content. For each similar program provide the most recent K-TIP data: name of institution, program title, number of declared majors, number of program graduates, number of graduates exiting the system and employed, and annual median wage for graduates existing the system and employed.*

Currently, one institution (Wichita State University Campus of Applied Sciences and Technology) offers a similar program. According to AY18 K-TIP data, the program had 95 concentrators, 61 graduates exited, 36 graduated exited, and 31 graduates exiting and employed with an average wage of \$48,619 per year.

Institution	Program Title	CIP	# declared majors	# program graduates	# graduates exit/ employed	Annual median wage for graduates exit/employed
WSUTech	Aircraft Powerplant Technology/ Technician	47.0608	95	61	31	\$48,619

- *Was collaboration with similar programs pursued:*  
Upon Cowley College receipt of FAA certification for its Part 147 Powerplant program, Cowley College and WSU Tech will work towards completing an articulation agreement that would provide opportunities for students to continue in WSU Tech’s Airframe Technical Certificate and Aviation Maintenance Technology Associate of Applied Science degree programs.

Additionally, Cowley College and Wichita State University signed an articulation agreement to coordinate the pre-engineering curriculum, leading to a Bachelor’s Degree in Aerospace



Engineering (Attachment A). Cowley College will be approaching WSU to investigate the broadening of this agreement to include courses in the Aviation Mechanic - Powerplant program.

### **Program Information**

- *List by prefix, number, title, and description all courses (including prerequisites) to be required or elective in the proposed program.*

#### **AMG 3350 – Math & Physics for Aviation (3 hrs. LEC/LAB)**

In this course, student learn to recognize and apply correct formulas and determine correct application of mathematic formulas. Students will also apply to basic physics formulas as they relate to aviation science, aerodynamics, structures, and flight science.

**Prerequisites:** None

#### **AMG 3351 – Aircraft Drawings (3 hrs. LEC/LAB)**

This course introduces the student to basic aircraft drawings, schematics, and diagrams. Students will learn aircraft drawings to the proficiency required to perform normal aircraft inspection and typical repairs and alterations. For example, interpretation of drawings needed to perform an actual or simulated accomplishment of an airworthiness directive. The course includes aircraft materials, including standard aircraft hardware, lines, fittings, fabrication, installation, and removal.

**Co-requisites:** AMG 3350 – Math & Physics for Aviation

#### **AMG 3352 – Basic Electricity for Aviation (3 hrs. LEC/LAB)**

This course introduces the student to the basic concepts of electricity. Methods of generating alternating and direct current are studied. Students will learn the proper methods of measuring voltage, current, resistance and continuity; calculating capacitance and inductance; and reading and interpreting electrical circuit diagrams, drawings, system schematics (including solid state devices and logic circuits) and associated symbols. Students will also learn how to inspect and service batteries.

**Co-requisites:** AMG 3350 – Math & Physics for Aviation

#### **AMG 3353 – Basic Science for Aviation (4 hrs. LEC/LAB)**

This course introduces the student to basic ground operations and servicing. Students will learn to properly weight and balance an aircraft; recognize aircraft corrosion, properly classify and prevent future deterioration. The students also learn operating and safety procedures for starting, operating or servicing aircraft or aircraft engines.

**Co-requisites:** AMG 3350 – Math & Physics for Aviation

#### **AMG 3354 – Federal Aviation Regulations (3 hrs. LEC/LAB)**

This course introduces the student to aircraft standards as it relates to industry regulations. Areas of study will include the Federal Aviation Regulations, maintenance records, forms, aircraft logs, documentation practices, manufactures maintenance publications including manuals, catalogs, and service bulletins, and Federal Aviation Administration publications including airworthiness directives and advisory circulars.

**Co-requisites:** AMG 3350 – Math & Physics for Aviation

#### **AMG 3355 – Materials & Processes for Aviation (3 hrs. LEC/LAB)**

This course introduces the student to basic aviation materials and processes used to perform precision measurements, identify and select aircraft hardware and materials, recognize basic heat-treating processes, and determine the proper non-destructive inspection methods and perform those inspections.

**Co-requisites:** AMG 3350 – Math & Physics for Aviation

**AMP 3360 – Engine Electrical Systems & Fire Protection (3 hrs. LEC/LAB)**

This course introduces the student to inspect, test and replace starters, generators, and land voltage regulators. Students will also test and inspect the operation of an engine fire detection system.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3361 – Engine Inspection & Instrument Systems (3 hrs. LEC/LAB)**

In this course, students will learn to perform powerplant conformity and airworthiness inspections, inspect an engine and accessories and determine whether all airworthiness directives are in compliance with FAA and manufacturer's specifications. Students will also inspect, repair, and replace engine instruments and their associated plumbing or wiring.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3362 – Fuel Systems & Metering I (3hrs. LEC/LAB)**

This course introduces the student to the operating principles of reciprocating and turbine engine fuel systems, fuel metering systems, and their components. Students will learn to inspect, troubleshoot, and service fuel metering systems, powerplant fuel system components, and assemblies. This course is the first in a two-course series.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3363 – Fuel Systems & Metering II (3hrs. LEC/LAB)**

This course introduces the student to the operating principles of reciprocating and turbine engine fuel systems, fuel metering systems, and their components. Students will learn to inspect, troubleshoot, and service fuel metering systems and engine fuel systems, this course is the second in a two-course series.

**Prerequisites:** AMP 3362 – Fuel Systems & Metering I with a 70% or better.

**AMP 3364 – Ignition & Starting Systems (3 hrs. LEC/LAB)**

This course introduces the student to learn to inspect, test, repair, remove and replace, ignition and starting systems, including magnetos, harnesses, and pneumatic starting systems.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3365 – Induction, Cooling & Exhaust Systems I (3 hrs. LEC/LAB)**

This course introduces the student to the operating principles of engine induction, cooling systems, and their components. Students will learn to inspect, troubleshoot, and service ice and

rain systems, airflow and temperature control systems, air intake and carburetor manifolds, and engine cooling systems. This course is the first in a two-course series.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3366 – Induction, Cooling & Exhaust Systems II (3 hrs. LEC/LAB)**

This course introduces the student to the operating principles of engine cooling systems, engine exhaust, and thrust reverser systems, and their components. Students will learn to inspect, troubleshoot, and service engine cooling systems, engine exhaust and thruster reverser systems. This course is the second in a two-course series.

**Prerequisites:** AMP 3365 – Induction, Cooling & Exhaust Systems I with a 70% or better.

**AMP 3367 – Lubrication Systems (3 hrs. LEC/LAB)**

This course is designed to provide the student with information related to the study of aircraft lubrication systems. Topics for lubrication include safety practices, classification and properties of powerplant lubricants, and lubrication systems and components. The student will learn to inspect, test, repair, overhaul, remove and replace powerplant lubrication system components and assemblies.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3368 – Propellers & Fans I (3 hrs. LEC/LAB)**

This course introduces the student to propellers, controls, and governors. Emphasis is placed on the working theory of propellers and propeller governors. Other topics include propeller types, pitch change mechanisms, operational controls, propeller synchronizing and ice control systems, balancing propellers, and safe practices. Principles of repair and overhaul are discussed with a focus on outlining which duties are permitted by the technician in the field compared to what must be performed by a certified propeller overhaul facility. Students also learn to inspect and troubleshoot unducted fan systems. This course is the first in a two-course series.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**AMP 3369 – Propellers & Fans II (3 hrs.)**

This course introduces the student to propellers, controls, and governors. Emphasis is placed on the working theory of propellers and propeller governors. Other topics include propeller types, pitch change mechanisms, operational controls, propeller synchronizing and ice control systems, balancing propellers, and safe practices. Principles of repair and overhaul are discussed with a focus on outlining which duties are permitted by the technician in the field compared to what must be performed by a certified propeller overhaul facility. Students also learn to inspect and troubleshoot unducted fan systems. This course is the second in a two-course series.

**Prerequisites:** AMP 3368 – Propellers & Fans I with a 70% or better.

**AMP 3370 – Reciprocating Engines (3 hrs. LEC/LAB)**

This course introduces the student to inspect and repair radial engines as well as overhaul, inspect, service, repair, install troubleshoot and remove reciprocating engines.

