Curriculum Committee

FLORIDA SOUTHWESTERN STATE COLLEGE

New Program or Certificate Proposal

Note: Before completing this proposal, all core courses for a new program or certificate must have already been reviewed (or submitted for the same meeting) by the Curriculum Committee and approved by the Provost. In addition, the complete catalog page must be included at the end of this document.

School or Division	School of Business and Technology
Proposed by (faculty only)	Professor Leroy Bugger
Presenter (faculty only)	Professor Leroy Bugger
Note that the presenter (faculty) listed above must be present at the Curriculum Committee meeting or the proposal will be returned to the School or Division and must be submitted for a later date.	
Submission date	10/13/2017

Section I, New Program or Certificate Information (must complete all items)

List new program or certificate.	Aviation Airframe Mechanics (PSAV) Program Number – T640300 CIP Number - 0647060703

Describe (below) the process by which the need for the new program or certificate was identified. Along with the summary, delineate the parties that have endorsed the new program such as Advisory Board, Faculty, and/or Ad Hoc Committees. Submit Minutes of meetings and endorsements along with this form.

Upon examination of statewide and regional workforce need, it was determined that there was a gap in regional training for Aircraft Mechanics and Service Technicians. According to past and the current Florida Statewide Demand Occupations List, statewide and in our region (Region 24), this occupation title is a targeted industry, high wage and high skill, with an annual percent growth of 1.07, 441 annual openings, and with median wages as seen below.

To verify this need, SoBT commissioned an Airframe Mechanics and Aircraft Powerplant technology program regional program overview and program gap analysis from EMSI (September 2015). Results from this study included:

1. A projected region-only annual gap of 18 airframe/12 powerplant related jobs at this training level at a median wage of $24.99 and $24.81, respectively.
2. A potential economic impact of program graduates was estimated at $118.2 million dollars in 2014 dollars.

3. Potential net present value of increased lifetime earnings due to this degree of $524,292 and $525.038, respectively.

In a 2015 US aerospace manufacturing attractiveness index, Florida ranked first nationally. This program would be the only public program in the region. This would serve a need for technician support of aviation growth in Southwest Florida and in the State of Florida. In a 2016 Pilot and Technician outlook, Boeing Corporation projected a need for 679,000 maintenance technicians over the next 20 years, mostly due to generational retirements.

Additionally, this program and its need was discussed in SoBT Advisory Committee meetings on 10/27/16 and 4/6/17.

Provide a summary of the Program needs analysis.

See narrative above.

Provide a summary of the Salary Levels that graduates of this Program can expect to make.

Annualized median wages for an Airframe Mechanic are $51,979.00

Briefly describe the existing resources available needed to implement this new program.

Current resources include one Perkins Grant funded Program Coordinator who is charged with program development and FAA compliance and a leased hangar facility in Punta Gorda Airport. Other direct and indirect support is provided by SoBT and the college.

Briefly describe the additional resources needed to implement this new program.

Implementation costs for the first two years are estimated at the following:

<u>Implementation for General/Airframe (Year 1)</u>	
Reengineering and Renovation Current Hangar	
Arch/Eng Design, permit drawings	$25,000
Construction (including classroom)	$360,000
Furniture	$4,000 (Office)
Move in	$2,000
Misc	$19,550
Equipment and Supplies*	<u>$1,121,042</u>
Year 1 Total	**$1,531,592**

Instructional Personnel/Program Coordination

Airframe	**$63,074.00**
PowerPlant	**$63,074.00**
Avionics	**$20,000.00**
Support Personnel	
Staff Assistant (PT)	**$16,210.96**
Program Support Coordinator [1]	
Utilities	**$20,400.00**
Insurance[2]	**$0.00**
Teaching Database	**$950.00**
Rent[3]	**$50,000.00**
Total Recurring Expenses	**$233,708.96**

[1] Can be covered in Perkins if not assumed in Faculty/Program Coordination

[2] Assumes costs covered in college consortium

[3] Assumes no facility built

Briefly describe any Program Accreditation required for this program.

