April 16, 2021

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

Dear KBOR Staff and TEA Members:

Enclosed you will find an application for a New Program Request opportunity in Associate in Applied Science degree in Professional Pilot at Wichita State University Campus of Applied Sciences and Technology (WSU Tech).

This new program, Professional Pilot, provides WSU Tech a unique element that is missing and currently not being offered at the National Center for Aviation Training. It is the FAA Part 141 entry-level training necessary for students to train and test in order to earn their five initial pilot ratings/licenses and combined with the degree puts individuals on the career path towards being a Professional or Commercial pilot. Our location on Jabara Airport provides the infrastructure to begin teaching and training for the courses. The demand for pilots continues to increase and with the timeline presented for an AAS graduate aligns very well with what the industry is forecasting post-pandemic. WSU Tech students would be inline to begin to fill the huge need identified both regionally and nationally for pilots. This program is a big investment and WSU Tech has aligned itself with Ortega Aviation and Christiansen Aviation in order to best leverage partnerships to provide brand new aircraft and avionics but to also learn from experienced flight instructors. These partnershps also some what safeguards the college from limited financial risks by not purchasing aircraft outright or employing additional faculty and staff. Another element is the local industry support WSU Tech has and will gain from a Professional Pilot program. This is already being felt with a partnership with Textron Aviation to obtain a brand new Cessna 172 Top Hawk on a $1 a month lease for the first twelve months of the program.

The Professional Pilot program has been fully supported by local industry that represents many of the region's aviation companies such as Airbus, Textron, Flight Safety, and Midwest Aviation. WSU Tech's Faculty Senate and Advisory Board both unanimously approved the program.

The program is prepared to start in August 2021. All start-up and sustainability costs have been carefully considered and budgeted for utilizing a variety of resources including institutional funds, student flight fees, tuition, new program start-up funding, and NCAT dollars. WSU Tech is excited about the possibility of adding this program and the potential it adds for the future of aviation in our region, after all we are the Air Capital of the World.

Should you have any additional questions, comments, or concerns please do not hesitate to contact me.

Warm regards,

Scott Lucas, Ph.D
Vice President, Aviation, Manufacturing and Institutional Effectiveness
Wichita State University Campus of Applied Sciences and Technology
316-677-9535

New Program Request Form
CA1

General Information

Institution submitting proposal.	Wichita State University Campus of Applied Sciences and Technology
Name, title, phone, and email of person submitting the application (*contact person for the approval process)*	Dr Scott Lucas Vice President of Aviation, Manufacturing, and Institutional Effectiveness Slucas@WSUTech.edu 316.677.9535
Identify the person responsible for oversight of the proposed program.	James Hall Dean of Aviation and Manufacturing
Title of proposed program	Professional Pilot
Proposed suggested Classification of Instructional Program (CIP) Code	49.0102 Airline/Commercial/Professional Pilot and Flight Crew
CIP code description	Airline/Commercial/Professional Pilot and Flight Crew A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.
Standard Occupation Code (SOC) associated to the proposed program.	53.2011 Airline Pilots, Copilots, and Flight Engineers 53-2012.00 - Commercial Pilots
SOC description	53.2011 Airline Pilots, Copilots, and Flight Engineers Pilot and navigate the flight of fixed-wing aircraft, usually on scheduled air carrier routes, for the transport of passengers and cargo. Requires Federal Air Transport certificate and rating for specific aircraft type used.

	Includes regional, national, and international airline pilots and flight instructors of airline pilots. 53-2012.00 - Commercial Pilots Pilot and navigate the flight of fixed-wing aircraft on nonscheduled air carrier routes, or helicopters. Requires Commercial Pilot certificate. Includes charter pilots with similar certification, and air ambulance and air tour pilots. Excludes regional, national, and international airline pilots.
Number of credits for the degree and all certificates requested.	AAS Professional Pilot – 60 credits
Proposed Date of Initiation	8/1/2021
Specialty program accrediting agency.	Federal Aviation Administration - 14 CFR (Code of Federal Regulation) Part 141 Pilot School with the appropriate Air Agency Certificate and Part 141 LOA (letter of authorization)
Industry certification	As students' progress through the program, they will be prepared to sit for FAA Certifications/Ratings in: • Private Pilot • Instrument Rating • Commercial Pilot • Multi Engine Pilot • Certified Flight Instructor

Signature of College Official  Date 4/16/2021

Signature of KBOR Official _____ Date _____

Narrative

Completely address each one of the following items for new program requests. Provide any pertinent supporting documents in the form of appendices (i.e., minutes of meetings, industry support letters, CA1-1a form).

***Institutions requesting subordinate credentials need only submit the items in blue. For example, an institution with an approved AAS degree has determined a need for a Certificate C in the same CIP code using the same courses used in the AAS degree program.*

Program Description

- Provide a complete catalog description (including program objectives) for the proposed program.

This program prepares students for careers in the aviation industry as Professional Pilots. The program provides students with the opportunity to progress through five FAA certifications/ratings including Private Pilot, Instrument Rating, Commercial Pilot, Multi-Engine Rating and Certified Flight Instructor. Located at the National Center for Aviation Training the program focuses on solid aviation skill sets, using state of the art equipment and is grounded in safety and risk management.

- Graduates of this program will obtain the skills to build and promote a culture of safety in the aviation industry.
- Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Private Pilot Certification
- Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Instrument Rating
- Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Multi- Engine Rating
- Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Commercial Pilot Certification
- Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Certified Flight Instructor Certification

List and describe the admission and graduation requirements for the proposed program.

Admission Requirements

The requirements for admission to the Professional Pilot program are:

- Attainment of 17 or more years of age
- Completion of application and related procedures
- Documentation of high school graduation or satisfaction of high school equivalency certificate requirements
- Satisfactory completion of a Class 3 Medical Exam
- Full financing must be in place prior to acceptance.
- Student Pilot Certificate
- Math and English placement scores that are equated to Intermediate Algebra and Composition I

Transfer Students

- Admission of transfer students to the Professional Pilot program contingent upon their meeting the following requirements:
    - Regular admission and good standing at a regionally accredited technical certificate or degree granting institution and proper completion of applications and related procedures.
    - For the transfer of credits for certain technical courses, WSU Tech will consider the source of the flight ratings, the source of the rating (FAA Accreditation). Students may be required to take (and pay for) knowledge and/or flight exams to validate their ratings.

Program Requirements

- 60 semester credits for the associate applied sciences degree and between 3 and 8 credits in five different certificates of completion with an overall GPA of 2.0 or higher.
- A passing grade in all courses (grade of C) within the student's declared program of study.
- Completion of all skill competencies with a minimum grade of 80%
- At least 25 percent of the credit must be earned at WSU Tech.
- Recommendation for graduation by the registrar.

Graduation Requirements

To be awarded an AAS degree or certificate of completion, students must pass all required coursework, submit required transcripts for transfer credit and meet all academic, financial or other obligations required for their program of study. To be eligible for graduation, students must have an overall GPA of at least 2.0. WSU Tech urges students to continuously monitor their educational progress. Prior to the final semester or registration period, students must meet with an Academic Advisor to ensure that all requirements will be finished prior to the anticipated graduation date.

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.

According to a recent PricewaterhouseCoopers LLP study, the General Aviation industry accounts for 247 billion dollars of economic output in the US. The industry provides over 1.1 million jobs in the US with over 24,000 in the Wichita Area. These positions range from Aerospace Engineering to Sheetmetal assemblers, from commercial pilots to Airframe and Powerplant Mechanics, from Certified Flight Instructors to Composite Assembly Instructors. Study after study in the industry indicates that demand for qualified candidates to fill all these positions will continue to expand over the next 20 years due to the increase in commercial fleets and the retirement of large groups of current employees across all job classifications in the aviation industry.

A recent study from The Boeing Company provides an overarching framework for the need's assessment information in this new program proposal. According to the Pilot and Technician Outlook 2020-2039 study, the demand for new Pilots in North America will exceed 200,000. This demand will come from a combination of commercial and business Aviation and be driven by retirements and the expected expansion of commercial fleets. The Boeing Company further estimates that the annual need for new pilots will be about 5200. A review of FAA data on new pilot certifications (U.S. Civil Airmen Statistics, 2019) awarded each year in the US since 2010 strengthens the needs assessment. The average number of certificates awarded annually between 2010 and 2019 is 2500. This leaves a significant gap

between the expected need for new pilots and the expected supply of newly qualified pilots. The WSU Tech proposed program will help to fill this gap.

A review of the state and local data for pilot demand reinforces the connection between the pilot population ready to retire and the need for new pilots. According to JobsEQ data, total employment for occupations linked to Airline/Commercial/Professional Pilot (CIP 49.0102/Soc Codes 53-2012 and 53-2011) and Flight Crew in Kansas is 509. Over the past three years, linked occupations added 22 jobs in the region and are expected to need in aggregate 98 new pilots over the next five years, with over 90% of those open positions coming from those exiting the profession. Data provided by the Kansas Long Term Occupational Projections offer a similar picture of Kansas and the South-Central Region's need for qualified pilots. Data for Commercial Pilots (SOC 53-2012) indicates 360 openings in the South-Central region through 2026, with 356 of those openings resulting from pilots leaving the profession. Statewide data (53-2012) shows a similar trend with a total of 509 slots through 2026, with 490 of the openings resulting from pilots leaving the profession.

Wage data for commercial pilots (53-2012) from the Kansas Long Term occupational Report indicates graduates can expect good to excellent pay upon graduation. Overall, in the state, commercial pilot annual median income is $78,433, and this increases in the South-Central Region to a median wage of $116,540. Unfortunately, the same report does not provide data for Airline Pilots/Copilots (53-2011) However, JobsEQ data for the Wichita area indicates an annual mean wage of $121,900 for Commercial Pilot (53-2012) with an annual mean wage of $166,900 for Airline Pilots/Copilots (53-2011).

Data resources provide mixed information on the required educational levels. Both data sources (Kansas Long Term Occupational Report and the JobsEQ) indicate that the typical educational entry point for 53-2011 Airline Pilots, Copilots, and Flight Engineers is a bachelor's degree while 53-2012 Commercial Pilot requires High School Diploma. However, the JobsEQ data source indicates that 21% of the current Commercial Pilots and 19% of the current Airline Pilots/Copilots have attained an associate degree.

See Appendix A – F

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

See Appendix G - H

- Describe/explain any business/industry partnerships specific to the proposed program.
  If a formal partnership agreement exists, an 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 CA1 materials for review purposes. The agreement will not be published or posted during the comment period.

The College will continue developing working relationships with area businesses and industry to establish internships, earn and learn opportunities, and guaranteed interviews for program participants/ graduates. These partnerships are of tremendous benefit for placement upon graduation and obtainment of the available certifications. Below is a list of the current business and industry representatives that will work with the proposed program. The willingness of these business and educational institutions

working with WSU Tech to create this program speaks to the value WSU Tech places on industry and other partnerships.

Professional Pilot Program – Industry Advocate Team

Bill Christiansen	Christiansen Aviation
John O'Leary	Airbus Americus
Teresa Ortega	Ortega Aviation Services
Paul Spranger	Midwest Aviation
Allison Varriano	Textron Aviation
Dave Franson	Wichita Aero Club
Pamela Olson	Kin Schools
Chad Raney	Flight Safety
Erik Taylor	King Schools
Michele Gifford	Textron Aviation
Kirby Ortega	Ortega Aviation Services
Lindsay Ulfig	Textron Aviation

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.

In the United States, a student interested in learning to fly must select between two types of schools to obtain the skills and knowledge necessary to pass the Federal Aviation Administration requirements and practical exams for a Private, Commercial, Instrument, Multiengine Flight Instructor ratings/certificates. Kansas and the Wichita Economic Region have both types of flight schools.

Part 141 Flight Schools are credit-based programs providing students with the opportunity to obtain an associate degree along with the FAA certifications/Ratings. Part 141 schools, including the WSU Tech proposal, have additional ground school, flight lab, and general education courses that provide the depth and breadth of knowledge a graduate will need to succeed in the global economy. Additionally, at a Part 141 school, the flight and ground school curriculums, the instructional personnel and equipment are highly regulated by the FAA.

In Kansas, there are currently two Part 141 Flight Schools (Kansas State University Polytechnic and Hesston College). Both institutions offer BA and AAS options. Program level graduation and placement data was not available.

Part 61 flight schools are less structured than Part 141 schools with less ground school requirements and no general education requirements. In addition, students attending a Part 61 flight school must participate in 60 hours of additional flight time. The additional flight time will significantly expand the actual cost of training for the students as they progress from private pilot to certified flight in. See Chart A for the details.

CHART A Flight Time Requirements Part 141 vs Part 61

Certificates/Ratings	Part 141	Part 61
Private Pilot	35	61
Instrument Rating	35	40
Instrument Rating/Cross County	0	50
Commercial (including the above hours)	190	250

There is no K-TIP data to review for Part 61 flight schools; however, Chart B provides a list of Part 61 schools in the Wichita Economic Sector.

CHART B – Part 61 Flight Schools in the Wichita Economic Sector

Name	Location
Ortega Aviation Services	Wichita, KS
Textron Aviation Employees Flying Club	Wichita, KS
Pray Aviation	Augusta, KS
Prairie Air Services	Benton, KS
Aviation Academy LLC	Wichita, KS
Compass Rose Aviation	Derby, KS
FlightSafety Textron Aviation Training	Wichita, KS
Augusta Flight Center LLC	Augusta, KS
Mastery Flight Training	Rose Hill, KS
WoW Aviation	Wichita, KS

- Was collaboration with similar programs pursued: Please explain the collaboration attempt or rationale for why collaboration was not a viable option.

WSU Tech pursued collaboration in the development of the proposed program. As leadership in the Aviation department investigated the application process for a FAA Part 141 certified flight school it became clear the department did not have the necessary personnel resources on staff to develop an effective submission. As result, departmental leadership approached Ortega Aviation Services to coordinate the development of the FAA Part 141 certificate submission. When the proposed program has full KBOR approval the collaboration between WSU Tech and Ortega Aviation will expand. Ortega Aviation will be hired to provide flight school personnel (chief flight Instructor and flight instructors). This will ensure the proposed program has a sufficient supply of highly qualified certified flight instructors to move students through the required flight hours.