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

### **AMP 3371 – Turbine Engines & Auxiliary Power (3 hrs. LEC/LAB)**

This course introduces the student to the fundamentals of removal and replacement of turbine engines as well as inspection of mounting systems. Procedures used on various types of aircraft and aircraft engines will be discussed as well as safety practices. The course covers safety practices and maintenance practices for proper inspection, troubleshooting, and repair techniques. This course includes information regarding operational theory, inspection, service, and repair of auxiliary power units.

#### **Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

- *If the proposed program includes multiple curricula (e.g., pathways, tracks, concentrations, emphases, options, specializations, etc.), identify courses unique to each alternative.*

This program does not have multiple curricula.

- *Provide a Program of Study/Degree Plan for the proposed program including a semester-by-semester outline that delineates required and elective courses and notes each program exit point.*

Aviation Mechanic – Powerplant						
COURSE NUMBER	COURSE NAME	SEMESTER				
		1	2	3	4	5
TECHNICAL REQUIREMENTS						
FAA General Curriculum						
AMG 3350	Math & Physics for Aviation	3				
AMG 3351	Aircraft Drawings	3				
AMG 3352	Basic Electricity for Aviation	3				
AMG 3353	Basic Science for Aviation	4				
AMG 3354	Federal Aviation Regulations		3			
AMG 3355	Materials & Processes for Aviation		3			
		13	6	0	0	0
CERT A	HOURS 19	13	6	0	0	0
FAA Powerplant Curriculum						
AMP 3361	Engine Inspection & Instrument Systems		3			
AMP 3370	Reciprocating Engines		3			
AMP 3371	Turbine Engines & Auxiliary Power		3			
AMP 3360	Engine Electrical Systems & Fire Protection			3		
AMP 3362	Fuel Systems & Metering I			3		
AMP 3363	Fuel Systems & Metering II			3		
AMP 3364	Ignition & Starting Systems			3		
AMP 3367	Lubrication Systems			3		
AMP 3365	Induction, Cooling & Exhaust Systems I				3	
AMP 3366	Induction, Cooling & Exhaust Systems II				3	

AMP 3368	Propellers & Fans I				3	
AMP 3369	Propellers & Fans II				3	
	<b>CERT A <i>plus</i></b>	0	9	15	12	0
<b>CERT C</b>	<b>HOURS 55</b>	<b>13</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>0</b>
<b>Associate of Applied Science</b>						
<b>English/Communications Option:</b>						3
ENG2211	Composition I 3 hours <b>or</b>					
COM2725	Interpersonal Communications 3 hours					
<b>Humanities Option:</b>						3
PHO6460	Ethics 3 hours (or Humanities Elective)					
<b>Leadership Option:</b>						3
LED1448	Introduction to Leadership 3 hours (or Leadership Elective)					
	<b>CERT C <i>plus</i></b>	0	0	0	0	9
<b>AAS</b>	<b>HOURS 64</b>	<b>13</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>9</b>

- List any pertinent program accreditation available:
  1. Provide a rationale for seeking or not seek said accreditation
  2. If seeking accreditation, also describe the plan to achieve it

With the assistance of our partner, GE Aviation - Strother Field, Cowley College is seeking the Aviation Maintenance Technician School (AMTS) FAA certification. This designation allows Cowley College to provide the FAA approved training that provides students with the education and training needed to sit for the FAA Aviation Mechanic – Powerplant certification exam. The process is outlined below. With program approval, Cowley and GE will begin in Phase 2 of the FAA accreditation process.

- **Phase 1 – Pre-application –**
  - In this phase applicants conduct an initial inquiry by first educating themselves on part 147 requirements, and then contacting their local FAA office and advising of their intent to pursue part 147 AMTS certification.
- **Phase 2 – Formal Application**
  - In this phase the applicant meets with the FAA for a formal application meeting and submits all required documents for the application.
- **Phase 3 – Document Compliance**
  - In this phase the FAA reviews the submitted certification documents to ensure compliance with part 147 requirements.
- **Phase 4 – Demonstration and Inspection**
  - In this phase the FAA will arrange with the applicant to inspect the facility.
- **Phase 5 – Certification**
  - When all the regulatory requirements have been met, the school will be issued an AMTS Air Agency certificate and appropriate Operations Specifications.

## Faculty

- Describe faculty qualifications and/or certifications required to teach in the proposed program.

## FAA Requirements -

In keeping with the FAA Part 147 - Aviation Maintenance Technician Schools: AC No: 147-3B: Instructors must be FAA-certificated with an FAA mechanic certificate having ratings appropriate to those subjects taught in A&P subject areas as identified in Appendix C and D.

The AMTS may provide specialized instructors that are not certificated mechanics to teach general subject areas such as mathematics, physics, basic electricity, basic hydraulics, drawing, and similar subjects.

### **Cowley Requirements -**

#### **Full-time Faculty**

Required: Master degree in a related area to the general subject area being taught (mathematics, physics, machine technology/mechatronics, blueprint/CAD, and similar subjects.)

#### **Adjunct Faculty – Transfer Courses**

Required: Master degree in a related area to the general subject area being taught (mathematics, physics, and similar subjects).

#### **Full-time and Adjunct Faculty – CTE Courses**

AAS degree or higher in a related area to the general subject area being taught (machine technology/mechatronics, blueprint/CAD, and similar subjects) + 5yrs Aviation Maintenance teaching experience, *OR* + 8yrs Aviation Maintenance industry experience

### **Cost and Funding for Proposed Program**

- *Provide a detailed budget narrative that describes all costs associated with the proposed program (physical facilities, equipment, faculty, instructional materials, accreditation, etc.).*  
The Cowley College/GE partnership is focused on the development of the collaborative, industry-driven Aviation Tech Training Center, designed to offer the FAA Aviation Technician – Powerplant curriculum using both classroom training and hands-on experience within the aviation industry setting. The training center will be co-located at the GE Aviation facility. This unique arrangement permits Cowley College to offer “in the field” aviation-related workforce training alongside the largest aviation employer in Cowley County.

The Aviation Tech Training Center will accommodate career training and employment opportunities for eligible high-school students and adults seeking the technical training or a degree while also providing a location for incumbent employee training. Our area aviation/aerospace partners will benefit from a local pipeline of skilled employee as well as the industry-driven location for incumbent employee training.

Upon KBOR approval of the program curriculum, a formal partnership agreement will be drafted between the two parties outlining the GE Aviation pledge to; (a) provide an onsite physical structure to house the Aviation Tech Training Center, (b) assume financial responsible for utilities, taxes, and maintenance of the building to the extent agreed upon in the two-party partnership agreement with Cowley College, and (c) donate the required classroom/laboratory tools and equipment needed to provide students with relevant, state-of-the-art, hands-on training.

The formal partnership agreement will also outline Cowley College’s pledge to provide a fulltime employee for training design/development and provide program coordination, and student advisement, and qualified part-time instructors for training instruction.

- *Provide detail on CA-1a form.*  
Please refer to Attachment H

The estimated first year implementation costs of \$940,400.00 include: (a) first year salaries for one full-time and two adjunct employees, (b) remodeling physical structure, (c) laboratory equipment, and tools, (d) instructional supplies, technology, and software.

The estimated second- and third-years costs of \$150,000.000 include: (a) salaries for one full-time and two adjunct employees, (b) maintenance/utilities of physical structure, (c) laboratory equipment, and tools, (d) instructional supplies, technology, and software.

- *Describe any grants or outside funding sources that will be used for the initial startup of the new program and to sustain the proposed program.*  
Cowley College will collaborate with our industry partners, Kansas Department of Labor, and the Workforce Alliance SCK to apply for additional funding through available and grants and other initiatives as appropriate to our needs and program goals.

### **Program Review and Assessment**

- *Describe the institution's program review cycle.*  
The Cowley College Academic Program Review evaluation cycle assures each academic program is evaluated at least once every three - five years. In this model, every academic program and discipline will be intensively evaluated within a five-year cycle. In addition, academic programs and disciplines are expected to engage in an annual Progress Review in order to assess their progress towards task completion written in their "Plan of Action and Continuous Program Improvement" and to document progress made toward Program Learning Outcomes (PLO).