Program accreditation is required by SACSCOC and approval is required from the Federal Aviation Administration under Federal Aviation Regulation (FAR) Part 147.

Briefly describe any Industry Certification available for student to take during or following completion this program.

Upon successful completion of the program, students will be eligible for Federal Aviation Administration (FAA) license examinations for Airframe ratings.

Project (below) the average enrollment for core courses.

25 students (maximum)

Describe (below) how this projection was determined.

This projection was largely determined by demand for the program and is limited by instructional space, laboratory activities, and FAA requirements.

List (below) similar programs or certificates at other colleges and universities.

Broward College (http://www.easternflorida.edu/academics/career-technical-programs/our-programs/aviation-maintenance/), Eastern Florida State College (http://www.easternflorida.edu/academics/career-technical-programs/our-programs/aviation-

maintenance/), Florida State College at Jacksonville (https://www.fscj.edu/academics/areas-of-study/aviation/aircraft-airframe-mechanics-wc),

For AS and Certificate Programs: Attach a Copy of the related FLDOE Curriculum Frameworks. Copy and paste the "Standards" from the FLDOE framework (one standard per row). List the FSW course or courses in which that Standard is taught.

Program Title: Aviation Airframe Mechanics	
Career Cluster: Transportation, Distribution and Logistics	
FLDOE Framework Standard	**FSW Course**
01.0 Perform basic aircraft drawing skills.	**AMT 0702, 0712, 0713, 0714, 0717**
02.0 Demonstrate aircraft weight and balance skills.	**AMT 0704**
03.0 Perform ground operations and servicing duties.	**AMT 0704**
04.0 Demonstrate mathematical skills.	**AMT 0701**
05.0 Maintain forms and records.	**AMT 0702**
06.0 Apply principles of basic physics.	**AMT 0701**
07.0 Demonstrate the use of maintenance publications.	**AMT 0701, 0712, 0713, 0714, 0717**
08.0 Demonstrate appropriate communication skills.	**All AMT**
09.0 Demonstrate employability skills as an Aviation Maintenance General Technician.	**All AMT**
10.0 Maintain aircraft fluid lines and fittings.	**AMT 0702**
11.0 Perform aircraft materials and processes skills.	**AMT 0704**
12.0 Perform cleaning and corrosion-control operations.	**AMT 0704**
13.0 Perform basic electricity skills.	**AMT 0703, 0717**
14.0 Interpret mechanic privileges and limitations.	**AMT 0702, 0712, 0713, 0714, 0717**
15.0 Maintain wood structures.	**AMT 0712**
16.0 Perform aircraft covering.	**AMT 0713**
17.0 Apply aircraft finishes.	**AMT 0713**
18.0 Repair sheet-metal and non-metallic structures.	**AMT 0713**
19.0 Perform and identify proper welding.	**AMT 0713**
20.0 Perform assembly and rigging.	**AMT 0712**
21.0 Perform airframe inspection.	**AMT 0717**
22.0 Maintain aircraft landing-gear systems.	**AMT 0714**
23.0 Maintain hydraulic and pneumatic power systems.	**AMT 0714**
24.0 Maintain cabin atmosphere control systems.	**AMT 0717**
25.0 Maintain aircraft instrument systems.	**AMT 0717**
26.0 Maintain communication and navigation systems.	**AMT 0717**
27.0 Inspect and repair aircraft fuel systems.	**AMT 0717**
28.0 Inspect and repair aircraft electrical systems.	**AMT 0703, 0712, 0717**
29.0 Inspect and repair position and warning systems.	**AMT 0717**
30.0 Maintain ice and rain control systems.	**AMT 0717**

31.0 Inspect and repair aircraft fire-protection systems.	**AMT 0717**
32.0 Demonstrate knowledge of Federal Aviation Administration Airframe licensing requirements.	**AMT 0701**
33.0 Demonstrate employability skills for an Aviation Maintenance Airframe Technician (AMT) with an FAA Airframe rating.	**All AMT**
34.0 Demonstrate an understanding of entrepreneurship related to opportunities in Aviation Airframe Maintenance occupations.	**All AMT**

Include complete new catalog page as an attachment. Proposals without the new catalog page will not be reviewed by the committee.