Additionally, WSU Tech is currently working with program leadership at K-State Polytechnic to create a 2+2 pathway for graduates from the professional pilot program to K-State Polytechnic Professional Pilot Bachelor's Degree program.

Program Information

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

See Appendix I

- 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 tracks.

- 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.

AAS Professional Pilot
Credit

Technical Studies	43
General Studies	17
Total Credits	*60*

Semester 1

Course #	Course Title	Credit	Function
PLT 104	*Introduction to Aviation*	3	Technical Studies
PLT 108	*Simulated Flight Lab I*	1	Technical Studies
PLT 112	*Private Pilot Flight Lab*	2	Technical Studies
PLT 116	*Aviation Weather*	3	Technical Studies
PDV 105	*Blueprint for Personal Success*	2	General Studies
	Math Elective	3	General Studies

Semester 2

Course #	Course Title	Credit	Function
PLT 120	*Instrument Regulations and Procedures*	3	Technical Studies
PLT 124	*Simulated Flight Lab II*	1	Technical Studies
PLT 128	*Basic Attitude Instrument Flying*	2	Technical Studies
PLT 132	*Aviation Safety and Human Factors*	3	Technical Studies
PLT 136	*Crew Resource Management*	2	Technical Studies
ENG 101	*Composition I*	3	General Studies
PLT 140	*Avionics*	2	Technical Studies

Semester 3

Course #	Course Title	Credit	Function
PLT 144	*Introduction to Commercial Flight*	2	Technical Studies
PLT 148	*Simulated Flight Lab III*	1	Technical Studies
PLT 152	*Commercial Flight I*	3	Technical Studies
PLT 156	*Multiengine Aircraft Operation*	2	Technical Studies
PLT 160	*Multiengine Flight Lab*	1	Technical Studies
	Communication Elective	3	General Studies
	Social Science Elective	3	General Studies

Semester 4

Course #	Course Title	Credit	Function
PLT 164	*Commercial Flight II*	3	Technical Studies
PLT 168	*Certified Flight Instruction*	5	Technical Studies
PLT 172	*Simulated Flight Lab IV*	1	Technical Studies
PLT 176	*Certified Flight Instruction Lab*	1	Technical Studies
PLT 180	*Gas Turbine Engine Systems*	2	Technical Studies
CED 115	*Computer Applications*	3	General Studies

List any pertinent program accreditation available:

- Provide a rationale for seeking or not seeking said accreditation.
- If seeking accreditation, also describe the plan to achieve it.

WSU Tech is currently seeking the appropriate accreditation required for the proposed program: Federal Aviation Administration - 14 CFR (Code of Federal Regulation) Part 141 Pilot School with the appropriate Air Agency Certificate and Part 141 LOA (letter of authorization). Apart from a final inspection of the program aircraft, all the steps in the accreditation process are complete. The aircraft in question (2020 Cessna 172) will be delivered to WSU Tech by Textron in late April of 2021. Once the aircraft is delivered the FAA will perform the inspection and final approval/accreditation is expected in May of 2021.

Faculty

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

In accordance with the requirements of a Federal Aviation Administration approved Part 141 Flight School WSU Tech will hire the following personnel to teach the technical courses in the Professional Pilot Program.

Program Director

The program director will provide general oversite for the proposed program as well as teach courses in the ground school.

- Minimum 4years of relevant industry experience
- Minimum 4 years of teaching or training experience
- Minimum 4 years of administrative experience, preferably in an institution of higher education
- Holds Certified Flight Instructor Instrument level rating.

Instructor

The full-time instructor(s) in this program will be responsible for providing all ground school courses and must be prepared to teach flight courses as needed.

- Minimum four years of relevant industry experience
- Minimum 2 years of teaching or training experience
- Two years' experience as a Certified Flight Instructor Instrument-250 hrs. of instrument dual
- One year of experience as a ground instructor

Chief Flight Instructor

The Chief Flight instructor will provide general oversite for the flight or FAA Part 141 part of the program and function as an instructor for flight courses. This position will also serve as the college's

primary liaison between Flight Operations and the FAA. A successful applicant for the position will meet the following criteria.

- Current Pilot requirements: Commercial ASEL/AMEL/IR, Flight Instructor, Instrument Flight Instructor, Multiengine Flight Instructor certificates.
- 2,000 hours as a pilot in command
- Three years as a Certified Flight Instructor- 1,000 of Dual given
- Two years' experience as a Certified Flight Instructor Instrument-250 hrs. of instrument dual
- One year of experience as a ground instructor
- Preferred Pilot Certificate requirements: Airline Transport Pilot Certificate

Certified Flight Instructor(s)
Certified Flight Instructors will provide instruction in the flight courses. A successful applicant for the position will meet the following criteria.

- Flight Instructors must be at least 18 years of age, read, speak and write the English language, hold the following ratings:
    - Commercial Pilot Certificate and or an Airline Transport Pilot, with aircraft category and class appropriate to the rating sought and an instrument rating. The instructor will have the instrument certificate with an airplane category and single engine class rating.

General Education Courses will be taught by existing faculty members who meet or exceed the following standards:

Transferable General Education Faculty:
Master's Degree or higher from a regionally accredited college or university in the teaching discipline or subfield, **OR** any master's degree plus 18 graduate or undergraduate credit hours in the teaching discipline or subfield.

Qualified faculty are identified primarily by credentials, but other factors may be considered in addition to the degree earned. For example, the ability to design curricula or develop and implement effective pedagogy through years of teaching with satisfactory performance.

Bachelor's Degree in the teaching discipline or subfield combined with 3+ years teaching experience in the discipline or subfield will be considered in lieu of a completed master's degree. A professional development plan to include a master's degree must be developed and pursued.

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.).

Advising Services

Advising prospective students will be shared between the Dean, Aviation and Flight Director for the Professional Pilot program and the college's Student Services staff. As with other programs offered by the college, Student Services personnel provide general information, assist students with admission to the college, and transfer credits. Program personnel supply detailed information about the Professional Pilot program. Financial aid advising is provided by the Financial Aid Specialist.

Additional services:

WSU Tech supplies a variety of services to students designed to ensure they are successful in their educational pursuits. There is no charge for any of these services.

Online Services: WSU Tech supplies many online support services designed to effectively support the hybrid and online instructional environment.

- NetTutor – available when the student is ready NetTutor is a 24/7 online tutoring service that provides effective as needed tutoring in all topic areas including general education discipline and technical areas such as nursing and engineering.
- Technology support for WSU Tech online students includes:
    - Enhanced WIFI hot spots at all WSU Tech locations available 24/7
    - *Student Laptop Loan service* available for nominal fee ($50.00 per semester) students may rent a Windows device through the WSU Tech IT Department
- WSU Tech Online Orientation – Online Orientation is designed to provide students with access to comprehensive orientation and college success materials when it fits their schedule. The materials include topics such as what to expect in an online or hybrid course and effective study skills.
- Online Student Services Support: All student services including academic advising, enrollment, and financial aid are available to students in the online environment.
- Library – extensive online database services such as EBSCOhost and ProQuest are available to all WSU Tech students.

The Department of Learning Services housed in the division of Academic Affairs provides warp around services to ensure students have access to the resources that need to be fully prepared for the rigors of college coursework. Provided services include:

- Library: The Library is located on the South campus while the NCAT facility includes a shared space which houses both library and tutoring. Additionally, online library services are available to all students and include access to extensive database services such as EBSCOhost and ProQuest. Students can also access several databases by signing up for the Kansas Library Card.
- Tutoring Hub: Services are provided at both the NCAT and South Campuses. Typical general education topics such as Math, English, and writing as well as technical topics such as Blueprint Reading and Accounting, are available. Tutoring services for science-based disciplines and health care programs are located on the South and Old Town campuses.
- Mentoring: The Learning Services department provides a formalized academic mentoring program for students with academic risk factors. This program pairs students with faculty volunteers and they work together to ensure students meet their academic obligations and goals.
- Academic Success Week: At the beginning of the Fall and Spring semesters the Learning Services department hosts a week of workshops and events designed to engage students in the academic side of college. Topics include notetaking skills, dealing with stress, test taking skills, using library and technology resources such as the IT help desk and the Colab.

TRIO Student Support Services: For students who meet the college's TRIO eligibility requirements, WSU Tech provides a package of services designed to help students maximize their potential and meet their educational goals. These services include academic coaching, tutoring, financial planning, transfer assistance, culture enrichment, career exploration, and mentoring**.**

The Department of Student Engagement: This department provides students with opportunities to engage in college life outside the classroom. Activities include student organizations and clubs such as Skills USA, Veterinary Nursing and Esports clubs. Other activities include welcome week events such as "Doughnuts with Your Dean" and lecture series on current topics.

The Office of Disability Services: coordinates services for students with disabilities.

Career Services: provides students with assistance in defining career goals, exploring personal interests, and career/general counseling.

Collaboration Lab: The Collaboration Lab (CoLab) provides students, faculty, and staff access to the latest technologies to enhance the learning experience. The technologies include HoloLens's, green screens, a recording studio with audio and visual capabilities, online and on-ground meeting spaces equipped with up-to-date technology providing collaboration and recording capabilities. While physically located at the WSU Tech South Campus, the CoLab technologies are available at other WSU Tech locations via a mobile version of the lab.

Personnel

In this program the personnel are divided into three groups including program leadership/ground school, flight school, and support staff. In the implementation year there will be a program director and one full time faculty member in the program leadership/ground school group. This group will expand to two full time faculty members in year two. These positions will be funded through a combination of institutional funds and student tuition. The flight school group will be comprised of the Chief Flight Instructor and Certified Flight Instructors. These will be provided to WSU Tech through a MOU with Ortega Aviation Services. The funding for this will be provided by flight fees. The support staff will include the Flight & Operations Dispatcher and Director of Maintenance. The Flight & Operations Dispatcher is a full-time position funded by institutional funds. The Director of Maintenance position will provide support to both the Professional Pilot Program and the current Aviation Maintenance Technology (AMT) Program. The position will be funded half through institutional funds attached to the Professional Pilot program and half through institutional funds attached to the AMT Program.

Physical facilities:

WSU Tech will house the Professional Pilot program at the National Center for Aviation Training (NCAT – 4004 N Webb Road). Two spaces in the Aviation wing at NCAT are set aside to accommodate this program. S109 will serve as the flight office for the program with separate areas for a dispatch center, records area, and an office for the Flight Director. S159 will serve as a dedicated classroom. Changes to S109 will require some remodeling. Ten thousand dollars from the Capital Outlay budget has been allocated for this project. The aircraft utilized for flight courses will be stored in Hanger 11 at the Jabara Airport (AAO) which is just to the south of the NCAT facility. The aircraft will be delivered each day by Midwest Corporate Aviation via the NCAT ramp. Midwest Corporate Aviation will return the aircraft to Hanger 11 at the end of the teaching day. The Hanger fee will be included in the Flight expense paid for through student flight time.

Instructional Equipment

During the implementation year the proposed program will spend $82,000 to lease aircraft (equipment) for the program. The leasing costs will be offset by flight fees and industry donations. WSU Tech chose to go with a lease agreement instead of outright purchasing to ensure that students have state of the art aircraft and avionics, and a lease does limit long-term financial risk for program investment. A twelve-month lease by Textron Aviation at $1 month for the first 12 months for the 2nd aircraft is included in year one. An additional $15,000 will be spent on purchasing tools and supplies. These costs will be offset by institutional funds. As detailed in the CA1a, this program will incur additional costs of $81,000.00 for hanger rental, fuel, insurance, and maintenance that will be offset by a combination of flight fees, student fees, and sharing costs with the Aviation Maintenance Program in Year 1 and $100,000 in Year 2. These costs are directly tied to student flight time and thus directly tied to Student

Flight Fees. Sustainability plans for the second and third year of the program also include an additional $135,000 in equipment for a 3rd Cessna 172 and a multi-engine aircraft. This cost will be offset by flight fees related to Multi-engine and flight time from student flight fees. $5000 for instructional supplies and technology is allotted in year two to cover simulation licensing and new developments in hybrid instruction. They are earmarked to be paid through Institutional Funds and Student Fees respectively.

Instructional Materials: The proposed program will be distributed a budget from the general fund. Associated materials fees paid by the students are listed below. The fees will allow WSU Tech to pay for student's versions of software and third-party publisher content needed for effective teaching and learning. The proposed program will use a third-party curriculum vendor known as the King School to provide web-based content to students. The $735 fee associated with Simulated Flight Courses is $49 per contact hour for instructor time and Simulation rental during the time the student's assigned simulation time. This fee is also applied for any added ground or simulation time students request or require in addition to the 15-hour minimum. Introduction to Aviation includes the Flight Bag costs for the students that includes their learning device, headset, flight suit, and other program specific equipment and learning materials. These fees are included in course costs as is WSU Tech's practice instead of having fees outside of program costs.

Chart C – Materials Fees

Course Number	Course Title	Associated Materials Fees
PLT 104	Introduction to Aviation	$2099
PLT 108	Simulated Flight Lab I	$735
PLT 112	Private Pilot Flight Lab	$0.0
PLT 116	Aviation Weather	$0.0
PLT 120	Instrument Regulations and Procedures	$249
PLT 124	Simulated Flight Lab II	$735
PLT 128	Basic Attitude Instrument Flying	$0.0
PLT 132	Aviation Safety and Human Factors	$0.0
PLT 136	Crew Resource Management	$0.0
PLT 140	Avionics	$0.0
PLT 144	Introduction to Commercial Flight	$249
PLT 148	Simulated Flight Lab III	$735
PLT 152	Commercial Flight I	$0.0
PLT 156	Multiengine Aircraft Operation	$249
PLT 160	Multiengine Flight Lab	$0.0
PLT 164	Commercial Flight II	$0.0
PLT 168	Certified Flight Instruction	$249
PLT 172	Simulated Flight Lab IV	$735
PLT 176	Certified Flight Instruction Lab	$0.0
PLT 180	Gas Turbine Engine System	$0.0
PDV 105	Blueprint for Personal Success	$30.0
	15 credits of General Education	$0.0

Students in this program will also be responsible for fees associated with each license/rating. Students are billed at $265 per each dual flight hour (flying with an instructor) and $195 for each solo flight hour (flying without an instructor). The per hour flight fees covers the expenses associated with flight: lease time, flight instructor time, fuel, insurance, hanger, and maintenance. WSU Tech Flight estimated fees are listed below in Chart D. These costs are based on average dual/solo mix hours per rating and could change for each student. Students can and usually do choose to fly more than the minimum. The flight hour fees do not change.