The cycle will remain flexible to adjust to the dynamic nature of existing programs/disciplines and emerging specialties that may lead to program/discipline modifications and/or development of new programs/disciplines. Efforts are made to accommodate program/discipline accreditation schedules, minimizing duplication of effort and to accommodate unexpected changes in program/discipline resource needs, curriculum modifications, and student demographics that require immediate and comprehensive responses.

Data collected and analyzed in the program review includes: faculty credentials, stakeholder feedback (advisory and employer), program enrollment data by headcount, FTE, demographics, program completers, employment or transfer rates, program learning outcomes assessment, budget and facilities data, and other information needed for external reports. Program review also includes program needs and improvement targets for the next review cycle. In addition, with anticipation of approval for Perkins eligibility, we will implement Perkins program follow-up reporting procedures.

### **Program Approval at the Institution Level**

- *Provide copies of the minutes at which the new program was approved from the following groups:*
  - Program Advisory Committee - Attachment B
  - Curriculum Committee- Attachment C
  - Governing Board- Attachment D

*(including a list of all Board members and indicate those in attendance at the approval meeting)*

**List of Attachments:**

- K. Cowley -WSU Articulation Agreement
- L. Aviation Mechanic – Powerplant Program Advisory Committee minutes
- M. Cowley College Academic Affairs Minutes
- N. Cowley College Administrative Council minutes
- O. Cowley College Board of Trustees minutes
- P. Support Letters (4)
- Q. Course procedures
- R. CA1a Fiscal Summary
- S. CA1b Excel in CTE Summary
- T. CA1c Perkins Eligibility Request

Submit the completed application and supporting documents to the following:

Director of Workforce Development  
Kansas Board of Regents  
1000 SW Jackson St., Suite 520  
Topeka, Kansas 66612-1368



## Attachment A - Cowley College-WSU MOU



### **WICHITA STATE UNIVERSITY AND COWLEY COLLEGE PATHWAY AGREEMENT Pre-Engineering / Bachelor's Degree in Aerospace Engineering June 10, 2020**

The purpose of the Agreement is to provide Cowley College's students a four-year coordinated program through the pre-engineering curriculum from Cowley College (CC) followed by a Bachelor of Science degree in Aerospace Engineering from Wichita State University (WSU). This agreement will provide guidance for both parties in advising students.

This agreement is for Cowley College students who have:

- Completed the attached degree plan in Pre-Engineering.
- Achieved a minimum cumulative GPA of 2.0.
- Applied for admission to WSU.

Cowley College students meeting the above requirements will:

- Be guaranteed admission to WSU with completion of application requirements and receipt of transcripts.
- Enter with second semester sophomore status toward a baccalaureate degree.
- Be guaranteed to transfer 48 credit hours from Cowley College which count towards the Bachelor of Science degree in Aerospace Engineering from WSU.

This partnership reflects the following objectives, institutional expectations, and operational principles:

- Expanded student program opportunities, course articulation understandings, and transfer coordination considered mutually beneficial in this coordinated partnership.
- Graduates will possess the technical skills and conceptual background, creative mindset and applied experiences to address the workforce needs for achieving the desired economic development in the State of Kansas.
- All students must complete all major, institutional, and required degree requirements appropriate to the program curricula at the degree granting institution in order to graduate.
- Both Cowley College and Wichita State University College of Engineering program faculty and administrators will promote the program with qualified prospective students and share assessment of learning outcomes toward the goal of program improvement.
- Students can inquire about academic and participation scholarships, financial aid, and grants by contacting the WSU Financial Aid office (316) 978-3430 and the College of Engineering, Engineering Student Success Center at (316) 978-3420.
- Students transferring to WSU from Cowley College who have not completed this pathway agreement must meet the necessary requirements for admission to WSU, and will have their transcript evaluated on an individual basis.

In order to ensure a successful transition and completion of the bachelors' degree from WSU in this pathway agreement, students should refer to the required degree plan or stipulations of this agreement. Transfer students must complete at least 60 credit hours of four-year college work including 45 credit hours of upper-division work in order to qualify for graduation from Wichita State University. Courses used as prerequisites may have higher grade requirements as described in the WSU undergraduate catalog.

**Reverse Transfer**

Students, who transfer to Wichita State University from Cowley College before attainment of the Associate of Science degree, are eligible to reverse transfer courses that have WSU/CC equivalency back to Cowley. This allows for the attainment of the Associate of Science degree provided that at least 45 credit hours are earned at Cowley and all other degree requirements are met.

**Modification of Agreement**

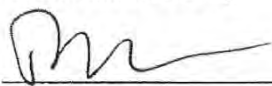
This agreement shall only be modified in writing with the same formality as the original agreement.

**Terms of Agreement**

The agreement will begin with the 2020-2021 academic year.

**Termination of Agreement**

Either party may terminate this agreement for any reason with a written notice from either party. This agreement is a collaboration between Wichita State University and Cowley College. Any changes, corrections, or additions to this agreement shall be in writing and signed by all necessary parties between both academic institutions.

**Wichita State University**

Dr. Richard Muma  
Provost and Professor  
Wichita State University



Dr. Dennis Livesay  
Dean, College of Engineering  
Wichita State University



Dr. L. Scott Miller  
Chair, Aerospace Engineering  
Wichita State University

**Cowley College**

Dr. Dennis C. Rittle  
President  
Cowley College



Dr. Michelle Schoon  
Vice President of Academic Affairs  
Cowley College



Scott Layton  
Chair, Natural Science & Mathematics Department  
Cowley College

**Aerospace Engineering Transfer Pathway (1½+2½)**  
**Cowley College (three semesters) & Wichita State University (five semesters)**  
**Courses taken at Cowley College**

<b>Freshman – 1st Semester 16 Credit Hours</b>			
<b>Wichita State University Equivalent</b>	<b>Hours</b>	<b>Cowley College</b>	<b>Hours</b>
ENGL 101 College English I	3-G	ENG 2211 Composition I	3
General Education (Fine Arts)	3-G	Approved General Education (Fine Arts) as found on the WSU Transfer Guide	3
Math 242 Calculus I	5-M	MTH 4435 Calculus I	5
CHEM 211 General Chemistry I	5-M	CHM 4220 Chemistry I	5
<b>Freshman – 2nd Semester 16 Credit Hours</b>			
ENGL 102 College English II	3-G	ENG 2212 Composition II	3
General Education (Fine Arts or Humanities or Social & Behavioral Science)	3-G	Approved General Education (Fine Arts or Humanities or Social & Behavioral Science) as found on the WSU Transfer Guide	3
Math 243 Calculus II	5-M	MTH 4440 Calculus II	5
PHYS 313 Physics of Scientists I (4) PHYS 315 University Physics Lab (1)	5-M	PHS 4560 Engineering Physics I	5
<b>Sophomore – 1st Semester 17 Credit Hours</b>			
COMM 111 Public Speaking	3-G	COM 2711 Public Speaking	3
ECON 201 Principles of Macroeconomics	3-G	ECO 6113 Principles of Macroeconomics	3
Math 344 Calculus III	3-M	MTH 4455 Calculus III	3
PHYS 314 Physics of Scientists II (4) PHYS 316 University Physics Lab II (1)*	4-M	PHS 4561 Engineering Physics II	5
AE 223 Statics	3-C	PHS 4570 Statics	3
<b>Total:</b>	<b>48</b>		<b>49</b>

G: General Education; M: Math/Science; C: Engineering Core

\* although credit transfers to WSU, it does not apply towards the B.S. degree in Aerospace Engineering

A total of 49 credit hours\*\* are taken at Cowley College

48 credit hours will apply towards the WSU B.S. degree in Aerospace Engineering

\*\* completing the associate's degree will require additional coursework not listed above  
and/or reverse transfer of coursework taken at WSU back to Cowley College



**Aerospace Engineering Transfer Pathway (1½+2½) [continued]**  
**Cowley College (three semesters) & Wichita State University (five semesters)**  
**Courses taken at Wichita State University to complete B.S. in Aerospace Engineering degree**