Section II, Personnel and Resources Needed (add rows as necessary)

Faculty position(s) (List discipline)	**Full time or adjunct?**	**Total annual expenses**
Staff position(s) (List title)	**Full time or part time?**	**Total annual expenses**
Program Coordination (with instructional responsibilities)	Full-time	$63,074
Powerplant Instructor	Full-time	$63,074
Avionics	Part-time	$20,000
Staff Assistant	Part-time	$16,210.96
Describe (below) library resources needed to support this program or certificate. Explain rationale for response, even if answer is none.		
Technical library (T-Data) will be assumed by program administration with no burden on our library.		
Describe (below) the technology, facilities, laboratory, or other resources needed to support this program or certificate.		
Hangar facility; teaching database, aviation materials, equipment, and supplies; student kits and tools.		
List (below) the estimated annual amount required for educational materials and supplies or other operating expenses for implementation of the new program or certificate.		
Technical Database - $950.00 Hangar lease - $50,000.00 Expenses for student supplies (tools, consumables, etc.) will be sourced from student lab fees.		
Identify (below) the funding source to be used for personnel and operating expenses.		
Student tuition and fees, Perkins Grant, and college operating budget.		

Section III, Justification for proposal

Provide justification (below) for this proposed curriculum action.
The School of Business and Technology is proposing a new program in Aviation Airframe Mechanics PSAV. We also plan on proposing a follow up PSAV program in Aviation Powerplant Mechanics. The Aviation Airframe Mechanics PSAV program will be FAA Part-147 approved and is a minimum of 1350 clock hours in length. Program completers will be prepared to sit for the FAA certification exam in Airframe repair. Upon successful completion, students will also be on an educational pathway for more advanced credentials in their field to potentially be offered at FSW or with our Charlotte Campus partner, Western Michigan University. This program is being proposed to provide needed workforce credentialing to fill the gap and shortage of qualified aviation technicians, which is forecast to become more acute as a greater number of technicians retire than enter the field. In fact, according to a study commissioned by Boeing, commercial aviation will require 238,000 new technicians worldwide over the next 20 years, with North America accounting for 113,000 new technicians, almost 50% of total demand. According to an analysis prepared by EMSI, the job market in SWFL for A&P technicians is fairly strong, averaging 20 monthly postings and 47 monthly hires from April of 2013 through April of 2015. A&P technicians enjoy high average hourly earnings of greater than $24/hr. The total economic impact of the program 10 years after implantation is forecast to be $118.2 million and the average lifetime earnings for individual technicians are forecast to be improved (over what they would otherwise have earned) of roughly $525,000 in today's net present value dollars (for Airframe and Powerplant mechanics combined), so the economic development implications are quite significant. Gradates of similar programs are actively recruited not only by the aviation industry, but also by industries as diverse as elevator installation/repair and amusement park ride repair as the skills sets and particular attention to detail engendered by the A&P curriculum are essential in those industries, as well.

Section IV, Important Dates and Endorsements Required

List all faculty endorsements below. (Note that proposals will be returned to the School or Division if faculty endorsements are not provided).
Leroy Bugger (Department Chair), Dr. Tim Lucas, Jennifer Patterson, Andrew Blitz

NOTE: Course and Program changes must be submitted by the dates listed on the published Curriculum Committee Calendar. Exceptions to the published submission deadlines must receive prior approval from the Provost's Office.

VPAA: Revised 11/11, 6/12, 6/13, 7/14, 8/15, 8/16, 8/17

Term in which approved action will take place	Fall 2018
Provide an explanation below for the requested exception to the effective date.	
NA	

Any exceptions to the term start date requires the signatures of the Academic Dean or Associate Vice President and the Provost prior to submission to the Dropbox.		
Dean or Associate Vice President	**Signature**	**Date**
Type name here		
Provost	**Signature**	**Date**
Dr. Jeff Stewart		

Required Endorsements	**Type in Name**	**Select Date**
Department Chair or Program Coordinator/Director	Professor Leroy Bugger	10/10/2017
Academic Dean or Associate Vice President	Dr. Tom Rath	10/10/2017

All Curriculum proposals require approval of the Curriculum Committee and the Provost. Final approval or denial of a proposal is reflected on the completed and signed proposal.