Chart D – Flight Fees

License/Rating	Minimum Flight Hours	Student Flight Fees
Private Pilot	35	$8,855
Instrument Pilot	35	$8,575
Commercial Pilot	120	$27,600
Multi engine	20	$8,900
Certified Flight Instructor	25	$5,925

Details on **CA-1a form.**

See Appendix J

- 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.

Textron Aviation is providing a Cessna 172 Top Hawk aircraft for use in the program. Textron's industry donation to the program is the leasing of the first aircraft at a cost of $1.00 per month for the first twelve months. WSU Tech will lease additional aircraft at the rate of $5500 a month or $110/flight hour.

Program Review and Assessment

Describe the institution's program review cycle.

The Professional Pilot program will go through the same assessment and program review processes that are used for all other programs throughout the college. The program outcomes are housed and mapped to courses within the college curriculum management systems known as WIDS (Worldwide Instructional Design). Students are regularly evaluated throughout the program for mastery of knowledge and technical skills. Assessment tools include written exams, demonstrations, projects, and other evaluation techniques. Program Assessment Plans (OAP's) and Analysis (OAP/Analysis) are completed on an annual basis and are housed in the WIDS system. This process is completed by the faculty and facilitated by the Director of Assessment. Data from WIDS is compiled and utilized by the programs to identify their strengths and challenges. They are also used to verify student learning and plan for future instructional improvements. The faculty make curricular revisions as indicated by data. In the case of a non-aligned program, this would include changes to outcomes, competencies, content, instruction, resources, and other curricular activities. Aligned programs include changes that enhance the program but ensure requirements of alignment are met. Supplemental data is also collected through course and program evaluations, student satisfaction surveys, student and employer assessment surveys, and graduate placement statistics.

A program Industry Advocate Team (IAT) will semi-annually review program content, admission requirements, equipment, program outcomes, objectives, and competencies, and receive information regarding program performance yearly. Information from these meetings will guide faculty regarding industry needs and provide assurance that the knowledge and skills they are teaching is what is needed by industry. In addition, any state aligned curriculum approved by KBOR will be implemented.

Each program conducts a formal review to ensure that its objectives and competencies are being achieved, and that there is a level of accountability in place. These reviews take place on a three-year cycle. The program review considers all the information produced about the program and brings it together in one evaluation. The program review allows programs and departments to identify their strengths, pinpoint areas for improvement, and discuss other resources that impact their area. The structure of program review is very much like program self-study. Each program review is made up of six major components: program information, curriculum, advisory committee, resources, program outcomes, and summary. For each area, faculty are required to describe or provide feedback on specific aspects, providing data and/or support documentation when available. Faculty complete the program review documents which are then submitted to the appropriate Dean. After any necessary adjustments, the program review documentation is submitted to the Program Review Committee comprised of the Academic Vice Presidents and the Director of Assessment. After reviewing the documentation, the Program Review Committee meets with program leadership to determine program improvement plans based on recommendations identified within the program review process.

Program Approval at the Institution Level

- Provide copies of the minutes at which the new program was approved from the following groups:

See Appendix K - M

- Program Advisory Committee 3/31/2021
  (including a list of the business and industry members)
- Curriculum Committee 4/5/2021
- Governing Board 4/15/2021
  (including a list of all Board members and indicate those in attendance at the approval meeting)

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

General Aviation's Contribution to U.S. Economy Remains Strong

Study reveals general aviation supports over 1.1 million jobs and $247 billion in economic output.

Aviation Pros press release

National Air Transportation Association (NATA)
Feb 19th, 2020

A group of seven general aviation associations today welcomed an updated study detailing the contributions of general aviation to the U.S. economy. The study, conducted by PricewaterhouseCoopers LLP, determined that general aviation supports a total 1,179,200 jobs and a total of $246.8 billion in total economic output in the U.S.

The General Aviation Manufacturers Association (GAMA), Aircraft Electronics Association (AEA), Aircraft Owners and Pilots Association (AOPA), Experimental Aircraft Association (EAA), Helicopter Association International (HAI), National Air Transportation Association (NATA) and National Business Aviation Association (NBAA) sponsored the study, with the support from JETNET LLC. and Conklin & de Decker. Leaders of the associations expressed confidence in the study's portrayal of the expanding breadth and depth of the general aviation industry.

"U.S. economic growth and opportunity coming from the general aviation industry is increasing, and this trend will only accelerate as supersonic and electrically propelled business aircraft drive deeper into their development phases." said Pete Bunce, GAMA president and CEO. "This study confirms that general aviation continues to have a very significant impact on the U.S. economy. As an industry, we must continue to keep pace with innovation to improve safety and focus intently on workforce development by promoting the amazing career potential available to young people through general aviation."

“As leaders in product innovation, the contributions to the U.S. economy by AEA member companies are significant, and we are pleased to join our partners in general aviation to help share this story with policymakers at all levels,” said AEA president and CEO Mike Adamson. “Equally important, though, is our members’ continued development and installation of next-generation lifesaving technologies that will make flying even safer and more accessible while creating opportunities for future aviators and entrepreneurs.”

“General aviation continues to be a positive contributor to our nation’s economy and benefits thousands of communities,” said Mark Baker, AOPA president and CEO. “We must also continue working together to inspire the next generation of pilots and aircraft technicians and recognize this uniquely American industry and its exceptional impact on our country.”

“This report confirms that general aviation is an economic powerhouse in America,” said Jack J. Pelton, CEO and chairman of the board for the Experimental Aircraft Association. “More than the impressive numbers, however, general aviation represents the best of our country: Innovation, freedom, and a continuing reach toward progress that is encompassed by individuals pursuing their own dreams of flight.”

“The vertical-lift and helicopter industry is in a dynamic transition right now, as we witness the growing potential for both new vertical-lift vehicles and remotely-piloted vehicles to meet demands for urban air mobility and delivery,” said James A. Viola, HAI president and CEO. “And while the future looks bright, this study provides reassurances of the strength and stability of the current helicopter industry.”

“Studies and industry collaborations like these are invaluable to our efforts to demonstrate to policymakers at the local, state, and federal levels the impact of general aviation to communities. Our membership uses these tools nationwide to support initiatives that create workforce opportunities, build on responsible environmental stewardship, and grow commerce,” stated NATA President and CEO Timothy Obitts.

"As this important study reminds us, general aviation remains an essential and powerful contributor to our nation's economy, providing critical services to citizens, companies and communities across the country," said NBAA President and CEO Ed Bolen. "Hundreds of lawmakers at the federal, state and local level have recognized the industry's vital role in America's economy and transportation system – a role that will only grow more important as the industry continues to innovate and evolve in the years to come."

Aviation Pros press release

PILOT AND TECHNICIAN OUTLOOK 2020–2039

EXECUTIVE SUMMARY

The 2020 Boeing Pilot and Technician Outlook projects that 763,000 new civil aviation pilots, 739,000 new maintenance technicians and 903,000 new cabin crew members will be needed to fly and maintain the global fleet over the next 20 years. The forecast is inclusive of the commercial aviation, business aviation and civil helicopter industries and assumes air traffic recovers to 2019 levels within the next few years.

EXECUTIVE SUMMARY

Meeting the projected long-term demand will require a collective effort across the global aviation industry. As tens of thousands of pilots, technicians and cabin crew members reach retirement age over the next decade, educational outreach and career pathway programs will be essential to inspiring and recruiting the next generation.

While the current industry downturn, driven by COVID-19, has resulted in a temporary oversupply of qualified personnel, the long-term need remains robust. In recent decades, aviation has experienced external forces that have affected demand, such as 9/11, SARS and the Great Financial Crisis. Recovery has generally followed several years later, as the fundamentals driving passenger and air traffic demand remain strong.

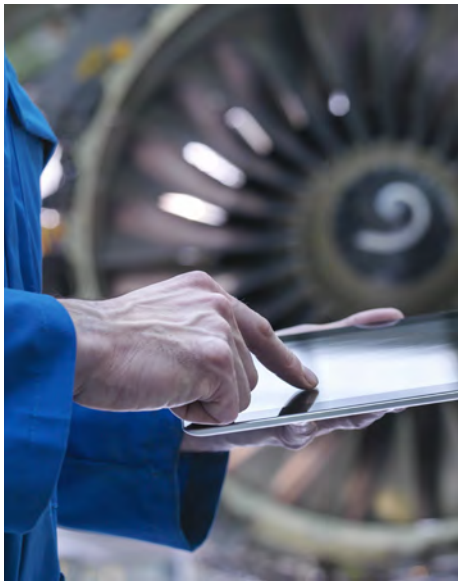
Prior to the downturn, the commercial aviation industry was poised to experience a shortfall of qualified pilots and technicians. Analysis of new licenses and certificates issued over the past few years had indicated that the number of new personnel entering the industry was lagging demand. The short-term oversupply allows operators the opportunity to build their pipeline in anticipation of growth returning in the next few years.

Some personnel who are currently furloughed because of the market downturn will find employment in the government and business and general aviation sectors that have previously struggled with shortages amid surging commercial demand. Additionally, as commercial traffic demand returns in upcoming years, aspiring aviators will have the opportunity to fill open positions created by a combination of personnel retirements and fleet growth.

Amid challenges posed by COVID-19, the training industry has begun to adopt increasingly innovative solutions. Many providers have transitioned their offerings to online and virtual formats where possible, allowing students to continue their learning safely. Immersive technologies, adaptive learning and flexible distance learning methods are also being explored to enable optimum learning and knowledge retention. Investments in technology that are being made today will likely lead to a long-term fundamental shift in how training is conducted.

Competency-based training and assessment programs are gaining traction, which enables a shift from prescriptive, task-based training to a more holistic approach. Advances in adaptive learning capabilities, artificial intelligence and learner analytics will further personalize training to the individual student so that greater emphasis can be placed on closing knowledge gaps.

As the industry navigates the market downturn, effective training and an adequate supply of personnel remain critical to maintaining the health, safety and prosperity of the aviation ecosystem.



Forecast Methodology

New personnel demand is calculated based on a 20-year fleet forecast for commercial aviation aircraft with more than 30 seats, business jets and civil helicopters. Based on fleet growth, aircraft utilization, attrition rates and regional differences in crewing specific to aircraft type, Boeing's Pilot and Technician Outlook estimates the number of new pilots, technicians and cabin crew members needed worldwide.

Slight variations to the forecast can occur on a year-over-year basis as a result of many factors, some of which include changes in regulations, crew productivity and aircraft mix. The forecast does not currently include assumptions for single-pilot commercial operations or autonomous airplanes. We continue to track the market for indications of regulatory movement and will update our forecast accordingly.

PILOTS

Air traffic demand and operator flight-hours have declined significantly over the past year, resulting in large numbers of pilot furloughs and layoffs. Given the current oversupply of qualified pilots, labor shortages may seem a distant memory. However, as the industry positions itself for recovery, adequate qualified pilot supply remains an important consideration as a large contingent of the workforce approaches mandatory retirement age. Positions left vacant because of retirements will need to be filled, which is likely to coincide with industry recovery, fleet growth and efforts by other operators to recruit new pilots for similar purposes.

Prior to the downturn, many airlines had begun utilizing cadet programs to recruit, develop and train aspiring pilots. It generally takes two or more years for an aspiring pilot to achieve a commercial pilot license. Aspiring aviators who begin their training today will be well positioned to take advantage of new job opportunities as the industry recovers.

As many aspects of training transition to digital formats, new opportunities to use data analytics, artificial intelligence and machine learning have emerged, which provides a more personalized and adaptive learning experience. Instruction is evolving to train pilots to proficiencies and competencies rather than a prescriptive, task-based syllabus. Continuous improvement in training technologies and methodologies will ensure pilots are effectively trained to address the most common operational risks, both now and in the future.

This photo was taken before Boeing implemented COVID-19 pandemic safeguards.

TECHNICIANS

The market downturn has spurred large-scale parking of the global fleet, creating new challenges for the industry. Despite a large number of aircraft in storage, technicians continue to play a vital role in ensuring the aircraft remain airworthy. Improper or incomplete maintenance could lead to corrosion, damaged wires and other issues that lead to more extensive and expensive repairs. The need for continued maintenance of the parked fleet has mitigated the impact on technician employment worldwide.

In the near term, operators are deferring noncritical maintenance to conserve cash, which has led to a decline in maintenance, repair and overhaul (MRO) demand. This has resulted in a temporary decrease in technician demand; however, MRO demand is expected to recover as airlines bring parked aircraft back into service and regular maintenance checks resume. Talent pipeline challenges that the industry has been facing for years remain a concern as large numbers of experienced technicians approach retirement age.

While efforts continue to be made to modernize the aviation technician training curriculum and improve training outcomes, organizations have faced various challenges. The short-term impact of local jurisdictions limiting in-person instruction has served as a catalyst, driving additional investment in modernization and nontraditional instruction platforms such as virtual training. The long-term outlook for these alternative platforms is quite positive as some of the regulatory exemptions issued because of COVID-19 evolve to become industry standards.