<b>Sophomore – 2nd Semester 15 Credit Hours</b>	
<b>Wichita State University Course</b>	<b>Hours</b>
Math 555 Differential Equations I	3
AE 227 Engineering Digital Computation	3
AE 324 Fundamentals of Atmospheric Flight	3
AE 333 Mechanics of Materials	3
AE 373 Dynamics	3
<b>Junior – 1st Semester 18 Credit Hours</b>	
IME 222 Engineering Graphics (2) and IME 222L Graphics Lab (1)	3
ME 250 Materials Engineering	3
ME 398 Thermodynamics I	3
AE 415 Introduction to Space Dynamics	3
AE 424 Aerodynamics I	3
AE 525 Flight Structures I	3
<b>Junior – 2nd Semester 15 Credit Hours</b>	
AE 502 Aerospace Propulsion I	3
AE 512 Experimental Methods in Aerospace	3
AE 514 Flight Dynamics and Control	3
AE 524 Aerodynamics II	3
AE 625 Flight Structures II	3
<b>Senior – 1st Semester 16 Credit Hours</b>	
PHIL 385 Engineering Ethics	3
AE 528 Aerospace Design I	4
AE 607 Flight Control Systems	3
Aerospace Engineering Technical Electives (2)	6
<b>Senior – 2nd Semester 17 Credit Hours</b>	
EE 282 Circuits I	4
AE approved Math/Natural Science elective	3
AE 628 Aerospace Design II	4
Aerospace Engineering Technical Electives (2)	6
<b>Total</b>	<b>81</b>

Attachment B – Program Advisory Committee

**Cowley College**  
**Aviation Mechanic - Powerplant**  
**Advisory Committee Meeting Minutes**

**Date:** 29APR20

**Time:** 2:00 pm

**Location:** ZOOM

**Attendance:**

NAME	TITLE	COMPANY	✓
Dr. Tina Grillot	Assoc. VP – Workforce & Com. Education	Cowley College	✓
Michelle Sisson		GE Aviation	✓
Chris Swan	Engineering Director	GE Aviation	✓
Chris Waldorf	Senior Manufacturing Engineer	GE Aviation	✓
Kevin Loney		GE Aviation	✓
Clayton Lindsey	Process Engineer	GE Aviation	✓
Jacob Aguinaga	Hourly	GE Aviation	
Elias Coury	Hourly	GE Aviation	

**Welcome/Call to Order:**

**Approval of Previous Meeting Minutes:** None

**Advisory Committee Responsibilities:**

- Reviewed of the Advisory Committee Member Contact List
  - Members will forward to Dr. Grillot
- Reviewed of the Advisory Committee Goals and Activities

**Program Review:**

- Industry Needs & Job Placement
  - on hold due to COVID-19
  - develop a talent pipeline with HS
- Program Needs (materials or equipment)
  - none at this time
- Program Certificate/Degree Outlines –
  - Reviewed. Discussed need to keep the overall credit limit to under 65 if possible.
  - Motion to approve Grids - Approved

## Curriculum Review:

Y/N	Course Title	Needed Changes
<b>General Curriculum 400 hrs. (Part 147 Appendix B)</b>		
Y	Aircraft Drawings, Fluid Lines & Fittings	
Y	Aviation Math & Physics	
C	Basic Science for Aviation	Add Human Factoring content
Y	Federal Aviation Regulations	
Y	Materials & Processes for Aviation	
<b>Powerplant Curriculum 750 hrs. (Part 147 Appendix D)</b>		
Y	Engine Electrical Systems & Fire Protection	
Y	Engine Inspection & Instrument Systems	
Y	Fuel Systems & Metering I	
Y	Fuel Systems & Metering II	
Y	Ignition & Starting Systems	
Y	Induction, Cooling & Exhaust Systems I	
Y	Induction, Cooling & Exhaust Systems II	
Y	Lubrication Systems	
Y	Propellers & Fans I	
Y	Propellers & Fans II	
Y	Reciprocating Engines	
Y	Turbine Engines & Auxiliary Power	

Motion to approve course procedure with addition of Human Factoring content. - Approved

### Next Step for Kansas Board of Regents (KBOR)

- Cowley College Academic Affairs
- Cowley College Administrative Affairs
- Cowley College Board of Trustees
- KBOR – TEA Program / Curriculum Committee (Call)
- KBOR – Full TEA meeting (Topeka)
- 

### Next Step for Federal Aviation Administration (FAA)

- Tabled until KBOR approval

**Schedule next meeting:** Once TEA 10-Day comment starts

**Adjourned**

Attachment C – Cowley Academic Affairs Committee

**Academic Affairs Meeting**

**July 27, 2020**

**9:00am ZOOM**

**REDACTED FOR KBOR- TEA CA-1**

**IN ATTENDANCE:** Michelle Schoon, Janice Stover, Buddy Curry, Dr. Tina Grillot, Dr. Scott Layton, Todd Shepherd, Devin Graves, Rhoda MacLaughlin, Julia Jarboe, Eddie Andreo, Marllys Cervantes, Jennifer Anderson, Chris Cannon, Mark Flickinger, Kim Peri.

- Winfield Correctional Facility – Dr Schoon
- Workforce Alliance– Dr Schoon
- Cares Act and Spark – Dr Schoon
- Building Safety - UV in Vents – Dr Schoon
- Faculty / Student safety – Dr Schoon
- Classroom spacing – modified hybrid, spacing – Dr Schoon
- Blackboard - Eddie Andreo
- In-Service Agenda – Dr Schoon
- AIV – Dr Schoon
- Essentials Training – Dr Schoon / Eddie Andreo
- USD CEP Update – Janice Stover

**DEPARTMENT CHAIRS**

- Staffing Department Specialist
- NS/M – Perkins funding
- Look in OneDrive and review Aircraft Maintenance document for next meeting on August 12<sup>th</sup>.
- **Subsequent Action: New Course/Program Approval**  
Dr. Tina Grillot remotely presented CA1 program application for Aviation Mechanic-Powerplant Cert A, Cert C, and AAS to Academic Affairs Committee.  
AMG and AMP course procedures and the outlined Certificate and Associate program grids were approved via electronic vote on July 31, 2020.

## Attachment D – Cowley Administrative Council

Administrative Council – Cowley College

August 3, 2020

8:15am/President's Dining Room

### **REDACTED FOR KBOR- TEA CA-1**

Attending Via Zoom: Pam Smith

Attending in Person: Dr. Rittle, Dr. Schoon, Paul Erdmann, Jason O'Toole, Debbie Phelps, Kristi Shaw, Holly Harper, Rama Peroo

Recorder: Tiffany Vollmer

ENROLLMENT MANAGEMENT - Kristi Shaw

SCHOLARSHIP UPDATE – Dr. Schoon, Jason O'Toole

COST SAVING/REVENUE GENERATING MEASURES – All AC Members

BOARD POLICY AND PROCEDURE REVIEW – All AC Members

### **AVIATION MECHANIC– POWERPLANT APPROVAL – Dr. Schoon**

- Academics is seeking approval of new Aviation Mechanic – powerplant courses/program being offered to assist local aviation industry, and brought up by area stakeholders.
- Academic affairs reviewed this proposal and approved via electronic vote.
- Aviation Mechanic -Powerplant to be offered at Strother Field through GE.
- **AC approved the proposed course grid and this will move forward to KBOR and TEA before proceeding to the FAA for approval.**

KDHE COVID-19 COLLEGE REOPENING PLANS – Dr. Rittle

WICHITA STATE NETWORKING POSSIBILITIES – Dr. Rittle

AREA REPORTS

The meeting adjourned at 10:48 am.



## Attachment E – Cowley Board of Trustees

**EXCERPT OF MINUTES  
MEETING OF THE GOVERNING BODY OF  
COWLEY COLLEGE, COWLEY COUNTY, KANSAS,  
HELD ON AUGUST 10, 2020**

The Board of Trustees of Cowley College met in open session in the Earle Wright Community Room on the main campus of the College in Arkansas City, Kansas, at 6:00 p.m. on August 10, 2020. The Chairperson presided, and the following members of the Board of Trustees were present or absent as indicated:

	<u>Present</u>	<u>Absent</u>
Dr. Harold Arnett, Trustee	X	
JoLynn Foster, Trustee	X	
Ned Graham, Trustee	X	
Brian Sanderholm, Trustee	X	
Christopher Swan, Trustee	X	
Gary Wilson, Trustee	X	
Glennis Zimmerman, Trustee	X	
Tiffany Vollmer, Clerk of the Board	X	

The Chairperson declared that a quorum was present and called the meeting to order. The minutes of the last meeting of the governing body were read and, on motion duly made, seconded and carried, were approved.