☒ Approve ☐ Do not approve Aviation Airframe Mechanics (PSAV)

Mary L. Nguyen

Curriculum Committee Chair Signature

11/8/17

Date

☒ Approve ☐ Do not approve

Jeff Stewart

11/13/17

VPAA: Revised 11/11, 6/12, 6/13, 7/14, 8/15, 8/16, 8/17

Provost Signature *Date*

Aviation Airframe Mechanics, (PSAV)

The Aviation Airframe Mechanics (PSAV) program prepares students for employment or advanced training in the commercial and general aviation industry. It is also prepares student for employment as an Aviation Airframe Maintenance Technician and for Federal Aviation Administration (FAA) license examinations for Airframe rating.

The program is a (minimum) 1,350 clock hour post-secondary adult vocational certificate which takes eleven (11) months to complete. Classes are held on the Charlotte Campus and at a hangar facility at Punta Gorda Airport. Classroom, shop, and laboratory activities are an integral part of this program. FAR Section 147.21(e) requires teaching of at least 50 percent of the curriculum in the shop or laboratory. These activities include instruction in the use of safety procedures, tools, equipment, materials, and processes found in the industry.

Admission Requirements and Information:

In order to be admitted into this program, students must meet required minimum basic skills grade levels required for postsecondary adult career and technical programs. Some students are required to take the TABE exams prior to enrolling and meet the target scores prior to graduation in this program unless the students currently possess equivalent ACT, SAT, or PERT scores within the past two years or an A.A., A.S. or bachelor's degree.

To ensure employability in the widest possible manner, all students are required to submit drug screening and criminal background check results to the Aviation Department prior to enrolling in the program.

Student hand tools are required for this program and may be purchased through the college bookstore. Students may provide their own tools, but must provide the minimum required tools as a condition of enrollment. For more information, refer to the student tools list (PDF).

This program is limited to a maximum of twenty-five (25) students per admission cycle.

Applications are open until first day of program start in August.

Acceptance to Florida SouthWestern State College does not imply acceptance into this program. Each applicant must meet specific criteria which are listed in the admission policies. The Criteria for Admission Policies are available through the program office or through the School of Business and Technology office at (239) 489-9270. Admission applications are located at www.fsw.edu/academics/programs/aviation.

Aviation Airframe Mechanics, (PSAV) Program of Study:

General Technician Courses:

AMT 0701 - Aviation Maintenance Technology General I Contact Hours: 120.

AMT 0702 - Aviation Maintenance Technology General II Contact Hours: 120.

AMT 0703 - Aviation Maintenance Technology General III Contact Hours: 120.

AMT 0704 - Aviation Maintenance Technology General IV Contact Hours: 120.

Airframe Maintenance Courses:

AMT 0712 - Aviation Maintenance Technology Airframe I Contact Hours: 225.

AMT 0713 - Aviation Maintenance Technology Airframe II Contact Hours: 225.

AMT 0714 - Aviation Maintenance Technology Airframe III Contact Hours: 225.

AMT 0717 - Aviation Maintenance Technology Airframe IV Contact Hours: 225.

A minimum grade of "C" or better is required in all courses.

Total PSAV Program, Aviation Airframe Mechanics - 1350 Clock Hours -PSAV (*)

(*) Note: All courses in this certificate program are career and technical instruction (PSAV/postsecondary adult vocational) and are awarded Clock Hour Credit on the College transcript. The Clock Hours are not College Credit and do not count towards graduation.

Further application and program information is available online at: www.fsw.edu/academics/ and on the School of Business and Technology page at: www.fsw.edu/sobt