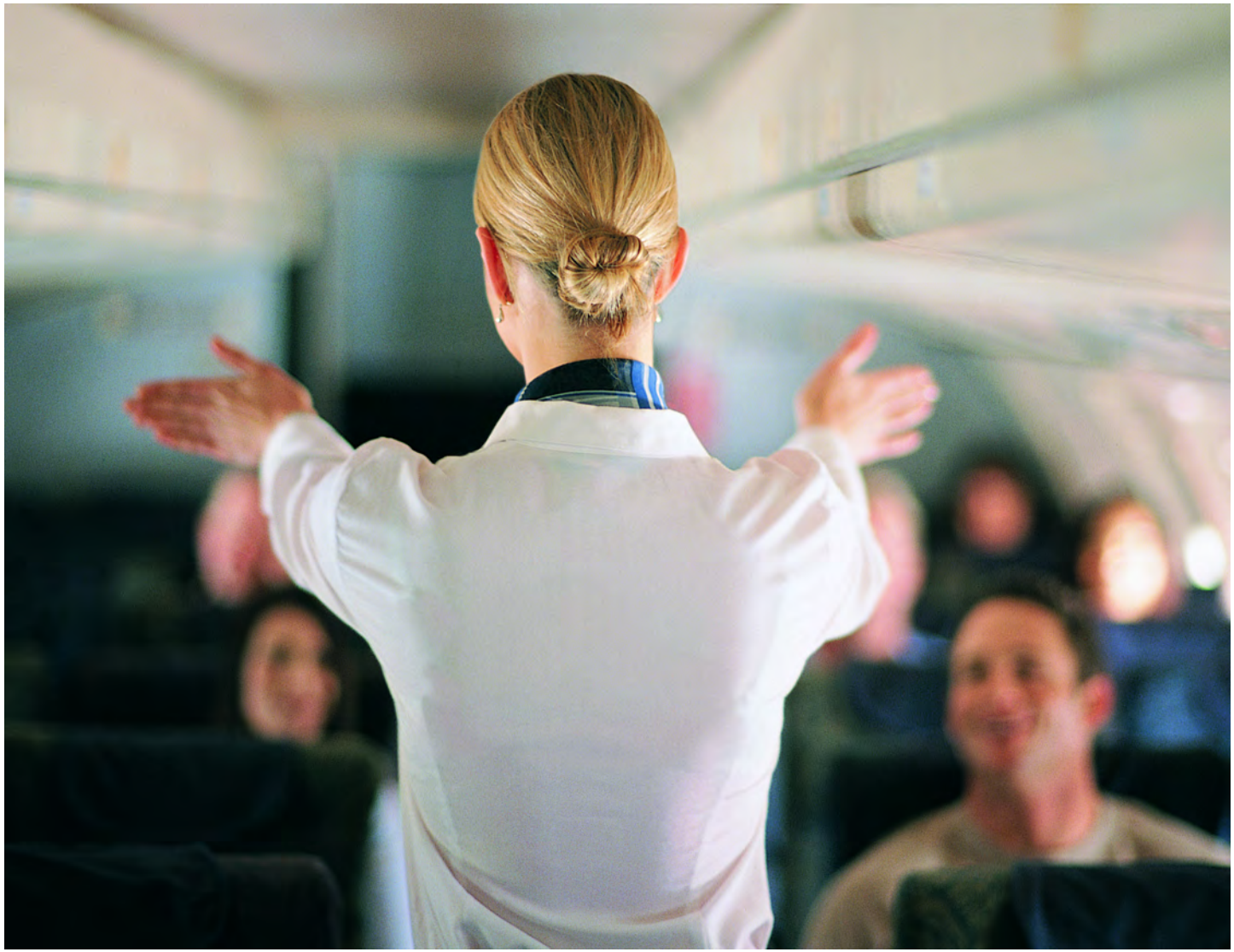
This photo was taken before Boeing implemented COVID-19 pandemic safeguards.

CABIN CREWS

While cabin crew members are most visible in their customer service role, their primary purpose is to ensure the safety of passengers. This responsibility has been further emphasized during the past year, as cabin crews have taken extra precautions to strengthen traveler confidence.

In the near term, passengers will experience a modified level of service as cabin crews focus on maintaining hygiene, safety and sanitation throughout the aircraft cabin. Training continues to focus on ensuring cabin crew members have the skills to recognize and mitigate safety risks. Advances in scenario-based training and distance learning technologies support continuous learning and prepare cabin crews for situations that may occur in the cabin.

Over the forecast period, regulatory requirements, attrition replacement and business-model differentiation will continue to drive cabin crew demand across the industry.



This photo was taken before Boeing implemented COVID-19 pandemic safeguards.

PILOT AND TECHNICIAN OUTLOOK BY REGION

New Personnel Demand

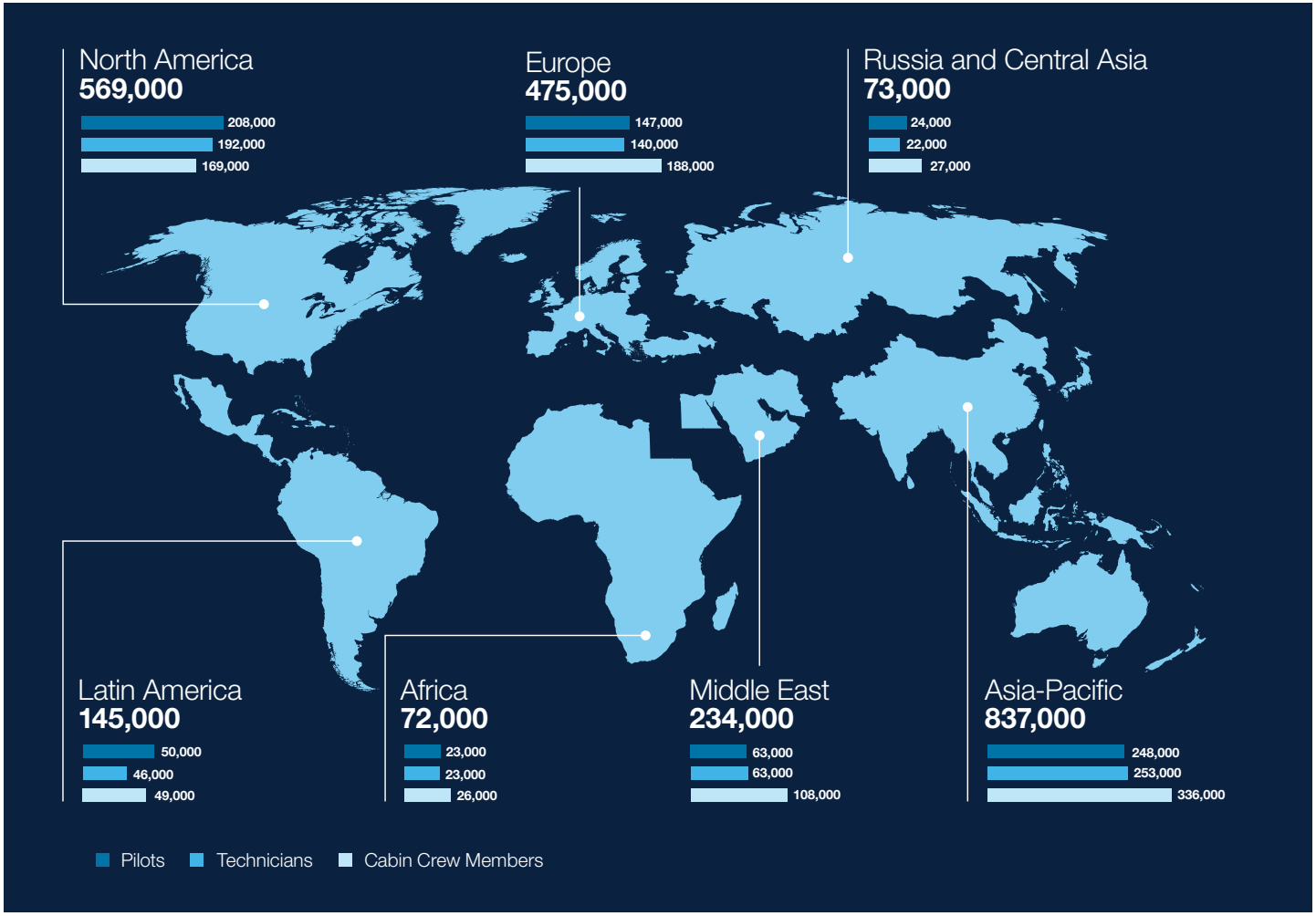
763,000 Pilots

739,000 Technicians

903,000 Cabin Crew Members

Commercial Aviation
2,086,000
New Personnel

Business Aviation and Civil Helicopter
319,000
New Personnel



OUTLOOK ON A PAGE

Region	Asia-Pacific	North America	Europe	Middle East	Latin America	Russia and Central Asia	Africa	World
GROWTH MEASURES								
Economic growth (GDP)	3.6%	1.9%	1.2%	2.3%	2.2%	1.5%	2.6%	2.5%
NEW COMMERCIAL PERSONNEL DEMAND								
Pilots	226,000	129,000	115,000	58,000	36,000	22,000	19,000	605,000
Technicians	237,000	123,000	113,000	59,000	34,000	21,000	20,000	607,000
Cabin crew members	333,000	156,000	181,000	106,000	47,000	26,000	25,000	874,000
Total	**796,000**	**408,000**	**409,000**	**223,000**	**117,000**	**69,000**	**64,000**	**2,086,000**
NEW BUSINESS AVIATION AND CIVIL HELICOPTER PERSONNEL DEMAND								
Pilots	22,000	79,000	32,000	5,000	14,000	2,000	4,000	158,000
Technicians	16,000	69,000	27,000	4,000	12,000	1,000	3,000	132,000
Cabin crew members	3,000	13,000	7,000	2,000	2,000	1,000	1,000	29,000
Total	**41,000**	**161,000**	**66,000**	**11,000**	**28,000**	**4,000**	**8,000**	**319,000**
TOTAL NEW PERSONNEL DEMAND								
Pilots	248,000	208,000	147,000	63,000	50,000	24,000	23,000	763,000
Technicians	253,000	192,000	140,000	63,000	46,000	22,000	23,000	739,000
Cabin crew members	336,000	169,000	188,000	108,000	49,000	27,000	26,000	903,000
Total	**837,000**	**569,000**	**475,000**	**234,000**	**145,000**	**73,000**	**72,000**	**2,405,000**

2020–2039 values, rounded

For more information, visit our website
boeing.com/pto

322135 10/20

TABLE 1

ESTIMATED ACTIVE AIRMEN CERTIFICATES HELD
as of DECEMBER 31

CATEGORY	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Pilot--Total	**664,565**	**633,317**	**609,306**	**584,362**	**590,039**	**593,499**	**599,086**	**610,576**	**617,128**	**627,588**
Student 1/	197,665	167,804	149,121	128,501	122,729	120,546	120,285	119,946	118,657	119,119
Recreational (only)	127	144	153	175	190	220	238	218	227	212
Sport (only)	6,467	6,246	6,097	5,889	5,482	5,157	4,824	4,493	4,066	3,682
Airplane 2/										
Private	161,105	163,695	162,455	162,313	170,718	174,883	180,214	188,001	194,441	202,020
Commercial	100,863	99,880	98,161	96,081	101,164	104,322	108,206	116,400	120,865	123,705
Airline Transport	164,947	162,145	159,825	157,894	154,730	152,933	149,824	145,590	142,511	142,198
Rotorcraft (only) 3/	14,248	15,033	15,355	15,518	15,566	15,511	15,114	15,126	15,220	15,377
Glider (only) 4,5/	19,143	18,370	18,139	17,991	19,460	19,927	20,381	20,802	21,141	21,275
Pilot Total w/o Student Category 1/	**466,900**	**465,513**	**460,185**	**455,861**	**467,310**	**472,953**	**478,801**	**490,630**	**498,471**	**508,469**
Flight Instructor Certificates 6/	**113,445**	**108,564**	**106,692**	**104,382**	**102,628**	**100,993**	**98,842**	**98,328**	**97,409**	**96,473**
Instrument Ratings 6,7/	**314,168**	**311,017**	**306,652**	**302,572**	**304,329**	**306,066**	**307,120**	**311,952**	**314,122**	**318,001**
Remote Pilots 9/	**160,302**	**106,321**	**69,166**	**20,362**	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap
Non Pilot--Total 8/	**714,201**	**688,002**	**671,222**	**652,943**	**728,329**	**717,399**	**707,155**	**701,291**	**695,515**	**686,717**
Mechanic 8/	301,087	292,002	286,268	279,435	342,528	341,409	338,844	337,775	335,431	331,989
Repairmen 8/	36,294	35,382	35,040	34,411	39,363	39,566	39,952	40,444	40,802	41,267
Parachute Rigger 8/	6,800	6,430	6,192	5,851	8,846	8,702	8,491	8,474	8,491	8,407
Ground Instructor 8/	69,991	67,784	66,423	65,053	70,957	71,755	72,493	73,599	74,586	75,205
Dispatcher 8/	22,598	21,465	20,664	19,758	23,754	23,113	22,401	21,862	21,363	20,691
Flight Navigator	40	58	64	67	102	115	126	141	146	174
Flight Attendant	245,699	231,355	222,037	212,607	200,319	188,936	179,531	172,357	167,037	159,946
Flight Engineer	31,692	33,526	34,534	35,761	42,460	43,803	45,317	46,639	47,659	49,038

Note: The term airmen includes men and women certified as pilots, mechanics or other aviation technicians.

1/ In July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months. This resulted in the increase in active student pilots to 119,119 from 72,280 at the end of 2009. Starting with April 2016, there is no expiration date on the new student pilot certificates, which generates a cumulative increase in the numbers.

2/ Includes pilots with an airplane only certificate. Also includes those with an airplane and a helicopter and/or glider certificate. Prior to 1995, these pilots were categorized as private, commercial, or airline transport, based on their airplane certificate. In 1995 and after, they are categorized based on their highest certificate. For example, if a pilots holds a private airplane certificate and a commercial helicopter certificate, prior 1995, the pilot would be categorized as private; 1995 and after as commercial.