(Other Proceedings)

\*\*\*\*\*

Under Administrative Reports, Dr. Tina Grillot requested the following:

**A RESOLUTION APPROVING THE ADDITION OF THE AIRCRAFT MECHANIC – POWERPLANT PROGRAM.**

Aviation Mechanic– Powerplant						
COURSE NUMBER	COURSE NAME	SEMESTER				
		1	2	3	4	5
TECHNICAL REQUIREMENTS						
FAA General Curriculum						
AMG 3350	Math & Physics for Aviation	3				
AMG 3351	Aircraft Drawings	3				
AMG 3352	Basic Electricity for Aviation	3				
AMG 3353	Basic Science for Aviation	4				
AMG 3364	Federal Aviation Regulations		3			

AMG 3365	Materials & Processes for Aviation		3			
		13	6	0	0	
<b>CERT A</b>	<b>HOURS 19</b>	<b>13</b>	<b>6</b>	<b>0</b>	<b>0</b>	
<b>FAA Powerplant Curriculum</b>						
AMP 3361	Engine Inspection & Instrument Systems		3			
AMP 3370	Reciprocating Engines		3			
AMP 3371	Turbine Engines & Auxiliary Power		3			
AMP 3360	Engine Electrical Systems & Fire Protection			3		
AMP 3362	Fuel Systems & Metering I			3		
AMP 3363	Fuel Systems & Metering II			3		
AMP 3364	Ignition & Starting Systems			3		
AMP 3367	Lubrication Systems			3		
AMP 3365	Induction, Cooling & Exhaust Systems I				3	
AMP 3366	Induction, Cooling & Exhaust Systems II				3	
AMP 3368	Propellers & Fans I				3	
AMP 3369	Propellers & Fans II				3	
		0	9	15	12	
<b>CERT C</b>	<b>CERT A plus HOURS 55</b>	<b>13</b>	<b>15</b>	<b>15</b>	<b>12</b>	
<b>Associate of Applied Science</b>						
<b>English/Communications Option:</b>						<b>3</b>
ENG2211	Composition I 3 hours or					
COM2725	Interpersonal Communications 3 hours					
<b>Humanities Option:</b>						<b>3</b>
PHO6460	Ethics 3 hours (or Humanities Elective)					
<b>Leadership Option:</b>						<b>3</b>
LED1448	Introduction to Leadership 3 hours (or Leadership Elective)					
		0	0	0	0	9
<b>AAS</b>	<b>CERT C plus HOURS 64</b>	<b>13</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>9</b>

Thereupon, Trustee Zimmerman moved that said Resolution be passed. The motion was seconded by Trustee Swan. Said Resolution was duly read and considered, and upon being put, the motion for the adoption of said Resolution was carried by the vote of the governing body, the vote being as follows:

Aye: 7

Nay: 0

Thereupon, the Chairperson declared the Resolution duly adopted and was signed by the Chairperson and attested by the Clerk of the Board of Trustees.

\* \* \* \* \*

(Other Proceedings)

There being no further business to come before the meeting, on motion duly made and seconded, the meeting was adjourned.

ADOPTED by the governing body and approved by the Chairperson of Cowley College, this 13<sup>th</sup> day of August, 2020.



*Harold W. Amett*

Chairperson

ATTEST:

*Tiffany Valle*

Clerk of the Board of Trustees

## ATTACHMENT F – Support Letters (3)



## GE Aviation

Jason T. Kosmas  
Plant Leader  
GE Aviation - Strother

P.O. Box 797  
Arkansas City, KS 67005  
USA

M 620-218-6868  
Jason.kosmas@ge.com

June 24, 2020

Dr. Tina Grillot  
Associate Vice President for Workforce & Community Education  
Cowley College  
125 S. Second Street  
Arkansas City, KS 67005

Dear Dr., Grillot,

On behalf of GE Aviation, I am writing this letter of support for the implementation of the Aviation Technician program- Powerplant program. This program will benefit GE Aviation with developing the local talent pool and can add a depth of knowledge and opportunities for on-the-job training needed for the participants to be successful.

One of our joint long-term goals is to create a career pathway for area high school and college students. To that end, GE AVIATION agrees to:

- Serve on the advisory committee for the aviation training center project
- Serve on the advisory committee for the aviation technician curriculum
- Provide professionals to assist the program as training facilitators when feasible
- Offer internships and tours to participants when feasible
- Provide guaranteed interviews for all participants during times of hiring at GE Aviation
- Donate the use of the physical structure for the training center
- Donate the insurance, security, utility, and tax payments for the training center
- Donate required equipment for hands on training

We value our partnership with Cowley College and look forward to engaging and developing local aviation program talent.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jay Kosmas'.

Jay Kosmas  
GE Strother- Service General Manager



3015 N. Summit St. • Arkansas City, Kansas 67005 • Tel: 620-307-6322 • Fax: 888-887-2629

June 22, 2020

Dr. Tina Grillot  
Associate Vice President – Workforce & Community Education  
Cowley College  
125 S. 2<sup>nd</sup> Street  
Arkansas City, KS 67005

Dear Dr. Grillot

I am writing this letter to express the support of Jet AirWerks, LLC for the creation and growth of the Aviation Technician – Powerplant program and training facility, and our support of the objectives of the Jobs for Innovative Industry Skills Training grant.

Jet AirWerks, LLC is a growing jet engine component repair shop that overhauls jet engine parts for customers all over the world. We're an FAA, EASA and CAAC certified repair station and typically process over 50,000 parts per year.

Jet AirWerks, LLC is excited about the development of the Powerplant program and will strive to the program and future students as follows:

- Offer a financial scholarship to qualified students
- Offer internships to students when feasible
- Provide interviews to students when openings are available
- Serve on the advisory committee for the Aviation Technician program
- Provide professionals to assist in the program as training facilitators when feasible
- Donate equipment, tools, materials when feasible
- Offer in-plant tours and job shadowing opportunities when feasible

It is our estimate that our pledge and contributions are valued in excess of \$2,000 annually. We value our partnership with Cowley College and look forward to our future endeavors.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith Humphrey".

Keith Humphrey  
President and CEO



1-800-752-8481

[www.AirPlains.com](http://www.AirPlains.com)

**Air Plains Services, Corp.**

439 N. West Rd.  
Wellington, KS 67152

[sales@airplains.com](mailto:sales@airplains.com)

June 3, 2020

Dr. Tina Grillot

Associate Vice President – Workforce & Community Education  
Cowley College | 125 S. 2<sup>nd</sup> Street | Arkansas City, KS 67005

Dear Dr. Grillot,

I am writing this letter to express the support of Air Plains Services for the creation and growth of the Aviation Technician – Powerplant program and training facility, and our support of the objectives of the Jobs for Innovative Industry Skills Training grant.

Air Plains Services specializes aircraft maintenance and small aircraft engine upgrades. To have a program such as this would be very valuable. Air Plains would benefit from candidates with the skill set earned in a Powerplant program such as this. Students will benefit from the development of a local qualified talent pathway.

Air Plains Services is eager about the development of the Powerplant program and will strive to assist the program with future students as follows:

- Donate equipment, tools, materials when feasible
- Internship opportunity to students with potential pathway to career
- Provide interviews to students when openings are available
- Serve on the advisory committee for the Aviation Technician program
- Provide professionals to assist in the program as training facilitators when feasible
- Offer in-plant tours and job shadowing opportunities when feasible

It is our estimate that our pledge and contributions can be valued in excess of \$20,000 annually. We value our partnership with Cowley College and look forward to our future endeavors together.

Sincerely,

Katie Church, Air Plains Services





Dear Members of the Kansas Postsecondary Technical Education Authority,

As elected members of the Kansas legislature representing the Cowley College service area, it is our honor to send this letter of support for Cowley's FAA-certified Aircraft Mechanics-Powerplant program. This is a program that will enable Cowley College to address the needs of our local workforce providers directly.

We believe it is a critical function of our local community colleges to meet the workforce training needs of their respective service areas, and Cowley College is doing precisely that with the integration of this program. For graduates who desire to continue their education, it is our hope they will take advantage of the bachelor's degree opportunity in this field offered by Wichita State University through a matriculation agreement Cowley has with WSU.

The Mechanics-Powerplant program will enable the joint development of the curriculum and the FAA certification process. It provides the public-private partnerships that legislators and members of the TEA have long advocated for in the workforce training sector. In this instance, Cowley College will provide program administration, faculty hiring (including current and former GE employees), and student recruitment and advising, while GE Aviation at Strother Field will provide a fully outfitted on-site training facility to include classrooms and a state-of-the-art laboratory. In addition, an advisory board has been developed that includes GE subject matter experts and will soon expand to include other local aviation industry partners.

We expect the following as a result of this program: a local career pathway for high school youth that will enable them to continue to live and work in our rural area; an employment pathway for local adults which is also essential in the retention of our workforce; and an FAA-approved program that meets the need of local employers and their partners.

We appreciate your support of the program and ask for your adoption of the proposal.

Thank you for your consideration.

Respectfully,

Senator Larry Alley  
Senator Bruce Givens  
Representative Jesse Burris  
Representative Cheryl Helmer  
Representative Kyle Hoffman  
Representative Bill Rhiley



ATTACHMENT G – Course procedures

## **COWLEY COLLEGE COURSE PROCEDURE**

### **AMG 3350 – Math & Physics for Aviation 3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMG 3350 – Math & Physics for Aviation (3 hrs.)**

In this course, student learn to recognize and apply correct formulas and determine correct application of mathematic formulas. Students will also apply to basic physics formulas as they relate to aviation science, aerodynamics, structures, and flight science.

**Course Classification:** LEC/LAB

**Prerequisites:** None

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 400 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 65 hours of Mathematics and Physics as outlined in Appendix B to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Extract roots and raise numbers to a given power.
2. Determine areas and volumes of various geometrical shapes.
3. Solve ratio, proportion, and percentage problems.
4. Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.
5. Use the principles of simple machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight to solve problems.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

### **AMG 3351 – Aircraft Drawings 3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMG 3351 – Aircraft Drawings (3 hrs.)**

This course introduces the student to basic aircraft drawings, schematics, and diagrams. Students will learn aircraft drawings to the proficiency required to perform normal aircraft inspection and typical

repairs and alterations. For example, interpretation of drawings needed to perform an actual or simulated accomplishment of an airworthiness directive.

**Course Classification:** LEC/LAB

**Co-requisites:** AMG 3350 – Aviation Math & Physics

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 400 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 56 hours of Aircraft Drawings curriculum as outlined in Appendix B to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Use aircraft drawings, symbols, and system schematics.
2. Draw sketches of repairs and alterations.
3. Use blueprint information.
4. Use graphs and charts.
5. Fabricate and install rigid and flexible fluid lines and fittings.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMG 3352 – Basic Electricity for Aviation  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMG 3352 – Basic Electricity for Aviation (3 hrs.)**

This course introduces the student to the basic concepts of electricity. Methods of generating alternating and direct current are studied. Students will learn the proper methods of measuring voltage, current, resistance and continuity; calculating capacitance and inductance; and reading and interpreting electrical circuit diagrams, drawings, system schematics (including solid state devices and logic circuits) and associated symbols. Students will also learn how to inspect and service batteries.

**Course Classification:** LEC/LAB

**Co-requisites:** AMG 3350 – Aviation Math & Physics

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 400 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 75 hours of Basic Electricity curriculum as outlined in Appendix B to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Calculate and measure capacitance and inductance.
2. Calculate and measure electrical power.
3. Measure voltage, current, resistance, and continuity.
4. Determine the relationship of voltage, current, and resistance in electrical circuits.
5. Read and interpret aircraft electrical circuit diagrams, including solid state devices and logic functions.
6. Inspect and service batteries.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMG 3353 – Basic Science for Aviation  
4 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMG 3353 – Basic Science for Aviation (4 hrs.)**

This course introduces the student to a variety of mechanic skills needed to properly weight and balance an aircraft; recognize aircraft corrosion, craft fluid lines, perform ground operations, operate and safety start, move, and service aircraft or aircraft engines. The course also includes a module focused on human factoring.

**Course Classification:** LEC/LAB

**Co-requisites:** AMG 3350 – Aviation Math & Physics

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 400 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 83 hours of Weight & Balance, Cleaning & Corrosion Control, and Ground Ops & Servicing, in addition to Human Factoring curriculum as outlined in Appendix B to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Weigh an aircraft.
2. Perform complete weight-and-balance check and record data.
3. Identify and select cleaning materials.
4. Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning.
5. Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards.
6. Identify and select fuels.
7. Recognize human factor errors.
8. Apply human factoring strategies to prevent future accidents.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

### **AMG 3354 – Federal Aviation Regulations 3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMG 3354 – Federal Aviation Regulations (3 hrs.)**

This course introduces the student to aircraft standards as it relates to industry regulations. Areas of study will include the Federal Aviation Regulations, maintenance records, forms, aircraft logs, documentation practices, manufactures maintenance publications including manuals, catalogs, and service bulletins, and Federal Aviation Administration publications including airworthiness directives and advisory circulars.

**Course Classification:** LEC/LAB

**Co-requisites:** AMG 3350 – Aviation Math & Physics

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 400 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 69 hours of Maintenance Forms & Records, Maintenance Publications, and Mechanic Privileges & Limitations curriculum as outlined in Appendix B to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Write descriptions of aircraft discrepancies and corrective actions using typical aircraft maintenance records
2. Complete required maintenance forms, records and inspection reports
3. Demonstrate ability to read, comprehend and apply information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications, and related federal aviation regulations, airworthiness directives, and advisory material
4. Read technical data
5. Exercise mechanic privileges within the limitations prescribed by Federal Aviation Regulations Part 65

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

### **AMG 3355 – Materials & Processes for Aviation 3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMG 3355 – Materials & Processes for Aviation (3 hrs.)**

This course introduces the student to basic aviation materials and processes used to perform precision measurements, identify and select aircraft hardware and materials, recognize basic heat-treating processes, and determine the proper non-destructive inspection methods and perform those inspections.

**Course Classification:** LEC/LAB

**Co-requisites:** AMG 3350 – Aviation Math & Physics

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 400 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 60 hours of Materials & Processes curriculum as outlined in Appendix B to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Identify and select appropriate non-destructive testing methods
2. Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections
3. Perform basic heat-treating processes
4. Identify and select aircraft hardware and material
5. Inspect and check welds
6. Perform precision measurements

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3360 – Engine Electrical Systems & Fire Protection  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMP 3360 – Engine Electrical Systems & Fire Protection (3 hrs.)**

This course introduces the student to inspect, test and replace starters, generators, and land voltage regulators. Students will also test and inspect the operation of an engine fire detection system.

**Course Classification:** LEC/LAB

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. This structure of this course is designed to provide a minimum of 72 hours of Engine Electrical Systems and Engine Fire Protection

curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Inspect, check, service, troubleshoot and repair engine fire detection and extinguishing systems
- Repair engine electrical system components
- Install, check and service engine electrical wiring, controls, switches, indicators and protective devices

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3361 – Engine Inspection & Instrument Systems  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMP 3361 – Engine Inspection & Instrument Systems (3 hrs.)**

In this course, students will learn to perform powerplant conformity and airworthiness inspections, inspect an engine and accessories and determine whether all airworthiness directives are in compliance with FAA and manufacturer's specifications. Students will also inspect, repair, and replace engine instruments and their associated plumbing or wiring.

**Course Classification:** LEC/LAB

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. This structure of this course is designed to provide a minimum of 64 hours of Engine Inspection and Engine Instrument Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Perform powerplant conformity and airworthiness inspections.
2. Troubleshoot, service and repair electrical and mechanical fluid rate-of-flow indicating systems.
3. Inspect, check, service, troubleshoot and repair electrical and mechanical engine temperature, pressure and RPM indicating systems.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

## **AMP 3362 – Fuel Systems & Metering I** **3 Credit Hours**

### **Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

### **Catalog Description:**

#### **AMP 3362 – Fuel Systems & Metering I (3hrs.)**

This course introduces the student to the operating principles of reciprocating and turbine engine fuel systems, fuel metering systems, and their components. Students will learn to inspect, troubleshoot, and service fuel metering systems, powerplant fuel system components, and assemblies. This course is the first in a two-course series.