3/ See table 7 for the total number of pilots with a helicopter certificate.

4/ See table 8 for the total number of pilots with a glider certificate.

5/ Glider pilots are not required to have a medical examination. Beginning with 2002, glider pilots with another rating but no current medical are counted as "Glider (only)."

6/ Not included in total.

7/ Special ratings shown on pilot certificates, do not indicate additional certificates.

8/ Historically, numbers represented all certificates on record. No medical examination required. In 2016, Federal Regulation required that airmen without a plastic certificate no longer considered active. Therefore, starting with 2016, those airmen with a paper certificate only were excluded. Data for 1996 and 1997 are limited to certificates held by those under 70 years of age.

9/ Remote pilot certification started in August 2016. These numbers are not included in the pilot totals.

N/Ap Not applicable.

U.S. Civil Airmen Statistics, 2019

The U.S. Civil Airmen Statistics is an annual study published to meet the demands of FAA, other government agencies, and the industry. It contains detailed airmen statistics not published in other FAA reports.

Statistics about airmen, both pilot and nonpilot, are obtained from the official airmen certification records maintained at FAA's Aeronautical Center, Oklahoma City, Oklahoma.

The term “airmen” in this report includes men and women certified as pilots, mechanics or other aviation technicians. An active airman is one who holds both an airmen certificate and a valid medical certificate. Airmen who must have a valid medical to exercise the privileges of their certificate are all airplane pilots, rotorcraft pilots, flight navigators, and flight engineers. Glider pilots are not required to have a medical examination.

List of Tables

TABLE 2

ESTIMATED ACTIVE WOMEN AIRMEN CERTIFICATES HELD
as of DECEMBER 31

CATEGORY	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Pilot--Total	**52,740**	**46,463**	**42,694**	**39,187**	**39,287**	**39,322**	**39,621**	**40,621**	**41,316**	**42,218**
Student 1/	27,255	22,266	19,219	15,971	14,580	14,369	14,405	14,643	14,683	14,767
Recreational (only)	7	10	14	15	16	16	17	16	18	12
Sport	254	240	229	223	211	192	174	152	135	118
Private 2/	10,683	10,255	9,971	10,009	11,339	11,652	11,909	12,456	12,927	13,566
Commercial 2/	7,038	6,556	6,267	6,081	6,587	6,685	6,911	7,536	7,956	8,175
Airline Transport 2/	7,503	7,136	6,994	6,888	6,554	6,408	6,205	5,818	5,597	5,580
Pilot Total w/o Student Category 1/	**25,485**	**24,197**	**23,475**	**23,216**	**24,707**	**24,953**	**25,216**	**25,978**	**26,633**	**27,451**
Flight Instructor Certificates 4/	**7,957**	**7,335**	**7,105**	**6,848**	**6,669**	**6,521**	**6,386**	**6,371**	**6,350**	**6,359**
Remote Pilots 6/	**10,818**	**6,188**	**3,462**	**793**	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap
Non Pilot--Total	**215,905**	**203,725**	**195,993**	**187,914**	**183,259**	**174,000**	**166,294**	**160,452**	**155,918**	**150,019**
Mechanic 5/	7,573	7,133	6,855	6,536	8,419	8,151	7,917	7,729	7,487	7,215
Repairmen 5/	1,996	1,868	1,847	1,822	2,289	2,278	2,288	2,307	2,278	2,312
Parachute Rigger 5/	681	631	597	540	811	763	712	697	683	655
Ground Instructor 5/	5,340	5,085	4,924	4,772	5,907	5,889	5,869	5,853	5,880	5,894
Dispatcher 5/	4,389	4,086	3,867	3,615	4,503	4,326	4,115	3,930	3,744	3,530
Flight Navigator	0	0	0	1	1	1	1	1	1	1
Flight Attendant	194,578	183,519	176,471	169,170	159,703	150,941	143,701	138,223	134,114	128,646
Flight Engineer	1,348	1,403	1,432	1,458	1,626	1,651	1,691	1,712	1,731	1,766

Note: The term airmen includes men and women certified as pilots, mechanics or other aviation technicians. This table (Table 2) represents data for females only.
Data in the Pilot Categories does not directly correspond to the same category in Table 1 as glider and/or helicopter and/or gyroplane certs are not broken out separately.
Data in the Non Pilot Categories as well as Flight Instructor Certificates does directly correspond to the same category in Table 1.

1/ In July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months. This resulted in the increase in active student pilots to 14,767 from 8,450 at the end of 2009.
Starting with April 2016, there is no expiration date on the new student pilot certificates, which generates a cumulative increase in the numbers.

2/ Includes those with an airplane and/or a helicopter and/or glider and/or a gyroplane certificate.

3/ Glider and lighter-than-air pilots are not required to have a medical examination.

4/ Not included in total.

5/ Historically, numbers represented all certificates on record. No medical examination required. In 2016, Federal Regulation required that airmen without a plastic certificate no longer considered active. Therefore, starting with 2016, those airmen with a paper certificate only were excluded.

6/ Remote pilot certification started in August 2016. These numbers are not included in the pilot totals.

N/Ap Not applicable.

TABLE 3

ESTIMATED ACTIVE PILOT CERTIFICATES HELD
BY CLASS OF CERTIFICATE AND BY FAA REGION
December 31, 2019

CLASS OF CERTIFICATE	Total 1/	Alaskan	Central	Eastern	Great Lakes	Northwest Mountain	Southern	South-west	Western-Pacific	Outside U.S. /2
Total--All Pilots	**664,565**	**8,583**	**47,246**	**109,478**	**89,346**	**74,524**	**107,320**	**87,494**	**99,360**	**41,214**
Student	**197,665**	**1,986**	**13,742**	**33,799**	**25,369**	**20,773**	**33,050**	**27,004**	**29,760**	**12,182**
Recreational Airplane (only)	**127**	**1**	**21**	**38**	**34**	**7**	**10**	**9**	**6**	**1**
Sport (only)	**6,467**	**56**	**584**	**1,086**	**1,471**	**720**	**972**	**740**	**809**	**29**
Airplane 3/										
Private --Total	**161,105**	**2,523**	**12,959**	**27,648**	**25,498**	**18,352**	**22,048**	**20,730**	**25,115**	**6,232**
Private Airplane (only)	154,972	2,471	12,519	26,596	24,642	17,575	21,371	19,776	24,006	6,016
Private Airplane, Private Glider	2,154	17	115	432	262	289	252	242	472	73
Private Airplane, Private Gyroplane	40	0	5	1	6	4	6	11	7	0
Private Airplane, Private Helicopter	1,998	28	134	330	218	258	286	235	414	95
Private Airplane, Private Glider, Private Helicopter	69	1	2	13	2	9	8	7	19	8
Private Glider	4	0	0	0	0	0	1	1	1	1
Private Airplane-Other	1,868	6	184	276	368	217	124	458	196	39
Commercial--Total	**100,863**	**1,524**	**6,504**	**14,429**	**12,410**	**10,272**	**15,534**	**12,659**	**14,988**	**12,543**
Commercial Airplane (only)	80,975	1,263	4,939	10,823	10,139	7,837	12,408	10,061	11,479	12,026
Commercial Airplane, Private Glider	970	21	62	179	125	143	115	118	189	18
Commercial Airplane, Commercial Glider	1,810	25	113	351	264	268	231	191	343	24
Commercial Airplane, Commercial Gyroplane, Commercial Glider	4	0	0	2	1	0	0	1	0	0
Commercial Airplane, Private Helicopter	834	18	56	152	92	104	134	90	140	48
Commercial Airplane, Commercial Glider, Private Helicopter	45	0	1	13	6	6	7	5	6	1
Commercial Airplane, Commercial Helicopter	7,802	116	560	1,552	674	785	1,474	1,015	1,419	207
Commercial Airplane, Private Glider, Commercial Helicopter	102	0	5	14	15	13	27	10	16	2
Commercial Airplane, Commercial Glider, Commercial Helicopter	241	5	18	45	28	32	37	21	51	4
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	25	0	4	2	3	2	6	6	2	0
Commercial Airplane, Commercial Gyroplane	15	1	4	2	0	0	3	4	1	0
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	16	0	3	1	1	1	5	1	4	0
Commercial Helicopter, Private Airplane, Commercial Glider	14	0	0	3	1	1	3	4	2	0
Commercial Helicopter, Private Airplane	3,689	56	306	529	359	549	654	481	680	75
Commercial Glider, Private Airplane	388	2	21	103	48	66	38	35	73	2
Commercial-other	3,933	17	412	658	654	465	392	616	583	136
Airline Transport --Total	**164,947**	**2,196**	**11,619**	**26,780**	**21,561**	**19,648**	**31,272**	**22,582**	**22,134**	**7,155**
Airline Transport Airplane (only)	160,117	2,104	11,360	25,763	21,226	19,178	30,298	21,723	21,482	6,983
Airline Transport Airplane, Airline Transport Helicopter	2,383	54	132	510	182	223	512	375	318	77
Airline Transport Airplane-other	2,447	38	127	507	153	247	462	484	334	95

TABLE 3

ESTIMATED ACTIVE PILOT CERTIFICATES HELD
BY CLASS OF CERTIFICATE AND BY FAA REGION
December 31, 2019

CLASS OF CERTIFICATE	Total 1/	Alaskan	Central	Eastern	Great Lakes	Northwest Mountain	Southern	South-west	Western-Pacific	Outside U.S. /2
Rotorcraft (only) 4/ --Total	**14,248**	**150**	**817**	**1,826**	**977**	**2,237**	**1,976**	**1,689**	**2,562**	**2,014**
Private Gyroplane	18	0	1	1	3	3	3	4	2	1
Private Helicopter	2,912	31	114	427	235	518	305	269	564	449
Commercial Helicopter	9,510	104	641	1,135	651	1,522	1,421	1,107	1,798	1,131
Commercial Helicopter, Private Glider	1	0	0	0	0	0	1	0	0	0
Commercial Gyroplane	3	0	0	0	0	1	1	0	1	0
Commercial Helicopter, Commercial Glider	2	0	0	0	0	1	1	0	0	0
Commercial Helicopter, Commercial Gyroplane	10	0	2	0	3	1	3	0	0	1
Airline Transport Helicopter	1,775	14	59	260	85	189	239	306	192	431
Recreational Gyroplane	1	0	0	1	0	0	0	0	0	0
Recreational Helicopter	2	0	0	1	0	1	0	0	0	0
Rotorcraft-other	14	1	0	1	0	1	2	3	5	1
Glider (only) 5,6/ --Total	**19,143**	**147**	**1,000**	**3,872**	**2,026**	**2,515**	**2,458**	**2,081**	**3,986**	**1,058**
Private Glider	10,759	54	553	2,201	1,159	1,369	1,220	1,073	2,317	813
Commercial Glider	4,457	31	198	987	518	600	570	500	907	146
Air Transport (other)	3,927	62	249	684	349	546	668	508	762	99
Flight Instructor Certificates 7/	**113,445**	**1,464**	**8,272**	**19,059**	**16,618**	**14,144**	**19,051**	**14,530**	**17,135**	**3,172**
Instrument Ratings 7,8/	**314,168**	**3,976**	**21,796**	**49,895**	**40,692**	**35,065**	**54,667**	**41,289**	**44,620**	**22,168**
Remote Pilot Certificates 7/	**160,302**	**1,190**	**12,677**	**33,798**	**24,173**	**18,886**	**22,619**	**22,251**	**23,333**	**1,375**

1/ Includes Outside U.S. total.

2/ Outside U.S. includes airmen certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates. Also includes those with unidentifiable add

3/ Includes pilots with an airplane only certificate. Also includes those with an airplane and a helicopter and/or glider certificate.
Prior to 1995, these pilots were categorized as private, commercial, or airline transport, based on their airplane certificate.
In 1995 and after, they are categorized based on their highest certificate. For example, if a pilot holds a private certificate and a commercial helicopter certificate, prior 1995, the pilot would be categorized as private; 1995 and after as commercial.

4/ See table 7 for the total number of pilots with a helicopter certificate.

5/ See table 8 for the total number of pilots with a glider certificate.

6/ Glider pilots are not required to have a medical examination. Beginning with 2002, glider pilots with another rating but no current medical are counted as "Glider (only)".

7/ Not included in total.

8/ Special ratings shown on pilot certificates, do not indicate additional certificates.

TABLE 4

ESTIMATED ACTIVE PILOT CERTIFICATES HELD
BY CLASS OF CERTIFICATE
as of DECEMBER 31

CLASS OF CERTIFICATE	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total--All Pilots	**664,565**	**633,317**	**609,306**	**584,362**	**590,039**	**593,499**	**599,086**	**610,576**	**617,128**	**627,588**
Student --Total 1/	**197,665**	**167,804**	**149,121**	**128,501**	**122,729**	**120,546**	**120,285**	**119,946**	**118,657**	**119,119**
Recreational Airplane (only)	**127**	**144**	**153**	**175**	**190**	**220**	**238**	**218**	**227**	**212**
Sport (only)	**6,467**	**6,246**	**6,097**	**5,889**	**5,482**	**5,157**	**4,824**	**4,493**	**4,066**	**3,682**
Airplane 2/										
Private --Total	**161,105**	**163,695**	**162,455**	**162,313**	**170,718**	**174,883**	**180,214**	**188,001**	**194,441**	**202,020**
Private Airplane (only)	154,972	157,396	156,173	156,058	162,969	167,018	172,195	179,738	186,005	193,409
Private Airplane, Private Glider	2,154	2,254	2,267	2,245	2,328	2,403	2,486	2,586	2,712	2,763
Private Airplane, Private Gyroplane	40	37	36	33	32	32	32	27	35	37
Private Airplane, Private Helicopter	1,998	2,111	2,100	2,128	2,216	2,207	2,237	2,310	2,332	2,421
Private Airplane, Private Glider, Private Helicopter	69	76	74	70	72	75	76	84	78	83
Private Airplane-other	1,872	1,821	1,805	1,779	3,101	3,148	3,188	3,256	3,279	3,307
Commercial--Total	**100,863**	**99,880**	**98,161**	**96,081**	**101,164**	**104,322**	**108,206**	**116,400**	**120,865**	**123,705**
Commercial Airplane (only)	80,975	79,538	77,993	76,446	79,957	82,703	85,771	93,180	97,157	99,432
Commercial Airplane, Private Glider	970	1,012	1,020	1,016	1,092	1,139	1,175	1,242	1,302	1,320
Commercial Airplane, Commercial Glider	1,810	1,859	1,872	1,785	1,907	1,964	2,134	2,245	2,324	2,409
Commercial Airplane, Commercial Gyroplane, Commercial Glider	4	6	7	5	8	7	7	8	7	6
Commercial Airplane, Private Helicopter	834	817	794	804	789	809	837	840	836	814
Commercial Airplane, Commercial Glider, Private Helicopter	45	43	46	46	53	52	64	62	56	57
Commercial Airplane, Commercial Helicopter	7,802	8,007	7,856	7,586	7,800	7,794	8,112	8,443	8,648	8,989
Commercial Airplane, Private Glider, Commercial Helicopter	102	102	111	100	106	108	108	116	112	119
Commercial Airplane, Commercial Glider, Commercial Helicopter	241	251	257	250	259	279	281	298	309	325
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	25	26	32	22	23	30	30	37	35	36
Commercial Airplane, Commercial Gyroplane	15	14	14	14	14	13	11	10	12	16
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	16	18	18	17	16	16	13	16	16	14
Commercial Helicopter, Private Airplane, Commercial Glider	14	19	18	16	17	16	17	20	21	21
Commercial Glider, Private Airplane	388	413	404	381	395	391	394	422	429	449
Commercial Helicopter, Private Airplane	3,689	3,850	3,842	3,765	3,816	3,909	3,999	4,062	4,083	4,076
Commercial-other	3,933	3,905	3,877	3,828	4,912	5,092	5,253	5,399	5,518	5,622
Airline Transport --Total	**164,947**	**162,145**	**159,825**	**157,894**	**154,730**	**152,933**	**149,824**	**145,590**	**142,511**	**142,198**
Airline Transport Airplane (only)	160,117	157,270	154,942	153,024	149,957	148,156	145,128	140,958	137,967	137,688
Airline Transport Airplane, Airline Transport Helicopter	2,383	2,360	2,339	2,324	2,322	2,379	2,367	2,403	2,391	2,410
Airline Transport Airplane-other	2,447	2,515	2,544	2,546	2,451	2,398	2,329	2,229	2,153	2,100

TABLE 4

ESTIMATED ACTIVE PILOT CERTIFICATES HELD
BY CLASS OF CERTIFICATE
as of DECEMBER 31

CLASS OF CERTIFICATE	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Rotorcraft (only) 3/--Total	**14,248**	**15,033**	**15,355**	**15,518**	**15,566**	**15,511**	**15,114**	**15,126**	**15,220**	**15,377**
Private Gyroplane	18	17	15	11	11	7	9	11	14	16
Private Helicopter	2,912	3,307	3,420	3,719	3,856	3,997	3,952	4,165	4,532	4,862
Commercial Helicopter	9,510	9,900	10,066	9,935	9,870	9,780	9,588	9,505	9,402	9,334
Commercial Helicopter, Private Glider	1	2	2	3	3	5	6	6	7	7
Commercial Helicopter, Commercial Glider	2	1	1	1	2	3	2	3	5	4
Commercial Gyroplane	3	2	3	3	2	2	3	3	4	4
Gyroplane	10	10	10	7	7	6	6	5	4	6
Airline Transport Helicopter	1,775	1,777	1,823	1,824	1,806	1,704	1,541	1,420	1,242	1,132
Recreational Gyroplane	1	1	2	2	1	1	1	1	1	3
Recreational Helicopter	2	2	2	1	0	0	0	0	0	0
Rotorcraft-other	14	14	11	12	8	6	6	7	9	9
Glider (only) 4,5/--Total	**19,143**	**18,370**	**18,139**	**17,991**	**19,460**	**19,927**	**20,381**	**20,802**	**21,141**	**21,275**
Private Glider	10,759	10,401	10,266	10,141	13,714	14,023	14,309	14,559	14,732	14,834
Commercial Glider	4,457	4,319	4,293	4,348	3,723	3,877	4,013	4,137	4,260	4,307
Air Transport (other)	3,927	3,650	3,580	3,502	2,023	2,027	2,059	2,106	2,149	2,134
Flight Instructor Certificates 6/	**113,445**	**108,564**	**106,692**	**104,382**	**102,628**	**100,993**	**98,842**	**98,328**	**97,409**	**96,473**
Instrument Ratings 6,7/	**314,168**	**311,017**	**306,652**	**302,572**	**304,329**	**306,066**	**307,120**	**311,952**	**314,122**	**318,001**
Remote Pilot Certificates 8/	**160,302**	**106,321**	**69,166**	**20,362**	**N/Ap**	**N/Ap**	**N/Ap**	**N/Ap**	**N/Ap**	**N/Ap**

1/ In July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months. This resulted in the increase in active student pilots to 119,119 from 72,280 at the end of 2009. Starting with April 2016, there is no expiration date on the new student pilot certificates, which generates a cumulative increase in the numbers.

2/ Includes pilots with an airplane only certificate. Also includes those with an airplane and a helicopter and/or glider certificate. Prior to 1995, these pilots were categorized as private, commercial, or airline transport, based on their airplane certificate. In 1995 and after, they are categorized based on their highest certificate. For example, if a pilot holds a a private certificate and a commercial helicopter certificate, prior 1995, the pilot would be categorized as private; 1995 and after as commercial.

3/ See table 7 for the total number of pilots with a helicopter certificate.

4/ See table 8 for the total number of pilots with a glider certificate.

5/ Glider pilots are not required to have a medical examination. Beginning with 2002, glider pilots with another rating but no current medical are counted as "Glider (only)".

6/ Not included in total.

7/ Special ratings shown on pilot certificates, do not indicate additional certificates.

8/ Remote pilot certification started in August 2016. These numbers are not included in the pilot totals.

N/Ap Not applicable.

TABLE 5

ESTIMATED ACTIVE PILOTS AND FLIGHT INSTRUCTORS
BY FAA REGION AND STATE
DECEMBER 31, 2019

FAA REGION AND STATE	Total Pilots	Students	Private 1/	Commercial 1/	Airline Transport 1/	Misc. 2/	Flight Instructor 3/	Remote Pilots 3/
Total 4/	**664,563**	**197,665**	**173,080**	**116,572**	**170,649**	**6,597**	**113,445**	**160,302**
United States--Total	**624,065**	**185,835**	**165,813**	**102,783**	**163,063**	**6,571**	**110,431**	**158,980**
Alaskan Region--Total	**8,583**	**1,986**	**2,589**	**1,679**	**2,272**	**57**	**1,464**	**1,190**
Central Region--Total	**47,246**	**13,742**	**13,511**	**7,461**	**11,927**	**605**	**8,272**	**12,677**
Iowa	5,394	1,637	1,942	909	798	108	850	1,872
Kansas	7,252	2,102	2,456	1,225	1,376	93	1,368	1,937
Kentucky	6,663	1,908	1,602	895	2,183	75	1,167	1,752
Missouri	10,078	3,061	2,983	1,654	2,208	172	1,647	2,882
Nebraska	3,783	1,207	1,234	647	659	36	569	1,184
Tennessee	14,076	3,827	3,294	2,131	4,703	121	2,671	3,050
Eastern Region--Total	**109,478**	**33,799**	**29,977**	**16,852**	**27,724**	**1,126**	**19,059**	**33,798**
Connecticut	4,848	1,271	1,453	739	1,355	30	859	1,434
Delaware	1,470	434	348	221	454	13	278	537
District of Columbia	657	244	195	71	141	6	106	214
Maine	2,594	726	804	476	534	54	406	853
Maryland	8,673	3,247	2,199	1,321	1,810	96	1,421	2,749
Massachusetts	8,316	2,806	2,630	1,203	1,609	68	1,202	2,480
New Hampshire	3,965	858	1,003	575	1,477	52	796	838
New Jersey	9,287	2,977	2,494	1,363	2,407	46	1,661	2,861
New York	17,158	6,221	4,888	2,654	3,243	152	2,726	5,494
North Carolina	16,417	4,464	4,436	2,493	4,846	178	2,973	5,518
Pennsylvania	16,370	4,757	4,530	2,420	4,458	205	2,937	4,577
Rhode Island	1,011	336	288	143	235	9	154	306
Vermont	1,293	364	432	248	239	10	198	346
Virginia	15,548	4,451	3,722	2,624	4,588	163	3,046	4,853
West Virginia	1,871	643	555	301	328	44	296	738
Great Lakes Region--Total	**89,346**	**25,369**	**26,720**	**13,757**	**21,995**	**1,505**	**16,618**	**24,173**
Illinois	17,721	5,048	4,840	2,545	4,968	320	3,591	5,271
Indiana	11,070	3,369	3,370	1,614	2,509	208	1,879	2,957
Michigan	14,884	4,239	4,572	2,278	3,562	233	2,701	3,980
Minnesota	13,352	3,274	3,930	2,073	3,962	113	2,763	3,158
North Dakota	3,716	1,292	1,092	1,003	300	29	496	899
Ohio	16,251	4,700	4,891	2,386	4,003	271	3,033	4,534
South Dakota	2,422	640	774	495	454	59	441	622
Wisconsin	9,930	2,807	3,251	1,363	2,237	272	1,714	2,752
Northwest Mountain Region--Total	**74,524**	**20,773**	**20,014**	**12,626**	**20,383**	**728**	**14,144**	**18,886**
Colorado	19,956	5,222	4,612	3,136	6,831	155	4,072	5,360
Idaho	5,935	1,618	1,809	1,124	1,289	95	1,075	1,539
Montana	4,199	1,186	1,328	898	744	43	738	1,175
Oregon	9,997	2,876	3,224	2,116	1,669	112	1,728	2,965
Utah	10,049	3,038	2,455	1,701	2,782	73	1,993	2,415
Washington	22,378	6,211	5,905	3,317	6,718	227	4,223	4,833
Wyoming	2,010	622	681	334	350	23	315	599
Southern Region--Total	**107,319**	**33,050**	**23,334**	**17,774**	**32,179**	**982**	**19,051**	**22,619**
Alabama	8,080	2,417	2,068	1,959	1,545	91	1,670	2,288
Florida	68,914	22,225	14,186	11,691	20,223	589	11,943	12,816
Georgia	20,555	5,397	4,643	2,691	7,657	167	3,863	4,861
Puerto Rico	1,790	838	311	227	366	48	229	357
South Carolina	7,783	2,086	2,087	1,181	2,343	86	1,323	2,282
Virgin Islands	197	87	39	25	45	1	23	15

TABLE 5

ESTIMATED ACTIVE PILOTS AND FLIGHT INSTRUCTORS
BY FAA REGION AND STATE
DECEMBER 31, 2019

FAA REGION AND STATE	Total Pilots	Students	Private 1/	Commercial 1/	Airline Transport 1/	Misc. 2/	Flight Instructor 3/	Remote Pilots 3/
Southwest Region--Total	**87,493**	**27,004**	**21,868**	**14,476**	**23,396**	**749**	**14,530**	**22,251**
Arkansas	5,779	1,977	1,660	1,076	977	89	826	1,493
Louisiana	5,838	1,852	1,606	1,116	1,198	66	943	1,768
Mississippi	4,707	1,700	1,123	867	983	34	658	1,301
New Mexico	4,488	1,302	1,470	973	663	80	596	1,186
Oklahoma	9,013	3,245	2,468	1,608	1,633	59	1,415	2,055
Texas	57,668	16,928	13,541	8,836	17,942	421	10,092	14,448
Western-Pacific Region--Total	**99,360**	**29,760**	**27,663**	**18,034**	**23,088**	**815**	**17,135**	**23,333**
American Samoa	2	0	0	0	2	0	0	1
Arizona	22,786	6,282	5,279	5,086	5,958	181	4,510	4,058
California	64,334	20,449	20,019	10,753	12,561	552	10,001	16,367
Guam	190	39	26	20	105	0	50	43
Hawaii	3,701	1,011	579	722	1,372	17	797	1,023
Nevada	8,331	1,974	1,760	1,446	3,086	65	1,774	1,838
North Mariana Islands	16	5	0	7	4	0	3	3
U.S. Affiliates 6/	**21**	**5**	**1**	**10**	**5**	**0**	**3**	**3**
Outside United States and FS Total 8/	**41,214**	**12,182**	**7,404**	**13,913**	**7,685**	**30**	**3,172**	**1,375**
Armed Forces Personnel 5/	**711**	**352**	**136**	**121**	**98**	**4**	**158**	**53**
AA (Americas)[5]	14	1	5	2	6	0	7	2
AE (Europe and Canada)[5]	274	100	71	50	50	3	84	26
AP (Pacific)[5]	423	251	60	69	42	1	67	25
Federated States of Micronesia	2	0	0	2	0	0	0	0
Marshall Islands	2	0	0	1	1	0	0	0
Palau	1	0	1	0	0	0	0	0
Outside United States (Foreign) 7/	**40,498**	**11,830**	**7,267**	**13,789**	**7,586**	**26**	**3,014**	**1,322**

1/ Includes those with an airplane and/or a helicopter and/or glider certificate. Pilots under the"Rotorcraft (only)" and "Glider (only)" class certificates in Table 3 are shown under their respective "Private," "Commercial," or "Airline Transport" categories above.
2/ Includes recreational and sport.
3/ Not included in total.
4/ Includes pilots certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates.
5/ Military personnel holding civilian certificate and stationed in a foreign country.
6/ Includes Federated States of Micronesia, Marshall Islands, North Mariana Islands and Palau.
7/ Outside United States (Foreign) includes airmen certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates. Also includes those with unidentifiable addresses.
8/ FS stands for the Fight Standards Region, which includes Armed Forces as explained above (#5), and Federated States of Micronesia, Marshall Islands, and Palau.