### **Course Classification:** LEC/LAB

### **Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

### **Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. The structure of this course, part one in a two-part series, is designed to provide a portion of the minimum of 103 hours of Fuel Metering Systems and Engine Fuel Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

### **Learner Outcomes:**

Upon completion of the course, the student will:

- Troubleshoot and adjust turbine engine fuel metering systems and electronic engine fuel controls
- Overhaul carburetor
- Repair engine fuel metering system components
- Inspect, check, service, troubleshoot and repair reciprocating and turbine engine fuel metering systems

### **Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

## **AMP 3363 – Fuel Systems & Metering II** **3 Credit Hours**

### **Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

### **Catalog Description:**

#### **AMP 3363 – Fuel Systems & Metering II (3hrs.)**

This course introduces the student to the operating principles of reciprocating and turbine engine fuel systems, fuel metering systems, and their components. Students will learn to inspect, troubleshoot, and service fuel metering systems and engine fuel systems, this course is the second in a two-course

series.

**Course Classification:** LEC/LAB

**Prerequisites:** AMP 3362– Fuel Systems & Metering I with a 70% or better.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. The structure of this course, part two in a two-part series, is designed to provide a portion of the minimum of 103 hours of Fuel Metering Systems and Engine Fuel Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Inspect, check, service, troubleshoot and repair reciprocating and turbine engine fuel metering systems
- Repair engine fuel system components.
- Inspect, check, service, troubleshoot and repair engine fuel systems.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3364 – Ignition & Starting Systems  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMP 3364 – Ignition & Starting Systems (3 hrs.)**

This course introduces the student to learn to inspect, test, repair, remove and replace, ignition and starting systems, including magnetos, harnesses, and pneumatic starting systems.

**Course Classification:** LEC/LAB

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. This structure of this course is designed to provide a minimum of 64 hours of Ignition & Starting Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Overhaul magneto and ignition harness.
- Inspect, service, troubleshoot and repair reciprocating and turbine engine ignition systems



and components.

- Inspect, service, troubleshoot and repair turbine engine electrical starting systems.
- Inspect, service, and troubleshoot turbine engine pneumatic starting systems.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3365– Induction, Cooling & Exhaust Systems I  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMP 3365 – Induction, Cooling & Exhaust Systems I (3 hrs.)**

This course introduces the student to the operating principles of engine induction, cooling systems, and their components. Students will learn to inspect, troubleshoot, and service ice and rain systems, airflow and temperature control systems, air intake and carburetor manifolds, and engine cooling systems. This course is the first in a two-course series.

**Course Classification:** LEC/LAB

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. The structure of this course, part one in a two-part series, is designed to provide a portion of the minimum of 134 hours of Induction and Engine Airflow Systems, Engine Cooling Systems, and Engine Exhaust and Reverser Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Inspect, check, troubleshoot, service and repair engine ice and rain control systems.
- Inspect, check, service, troubleshoot and repair heat exchangers, superchargers and turbine engine airflow and temperature control systems.
- Inspect, check, service and repair carburetor air intake and induction manifolds.
- Repair engine cooling system components.
- Inspect, check, troubleshoot, service and repair engine cooling systems.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3366 – Induction, Cooling & Exhaust Systems II  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:****AMP 3366 – Induction, Cooling & Exhaust Systems II (3 hrs.)**

This course introduces the student to the operating principles of engine cooling systems, engine exhaust, and thrust reverser systems, and their components. Students will learn to inspect, troubleshoot, and service engine cooling systems, engine exhaust and thruster reverser systems. This course is the second in a two-course series.

**Course Classification:** LEC/LAB

**Prerequisites:** AMP 3365 – Induction, Cooling & Exhaust Systems I with a 70% or better.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. The structure of this course, part two in a two-part series, is designed to provide a portion of the minimum of 134 hours of Induction and Engine Airflow Systems, Engine Cooling Systems, and Engine Exhaust and Reverser Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Repair engine cooling system components
- Inspect, check, troubleshoot, service and repair engine cooling systems
- Repair engine exhaust system components
- Inspect, check, troubleshoot, service and repair engine exhaust systems
- Troubleshoot and repair engine thrust reverser systems and related components

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3367 – Lubrication Systems  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:****AMP 3367 – Lubrication Systems (3 hrs.)**

This course is designed to provide the student with information related to the study of aircraft lubrication systems. Topics for lubrication include safety practices, classification and properties of powerplant lubricants, and lubrication systems and components. The student will learn to inspect, test, repair, overhaul, remove and replace powerplant lubrication system components and assemblies.

**Course Classification:** LEC/LAB**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. This structure of this course is designed to provide a minimum of 56 hours of Lubrication Systems curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Identify and select lubricants.
- Repair engine lubrication system components.
- Inspect, check, service, troubleshoot and repair engine lubrication systems.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3368 – Propellers & Fans I  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:****AMP 3368 – Propellers & Fans I (3 hrs.)**

This course introduces the student to propellers, controls, and governors. Emphasis is placed on the working theory of propellers and propeller governors. Other topics include propeller types, pitch change mechanisms, operational controls, propeller synchronizing and ice control systems, balancing propellers, and safe practices. Principles of repair and overhaul are discussed with a focus on outlining which duties are permitted by the technician in the field compared to what must be performed by a certified propeller overhaul facility. Students also learn to inspect and troubleshoot unducted fan systems. This course is the first in a two-course series.

**Course Classification:** LEC/LAB**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. The structure of this course, part one in a two-part series, is designed to provide a portion of the minimum of 127 hours Propellers and Unducted Fans curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Inspect, check, service and repair propeller synchronizing and ice control systems
- Identify and select propeller lubricants
- Balance propellers
- Repair propeller control system components
- Inspect, check, service and repair fixed pitch, constant speed and feathering propellers and propeller governing systems

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3369 – Propellers & Fans II  
3 Credit Hours****Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:****AMP 3369 – Propellers & Fans II (3 hrs.)**

This course introduces the student to propellers, controls, and governors. Emphasis is placed on the working theory of propellers and propeller governors. Other topics include propeller types, pitch change mechanisms, operational controls, propeller synchronizing and ice control systems, balancing propellers, and safe practices. Principles of repair and overhaul are discussed with a focus on outlining which duties are permitted by the technician in the field compared to what must be performed by a certified propeller overhaul facility. Students also learn to inspect and troubleshoot unducted fan systems. This course is the second in a two-course series.

**Course Classification:** LEC/LAB

**Prerequisites:** AMP 3368 – Propellers & Fans I with a 70% or better.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. The structure of this course, part one in a two-part series, is designed to provide a portion of the minimum of 127 hours Propellers and Unducted Fans curriculum as outlined in Appendix D to Part 147 — General Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

- Inspect, check, service and repair fixed pitch, constant speed and feathering propellers and propeller governing systems
- Install, troubleshoot and remove propellers
- Repair aluminum alloy propeller blades
- Inspect and troubleshoot unducted fan systems and components

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3370 – Reciprocating Engines  
3 Credit Hours****Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:****AMP 3370 – Reciprocating Engines (3 hrs.)**

This course introduces the student to inspect and repair radial engines as well as overhaul, inspect,

service, repair, install troubleshoot and remove reciprocating engines.

**Course Classification:** LEC/LAB

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of Powerplant Curriculum training is required. This structure of this course is designed to provide a minimum of 72 hours of Reciprocating Engines curriculum as outlined in Appendix D to Part 147 — Powerplant Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Inspect and repair a radial engine.
2. Overhaul reciprocating engine.
3. Inspect, check, service, and repair reciprocating engines and engine installations.
4. Install, troubleshoot and remove reciprocating engines.

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

**AMP 3371 – Turbine Engines & Auxiliary Power  
3 Credit Hours**

**Student Level:**

This course is open to students on the college level in either the Freshman or Sophomore year.

**Catalog Description:**

**AMP 3371 – Turbine Engines & Auxiliary Power (3 hrs.)**

This course introduces the student to the fundamentals of removal and replacement of turbine engines as well as inspection of mounting systems. Procedures used on various types of aircraft and aircraft engines will be discussed as well as safety practices. The course covers safety practices and maintenance practices for proper inspection, troubleshooting, and repair techniques. This course includes information regarding operational theory, inspection, service, and repair of auxiliary power units.

**Course Classification:** LEC/LAB

**Prerequisites:**

Entry is contingent on completion Cert A requirements. Exceptions require permission of department administrator.