TABLE 6

ESTIMATED ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS
BY FAA REGION AND STATE
DECEMBER 31, 2019

FAA REGION AND STATE	Total Pilots	Students	Private 1/	Commercial 1/	Airline Transport 1/	Misc. 2/	Flight Instructor 3/	Remote Pilots 3/
Total 4/	**52,740**	**27,255**	**10,683**	**7,038**	**7,503**	**261**	**7,957**	**10,818**
United States--Total	**50,015**	**26,137**	**10,115**	**6,182**	**7,321**	**260**	**7,749**	**10,734**
Alaskan Region--Total	**932**	**408**	**251**	**117**	**154**	**2**	**125**	**111**
Central Region--Total	**3,381**	**1,855**	**672**	**378**	**452**	**24**	**467**	**781**
Iowa	366	203	89	46	25	3	43	135
Kansas	524	287	126	58	49	4	80	134
Kentucky	498	263	86	58	87	4	60	101
Missouri	751	415	168	76	83	9	92	171
Nebraska	230	155	44	18	13	0	26	88
Tennessee	1,012	532	159	122	195	4	166	152
Eastern Region--Total	**8,623**	**4,697**	**1,676**	**983**	**1,219**	**48**	**1,251**	**2,369**
Connecticut	345	169	77	42	55	2	67	104
Delaware	126	72	20	11	22	1	18	39
District of Columbia	72	51	9	5	7	0	12	40
Maine	191	113	31	22	25	0	27	65
Maryland	842	527	153	84	73	5	99	205
Massachusetts	677	348	164	74	83	8	89	183
New Hampshire	288	125	53	46	62	2	62	60
New Jersey	697	367	125	86	117	2	109	154
New York	1,439	883	280	132	139	5	145	395
North Carolina	1,136	590	231	125	185	5	182	370
Pennsylvania	1,181	622	235	145	171	8	167	293
Rhode Island	90	54	15	8	12	1	7	20
Vermont	122	55	36	11	20	0	15	20
Virginia	1,270	632	229	174	228	7	225	375
West Virginia	147	89	18	18	20	2	27	46
Great Lakes Region--Total	**6,842**	**3,420**	**1,534**	**762**	**1,075**	**51**	**1,207**	**1,599**
Illinois	1,409	688	258	155	296	12	277	372
Indiana	832	441	190	89	107	5	120	192
Michigan	1,146	562	276	131	170	7	194	251
Minnesota	1,050	465	237	138	206	4	231	228
North Dakota	247	154	53	22	17	1	34	58
Ohio	1,177	600	274	131	160	12	207	267
South Dakota	186	102	44	20	20	0	25	42
Wisconsin	795	408	202	76	99	10	119	189
Northwest Mountain Region--Total	**6,659**	**3,139**	**1,414**	**900**	**1,176**	**30**	**1,143**	**1,358**
Colorado	1,945	865	358	258	458	6	345	368
Idaho	477	221	130	72	50	4	79	113
Montana	399	206	112	51	29	1	54	99
Oregon	885	406	224	159	93	3	142	235
Utah	719	370	142	97	106	4	127	132
Washington	2,073	988	410	241	423	11	381	374
Wyoming	161	83	38	22	17	1	15	37
Southern Region--Total	**8,369**	**4,631**	**1,411**	**1,066**	**1,221**	**40**	**1,264**	**1,445**
Alabama	509	299	101	71	34	4	59	83
Florida	5,742	3,129	976	802	811	24	872	892
Georgia	1,459	803	223	129	296	8	241	294
Puerto Rico	94	66	12	11	4	1	7	19
South Carolina	524	300	95	52	74	3	85	157
Virgin Islands	41	34	4	1	2	0	0	0

TABLE 6

ESTIMATED ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS
BY FAA REGION AND STATE
DECEMBER 31, 2019

FAA REGION AND STATE	Total Pilots	Students	Private 1/	Commercial 1/	Airline Transport 1/	Misc. 2/	Flight Instructor 3/	Remote Pilots 3/
Southwest Region--Total	**6,305**	**3,539**	**1,243**	**733**	**761**	**29**	**831**	**1,409**
Arkansas	366	230	79	30	25	2	32	101
Louisiana	360	222	73	32	32	1	36	96
Mississippi	316	202	48	37	28	1	32	67
New Mexico	509	225	156	102	23	3	38	110
Oklahoma	711	446	136	80	46	3	80	137
Texas	4,043	2,214	751	452	607	19	613	898
Western-Pacific Region--Total	**8,843**	**4,403**	**1,906**	**1,236**	**1,262**	**36**	**1,452**	**1,660**
American Samoa	0	0	0	0	0	0	0	0
Arizona	1,676	765	354	279	273	5	348	272
California	5,925	3,083	1,340	750	726	26	861	1,162
Guam	14	5	4	2	3	0	3	6
Hawaii	501	221	77	90	112	1	92	93
Nevada	726	329	131	114	148	4	148	127
North Mariana Islands	1	0	0	1	0	0	0	0
U.S. Affiliates 6/	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
Outside United States and FS Total 8/	**2,786**	**1,163**	**576**	**863**	**183**	**1**	**217**	**86**
Armed Forces Personnel 5/	**61**	**45**	**8**	**7**	**1**	**0**	**9**	**2**
AA (Americas)[5]	0	0	0	0	0	0	0	0
AE (Europe and Canada)[5]	25	18	5	1	1	0	7	2
AP (Pacific)[5]	36	27	3	6	0	0	2	0
Federated States of Micronesia	0	0	0	0	0	0	0	0
Marshall Islands	0	0	0	0	0	0	0	0
Palau	0	0	0	0	0	0	0	0
Outside United States (Foreign) 7/	**2,725**	**1,118**	**568**	**856**	**182**	**1**	**208**	**84**

1/ Includes those with an airplane and/or a helicopter and/or glider certificate.
2/ Includes recreational and sport.
3/ Not included in total.
4/ Includes pilots certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates.
5/ Military personnel holding civilian certificate and stationed in a foreign country.
6/ Includes Federated States of Micronesia, Marshall Islands, North Mariana Islands and Palau.
7/ Outside United States (Foreign) includes airmen certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates. Also includes those with unidentifiable addresses.
8/ FS stands for the Fight Standards Region, which includes Armed Forces as explained above (#5), and Federated States of Micronesia, Marshall Islands, and Palau.

TABLE 7

ESTIMATED ACTIVE ROTORCRAFT PILOTS BY CLASS OF CERTIFICATE 1/
as of DECEMBER 31

CLASS OF CERTIFICATE	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
TOTAL	**31,583**	**32,831**	**32,962**	**32,755**	**33,163**	**33,292**	**33,362**	**33,923**	**34,252**	**34,859**
Private--Total	**5,929**	**6,422**	**6,502**	**6,823**	**7,036**	**7,186**	**7,212**	**7,504**	**7,889**	**8,296**
Private Helicopter	2,921	3,317	3,433	3,727	3,859	4,000	3,954	4,167	4,534	4,863
Private Helicopter, Private Airplane	2,001	2,114	2,103	2,131	2,219	2,210	2,239	2,312	2,335	2,425
Private Helicopter, Private Airplane, Private Glider	70	77	75	71	73	76	77	85	79	84
Private Helicopter, Commercial Airplane	834	817	794	804	789	809	837	840	836	814
Private Helicopter, Commercial Airplane, Commercial Glider	45	43	46	46	53	52	64	62	56	57
Private Gyroplane	18	17	15	11	11	7	9	11	14	16
Private Gyroplane, Private Airplane	40	37	36	33	32	32	32	27	35	37
Commercial--Total	**21,481**	**22,257**	**22,285**	**21,770**	**21,990**	**22,016**	**22,235**	**22,588**	**22,720**	**23,009**
Commercial Helicopter	9,527	9,915	10,077	9,946	9,883	9,793	9,601	9,520	9,417	9,347
Commercial Helicopter, Private Airplane	3,689	3,850	3,842	3,765	3,816	3,909	3,999	4,062	4,083	4,076
Commercial Helicopter, Private Glider	1	2	2	3	3	5	6	6	7	7
Commercial Helicopter, Commercial Glider	2	1	1	1	2	3	2	3	5	4
Commercial Helicopter, Private Airplane, Commercial Gyroplane	16	14	12	12	14	13	11	15	14	14
Commercial Helicopter, Private Airplane, Private Glider	14	20	25	23	20	22	28	26	26	25
Commercial Helicopter, Private Airplane, Commercial Glider	14	19	18	16	17	16	17	20	21	21
Commercial Helicopter, Commercial Airplane	7,802	8,007	7,856	7,586	7,800	7,794	8,112	8,443	8,648	8,989
Commercial Helicopter, Commercial Airplane, Private Glider	102	102	111	100	106	108	108	116	112	119
Commercial Helicopter, Commercial Airplane, Commercial Glider	241	251	257	250	259	279	281	298	309	325
Commercial Gyroplane	3	2	3	3	2	2	3	3	4	4
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane	25	26	32	22	23	30	30	37	35	36
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	16	18	18	17	16	16	13	16	16	14
Commercial Helicopter, Commercial Gyroplane	10	10	10	7	7	6	6	5	4	6
Commercial Gyroplane, Commercial Airplane	15	14	14	14	14	13	11	10	12	16
Commercial Gyroplane, Commercial Airplane, Commercial Glider	4	6	7	5	8	7	7	8	7	6
Airline Transport--Total	**4,158**	**4,137**	**4,162**	**4,148**	**4,128**	**4,083**	**3,908**	**3,823**	**3,633**	**3,542**
Airline Transport Helicopter	1,775	1,777	1,823	1,824	1,806	1,704	1,541	1,420	1,242	1,132
Airline Transport Helicopter, Airline Transport Airplane	2,383	2,360	2,339	2,324	2,322	2,379	2,367	2,403	2,391	2,410
Recreational Helicopter	**2**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
Recreational Gyroplane	**1**	**1**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**3**
Rotorcraft Other	**14**	**14**	**11**	**12**	**8**	**6**	**6**	**7**	**9**	**9**

1/ In addition to pilots certified only for rotorcraft shown in table 1, this table includes pilots certified in multiple categories including helicopters or other rotorcraft.

TABLE 8

ESTIMATED ACTIVE GLIDER PILOTS BY CLASS OF CERTIFICATE 1/
as of DECEMBER 31

CLASS OF CERTIFICATE	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total	**24,989**	**24,463**	**24,276**	**23,961**	**25,751**	**26,424**	**27,184**	**27,950**	**28,556**	**28,896**
Private--Total	**14,085**	**13,884**	**13,780**	**13,610**	**17,348**	**17,792**	**18,200**	**18,633**	**18,980**	**19,170**
Private Glider	10,763	10,407	10,272	10,144	13,718	14,029	14,312	14,564	14,733	14,837
Private Glider, Private Airplane	2,165	2,264	2,275	2,253	2,336	2,413	2,494	2,594	2,721	2,778
Private Glider, Private Airplane, Private Helicopter	70	77	75	71	73	76	77	85	79	84
Private Glider, Private Airplane, Commercial Helicopter	14	20	25	23	20	22	28	26	26	25
Private Glider, Commercial Airplane	970	1,012	1,020	1,016	1,092	1,139	1,175	1,242	1,302	1,320
Private Glider, Commercial Airplane, Commercial Helicopter	102	102	111	100	106	108	108	116	112	119
Private Glider, Commercial Helicopter	1	2	2	3	3	5	6	6	7	7
Commercial--Total	**6,977**	**6,929**	**6,916**	**6,849**	**6,380**	**6,605**	**6,925**	**7,211**	**7,427**	**7,592**
Commercial Glider	4,457	4,319	4,293	4,348	3,723	3,877	4,013	4,137	4,260	4,307
Commercial Glider, Commercial Airplane	1,810	1,859	1,872	1,785	1,907	1,964	2,134	2,245	2,324	2,409
Commercial Glider, Private Airplane	388	413	404	381	395	391	394	422	429	449
Commercial Glider, Private Airplane, Commercial Helicopter	14	19	18	16	17	16	17	20	21	21
Commercial Glider, Commercial Helicopter	2	1	1	1	2	3	2	3	5	4
Commercial Glider, Commercial Airplane, Private Helicopter	45	43	46	46	53	52	64	62	56	57
Commercial Glider, Commercial Airplane, Commercial Helicopter	241	251	257	250	259	279	281	298	309	325
Commercial Glider, Commercial Airplane, Commercial Gyroplane	4	6	7	5	8	7	7	8	7	6
Commercial Glider, Commercial Airplane, Commercial Gyroplane, Commercial Helicopter	16	18	18	17	16	16	13	16	16	14
Commercial Glider, Commercial Balloon	0	0	0	0	0	0	0	0	0	0
Air Transport--Total 2/	**3,927**	**3,650**	**3,580**	**3,502**	**2,023**	**2,027**	**2,059**	**2,106**	**2,149**	**2,134**

1/ In addition to pilots certified only for gliders shown in table 1, this table includes pilots certified in multiple categories including gliders.

2/ Glider and lighter-than-air pilots are not required to have a medical examination. Beginning with 2002, glider pilots with another rating but no current medical are counted as "Glider (only)".