**Controlling Purpose:**

As part of the Aviation Mechanic – Powerplant program as outlined by the FAA Part 147 document, a minimum of 750 hours of General Curriculum training is required. This structure of this course is designed to provide a minimum of 72 hours of Turbine Engines and Auxiliary Power Unit curriculum as outlined in Appendix D to Part 147 — Powerplant Curriculum Subjects.

**Learner Outcomes:**

Upon completion of the course, the student will:

1. Overhaul turbine engine
2. Inspect, check, service and repair turbine engines and turbine engine installations
3. Install, troubleshoot and remove turbine engines
4. Inspect, check, service and troubleshoot turbine driven auxiliary power units

**Unit Outcomes for Criterion Based Evaluation:**

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

ATTACHMENT H – CA1a Fiscal Summary  
KBOR Fiscal Summary for Proposed Academic Programs  
CA-1a Form (2018)

Institution: Cowley College  
Proposed Program: Aviation Mechanic- Powerplant

IMPLEMENTATION COSTS

Part I. Anticipated Enrollment		Implementation Year		
Please state how many students/credit hours are expected during the initial year of the program?				
		Full-Time	Part-Time	
A. Headcount:		20	10	
Part II. Initial Budget		Implementation Year		
A. Faculty		Existing: 0	New: 3	Funding Source:
Full-time	# 1	\$	\$65,000	Cowley College
Part-time/Adjunct	# 2	\$	\$40,000	Cowley College
		Amount	Funding Source	
B. Equipment required for program		\$ 30,000	GE Aviation – Strother Field	
C. Tools and/or supplies required for the program		\$ 20,000	GE Aviation – Strother Field	
D. Instructional Supplies and Materials		\$ 5,000	Cowley College CTE Departmental budget	
E. Facility requirements, including facility modifications and/or classroom renovations		\$ 700,000	GE Aviation – Strother Field	
F. Technology and/or Software		\$ 80,400	Cowley College CTE Departmental budget. Cowley College will seek additional funding through available grants and other initiatives as appropriate to our needs and program goals.	
G. Other <i>(Please identify; add lines as required)</i>				
<b>Total For Implementation Year</b>		\$940,400		

PROGRAM SUSTAINABILITY COSTS (Second and Third Years)

<b>Part I. Program Enrollment</b>		Second and Third Years		
Please state how many students/credit hours are expected during the first two years of the program?				
		Full-Time	Part-Time	
A. Headcount:		30	10	
<b>Part II. Ongoing Program Costs</b>		First Two Years		
A. Faculty		Existing:	New:	Funding Source:
Full-time	#1	\$65,000	\$	Cowley College
Part-time	#2	\$40,000	\$	Cowley College
		Amount	Funding Source	
B. Equipment required for program		\$ 0.0	GE Aviation – Strother Field	
C. Tools and/or supplies required for the program		\$ 10,000	GE Aviation – Strother Field	
D. Instructional Supplies and Materials		\$ 5,000	Cowley College CTE Departmental budget.	
E. Facility requirements, including maintenance and utilities		\$ 25,000	GE Aviation – Strother Field	
F. Technology and/or Software		\$ 5,000	Cowley College CTE Departmental budget. Cowley College will seek additional funding through available grants and other initiatives as appropriate to our needs and program goals.	
G. Other <i>(Please identify; add lines as required)</i>				
<b>Total for Program Sustainability</b>		\$150,000		

Please indicate any additional support and/or funding for the proposed program:

Cowley College and GE Aviation will seek grant funding when appropriate.

Submit the completed application and supporting documents to the following:

Director of Workforce Development  
 Kansas Board of Regents  
 1000 SW Jackson St., Suite 520  
 Topeka, Kansas 66612-1368



ATTACHMENT I – CA1b Fiscal Summary  
KBOR Excel in CTE Fee Summary for Proposed Academic Programs  
CA-1b (2020)

*Per statute (K.S.A. 72-3810), the Kansas Board of Regents shall establish general guidelines for tuition and fee schedules in career technical education courses and programs. The Excel in CTE tuition and fee schedule of every technical education program shall be subject to annual approval.  
Please include all costs charged to high school students for the proposed new program.*

<b>Institution Name:</b>	Cowley College
<b>Program Title:</b>	Aviation Mechanic - Powerplant
<b>Program CIP Code:</b>	47.0608

*Please list all fees associated with this **program**:  
Only list costs the institution is charging students.*

<b>Fee</b>	<b>Short Description</b>	<b>Amount</b>
	none	

*Please list all courses within the program and any fees associated to those **courses**:  
Only list costs the institution is charging students. Do not duplicate expenses.*

<b>Course ID</b>	<b>Short Description</b>	<b>Amount</b>
ALL AMG courses	FAA General Curriculum	\$ 100.00
ALL AMP Courses	FAA Powerplant Curriculum	\$ 100.00

*Please list items the student will need to purchase on their own for this program:  
Institution is not charging students these costs, rather students are expected to have these items for the program.*

<b>Item</b>	<b>Short Description</b>	<b>Estimated Amount</b>
	Laptop	\$1,000.00
	Steel Toed Shoes	\$100.00
	Students will be required to purchase tools to be used in class. These tools will be useful when entering employment.	\$1,000.00

## ATTACHMENT J – CA1c Perkins Eligibility

### Carl D. Perkins Funding Eligibility Request Form

Strengthening Career and Technical Education for the 21<sup>st</sup> Century Act

CA-1c Form (2020)

This application should be used for new programs (currently in the program approval process) or existing programs the institution would like reviewed for Carl D. Perkins funding eligibility.

#### Program Eligibility

An “eligible recipient” is an eligible institution or consortium of eligible institutions qualified to receive a Perkins allocation.

An “eligible institution” is an institution of higher education that offers CTE programs and will use Perkins funds in support of CTE coursework that leads to technical skill proficiency or a recognized postsecondary credential, including an industry-recognized credential, a certificate, or an associate degree, which does not include a baccalaureate degree.

Any program receiving Perkins funds must be designated as a technical program by KBOR. Definition of a technical program may be found in state statute K.S.A. 72-1802. Criteria adopted by the Board of Regents may be found in their February 20, 2019 meeting packet.

Program Levels:

Educational Award Level	Credit Hours
SAPP	0-15
Certificate A	16-29
Certificate B	30-44
Certificate C	45-59
Associate of Applied Science	60-69

Stand-Alone Parent Programs (SAPPs) must meet the following criteria:

- Minimum of 8 credit hours
- Minimum of 80% tiered credit hours
- Maintain an average of 6 concentrators over the most recent consecutive 2-year period

Certificates and Associate of Applied Science degrees must meet the following criteria:

- Minimum of 51% tiered credit hours
- Maintain an average of 6 concentrators over the most recent consecutive 2-year period
- Comply with Program Alignment – *if applicable*

Name of Institution	Cowley College
Name, title, phone, and email of person submitting the Perkins Eligibility application <i>(contact person for the approval process)</i>	Dr. Tina Grillot Associate Vice President - Workforce & Community Education 620.441.5376   tina.grillot@cowley.edu
Name, title, phone, and email of the Perkins Coordinator	Chris Cannon Perkins Coordinator – Cowley College 620.441.5985 Chris.cannon@cowley.edu
Program Name	Aviation Mechanic - Powerplant
Program CIP Code	47.0608
Educational award levels <u>and</u> credit hours for the proposed request	Certificate A (19cr) Certificate C (55cr) AAS (64cr)
Percentage of tiered credit hours for the educational level of this request	
Number of concentrators for the educational level	
Does the program meet program alignment?	This is not a KBOR aligned program.
Justification for conditional approval: <i>(this section must reference information found within the Local Needs Assessment)</i>	At the behest of GE Aviation, and with the support of local area aviation/aerospace partners, Cowley College created The Aviation Mechanic - Powerplant program to provide the background knowledge and practical shop experience to qualify for a Federal Aviation Administration (FAA) Aircraft Maintenance Technician Certificate, with the Powerplant rating. Certified Aircraft Mechanics are in high demand in aviation and related careers that require a high degree of mechanical knowledge, both locally and across the state

Signature of College Official  Date 8/13/2020

Signature of KBOR Official \_\_\_\_\_ Date \_\_\_\_\_