TABLE 9

ESTIMATED INSTRUMENT RATINGS HELD
BY CLASS OF CERTIFICATE BY FAA REGION
DECEMBER 31, 2019

CLASS OF CERTIFICATE	Total 1/	Alaskan	Central	Eastern	Great Lakes	Northwest Mountain	Southern	South-west	Western-Pacific	Outside U.S. 2/
Total--All Pilots	**314,168**	**3,976**	**21,796**	**49,895**	**40,692**	**35,065**	**54,667**	**41,289**	**44,620**	**22,168**
Airplane										
Private --Total	**47,436**	**276**	**3,845**	**8,645**	**7,335**	**4,620**	**7,309**	**6,326**	**7,244**	**1,836**
Private Airplane (only)	45,664	260	3,722	8,321	7,122	4,389	7,071	6,130	6,870	1,779
Private Airplane, Private Glider	820	6	56	174	104	101	93	88	179	19
Private Airplane, Private Gyroplane	17	0	3	1	2	2	3	3	3	0
Private Airplane, Private Helicopter	891	10	62	143	106	122	137	96	180	35
Private Airplane, Private Glider, Private Helicopter	37	0	0	6	1	4	5	7	11	3
Private Airplane-Other	7	0	2	0	0	2	0	2	1	0
Commercial --Total	**92,319**	**1,402**	**5,697**	**13,241**	**11,172**	**9,220**	**14,618**	**11,141**	**13,701**	**12,127**
Commercial Airplane (only)	77,890	1,182	4,618	10,525	9,724	7,505	12,093	9,330	11,131	11,782
Commercial Airplane, Private Glider	932	18	58	174	120	138	112	112	182	18
Commercial Airplane, Commercial Glider	1,678	25	107	331	253	239	211	181	307	24
Commercial Airplane, Commercial Gyroplane, Commercial Glider	4	0	0	2	1	0	0	1	0	0
Commercial Airplane, Private Helicopter	797	17	50	144	87	100	131	87	133	48
Commercial Airplane, Commercial Glider, Private Helicopter	42	0	1	13	5	6	6	5	5	1
Commercial Airplane, Commercial Helicopter	7,530	110	541	1,524	654	755	1,427	972	1,351	196
Commercial Airplane, Private Glider, Commercial Helicopter	99	0	5	14	14	13	27	10	14	2
Commercial Airplane, Commercial Glider, Commercial Helicopter	225	5	18	43	23	26	37	19	50	4
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	24	0	4	2	3	2	5	6	2	0
Commercial Airplane, Commercial Gyroplane	15	1	4	2	0	0	3	4	1	0
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	16	0	3	1	1	1	5	1	4	0
Commercial Helicopter, Private Airplane	2,787	42	267	406	260	397	525	381	464	45
Commercial Helicopter, Private Airplane, Private Glider	9	0	0	1	1	0	4	0	3	0
Commercial Helicopter, Private Airplane, Commercial Glider	9	0	0	0	1	1	2	4	1	0
Commercial Glider, Private Airplane	109	0	7	35	11	16	8	8	24	0
Commercial-other	153	2	14	24	14	21	22	20	29	7
Airline Transport --Total	**164,947**	**2,196**	**11,619**	**26,780**	**21,561**	**19,648**	**31,272**	**22,582**	**22,134**	**7,155**
Airline Transport Airplane (only)	160,117	2,104	11,360	25,763	21,226	19,178	30,298	21,723	21,482	6,983
Airline Transport Airplane, Airline Transport Helicopter	2,383	54	132	510	182	223	512	375	318	77
Airline Transport Airplane-other	2,447	38	127	507	153	247	462	484	334	95
Rotorcraft (only)--Total	**9,466**	**102**	**635**	**1,229**	**624**	**1,577**	**1,468**	**1,240**	**1,541**	**1,050**
Private Helicopter	195	0	13	21	16	74	17	10	36	8
Commercial Helicopter	7,486	88	562	948	522	1,312	1,206	924	1,313	611
Commercial Helicopter, Commercial Glider	2	0	0	0	0	1	1	0	0	0
Commercial Helicopter, Private Glider	1	0	0	0	0	0	1	0	0	0
Commercial Helicopter, Commercial Gyroplane	5	0	1	0	1	1	2	0	0	0
Airline Transport Helicopter	1,775	14	59	260	85	189	239	306	192	431
Rotorcraft (Other)	2	0	0	0	0	0	2	0	0	0

1/ Includes Outside U.S. total.

2/ Outside U.S. includes airmen certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates.

TABLE 10

ESTIMATED INSTRUMENT RATINGS HELD
as of DECEMBER 31

Class of Certificate	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total--All Pilots	**314,168**	**311,017**	**306,652**	**302,572**	**304,329**	**306,066**	**307,120**	**311,952**	**314,122**	**318,001**
Airplane 1/										
Private --Total	**47,436**	**47,971**	**47,491**	**47,500**	**48,737**	**49,716**	**50,909**	**52,604**	**54,117**	**55,979**
Private Airplane (only)	45,664	46,117	45,651	45,672	46,817	47,784	48,984	50,617	52,089	53,901
Private Airplane, Private Glider	820	864	867	857	906	915	934	977	1,008	1,025
Private Airplane, Private Gyroplane	17	14	14	11	11	10	9	8	12	13
Private Airplane, Private Helicopter	891	932	918	917	954	958	937	951	960	986
Private Airplane, Private Glider, Private Helicopter	37	39	35	36	41	42	38	45	42	48
Private Airplane-Other	7	5	6	7	8	7	7	6	6	6
Commercial --Total	**92,319**	**91,076**	**89,335**	**87,304**	**91,013**	**93,788**	**97,198**	**104,901**	**108,965**	**111,536**
Commercial Airplane (only)	77,890	76,299	74,728	73,194	76,512	79,102	81,946	89,155	92,938	95,085
Commercial Airplane, Private Glider	932	970	979	968	1,036	1,079	1,111	1,168	1,220	1,236
Commercial Airplane, Commercial Glider	1,678	1,716	1,714	1,633	1,750	1,801	1,955	2,047	2,119	2,193
Commercial Airplane, Commercial Gyroplane, Commercial Glider	4	6	6	5	8	7	6	7	6	5
Commercial Airplane, Private Helicopter	797	778	756	765	752	777	804	807	797	772
Commercial Airplane, Commercial Glider, Private Helicopter	42	41	44	44	50	49	60	58	53	53
Commercial Airplane, Commercial Helicopter	7,530	7,713	7,553	7,273	7,454	7,445	7,726	8,031	8,216	8,538
Commercial Airplane, Private Glider, Commercial Helicopter	99	96	104	96	100	103	103	109	106	110
Commercial Airplane, Commercial Glider, Commercial Helicopter	225	233	239	234	244	260	265	280	291	307
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	24	23	28	18	20	26	26	32	31	31
Commercial Airplane, Commercial Gyroplane	15	14	14	14	14	13	11	10	11	15
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter, Commercial Glider	16	18	18	17	15	15	12	15	15	13
Commercial Helicopter, Private Airplane	2,787	2,872	2,860	2,771	2,776	2,834	2,875	2,882	2,866	2,870
Commercial Helicopter, Private Airplane, Private Glider	9	14	19	17	16	16	20	17	18	17
Commercial Helicopter, Private Airplane, Commercial Glider	9	13	12	11	12	12	12	14	13	14
Commercial-other	262	270	261	244	254	249	266	269	265	277
Airline Transport --Total	**164,947**	**162,145**	**159,825**	**157,894**	**154,730**	**152,933**	**149,824**	**145,590**	**142,511**	**142,198**
Airline Transport Airplane (only)	160,117	157,270	154,942	153,024	149,957	148,156	145,128	140,958	137,967	137,688
Airline Transport Airplane, Airline Transport Helicopter	2,383	2,360	2,339	2,324	2,322	2,379	2,367	2,403	2,391	2,410
Airline Transport Airplane-other	2,447	2,515	2,544	2,546	2,451	2,398	2,329	2,229	2,153	2,100
Rotorcraft (only)--Total	**9,466**	**9,825**	**10,001**	**9,874**	**9,849**	**9,629**	**9,189**	**8,857**	**8,529**	**8,288**
Private Helicopter (only)	195	269	309	341	400	392	331	315	362	343
Commercial Helicopter (only)	7,486	7,768	7,857	7,701	7,636	7,524	7,309	7,113	6,915	6,803
Commercial Helicopter, Private Glider	1	2	2	2	2	4	4	4	5	5
Commercial Helicopter, Commercial Glider	2	1	1	1	1	2	1	2	3	2
Commercial Helicopter, Commercial Gyroplane	5	6	7	4	3	2	2	2	1	2
Airline Transport Helicopter (only)	1,775	1,777	1,823	1,824	1,806	1,704	1,541	1,420	1,242	1,132
Rotorcraft (Other)	2	2	2	1	1	1	1	1	1	1

1/ Prior to 1995, these pilots were categorized as private, commercial, or airline transport, based on their airplane certificate. In 1995 and after, they are categorized based on their highest certificate. For example, if a pilot holds a private certificate and a commercial helicopter certificate, prior 1995, the pilot would be categorized as private; 1995 and after as commercial.

TABLE 11
ESTIMATED TOTAL PILOTS AND INSTRUMENT RATED PILOTS
as of DECEMBER 31

Calendar Year	Total Number 1/	Instrument Rated Pilots	
		Number	Percent of Total
2019	460,306	314,168	68%
2018	459,123	311,017	68%
2017	453,935	306,652	68%
2016	449,797	302,572	67%
2015	461,638	304,329	66%
2014	467,576	306,066	65%
2013	473,739	307,120	65%
2012	485,919	311,952	64%
2011	494,178	314,122	64%
2010	504,575	318,001	63%
2009	518,523	323,495	62%
2008	529,882	325,247	61%
2007	503,740	309,865	62%
2006	511,065	309,333	61%
2005	522,112	311,828	60%
2004	530,432	313,545	59%
2003	537,405	315,413	59%

1/ Excludes student, sport, and recreational pilots.

TABLE 12
ESTIMATED ACTIVE PILOT CERTIFICATES HELD
BY CATEGORY AND AGE GROUP OF HOLDER
as of December 31, 2019

Age Group	Type of Pilot Certificates							Flight Instructor 2/	Remote Pilot 2/
	Total	Student	Sport	Recre-ational	Private 1/	Commercial 1/	Airline Transport 1/	CFI 3/	
Total	**664,563**	**197,665**	**6,467**	**130**	**173,080**	**116,572**	**170,649**	**113,445**	**160,302**
14-15	465	465	0	0	0	0	0	0	0
16-19	21,229	16,159	10	0	4,736	324	0	98	2,150
20-24	70,041	38,573	91	9	17,201	12,798	1,369	5,621	10,995
25-29	78,366	40,945	173	9	13,738	17,408	6,093	9,249	20,014
30-34	66,742	29,728	249	14	12,832	12,398	11,521	11,802	22,769
35-39	61,715	20,863	300	6	12,783	10,102	17,661	13,712	22,053
40-44	52,044	13,850	315	8	11,872	7,604	18,395	11,696	18,180
45-49	49,602	9,539	389	4	11,534	7,094	21,042	11,424	16,760
50-54	54,642	8,340	565	9	13,808	7,502	24,418	11,124	14,326
55-59	60,477	7,483	860	11	17,630	8,583	25,910	10,371	12,606
60-64	55,915	5,230	1,066	21	19,499	8,807	21,292	8,971	9,767
65-69	40,269	3,318	1,004	22	16,848	8,212	10,865	7,599	6,179
70-74	28,125	1,972	741	10	11,335	7,471	6,596	6,297	3,118
75-79	15,628	854	455	5	6,090	4,824	3,400	3,418	1,051
80 and over	9,303	346	249	2	3,174	3,445	2,087	2,063	334

1/ Includes pilots with an airplane and/or a helicopter and/or a glider and/or a gyroplane certificate. Pilots with multiple ratings will be reported under highest rating. For example a pilot with a private helicopter and commercial airplane certificates will be reported in the commercial category.

2/ Not included in total active pilots.

3/ Certified Flight Instructor

TABLE 12a
ESTIMATED ACTIVE WOMEN PILOT CERTIFICATES HELD
BY CATEGORY AND AGE GROUP OF HOLDER
as of December 31, 2019

Age Group	Type of Pilot Certificates							Flight Instructor 2/	Remote Pilot 2/
	Total	Student	Sport	Recre-ational	Private 1/	Commercial 1/	Airline Transport 1/	CFI 3/	
Total	**52,740**	**27,255**	**254**	**7**	**10,683**	**7,038**	**7,503**	**7,957**	**10,818**
14-15	113	113	0	0	0	0	0	0	0
16-19	3,680	2,954	0	0	690	36	0	10	223
20-24	9,224	5,991	14	0	1,902	1,200	117	669	1,138
25-29	9,275	5,951	24	1	1,416	1,410	473	935	2,059
30-34	6,508	3,769	15	2	1,040	976	706	991	1,588
35-39	5,085	2,619	19	0	725	706	1,016	1,078	1,444
40-44	3,792	1,631	9	1	635	470	1,046	905	1,061
45-49	3,126	1,136	7	0	549	356	1,078	870	907
50-54	3,101	1,016	19	0	635	320	1,111	729	878
55-59	3,120	927	35	0	798	372	988	620	789
60-64	2,474	588	44	0	880	359	603	492	442
65-69	1,680	333	38	2	710	380	217	346	197
70-74	944	155	12	0	431	256	90	180	69
75-79	429	50	14	0	200	126	39	81	16
80 and over	189	22	4	1	72	71	19	51	7

1/ Includes pilots with an airplane and/or a helicopter and/or a glider and/or a gyroplane certificate. Pilots with multiple ratings will be reported under highest rating. For example a pilot with a private helicopter and commercial airplane certificates will be reported in the commercial category.

2/ Not included in total active pilots.

3/ Certified Flight Instructor

TABLE 13
AVERAGE AGE OF ACTIVE PILOTS BY CATEGORY
as of DECEMBER 31

Calendar Year	Type of Pilot Certificates							Flight Instructor	Remote Pilot
	Total 1/	Student 3/	Sport	Recre-ational	Private 2/	Commercial 2/	Airline Transport 2/	CFI	
2019	44.2	33.5	58.5	52.0	48.3	45.9	50.8	47.7	41.9
2018	44.9	33.1	57.9	50.0	49.0	46.3	51.0	48.2	42.1
2017	44.9	32.5	57.1	49.0	48.9	46.2	50.6	48.0	41.9
2016	44.9	31.7	56.4	44.0	48.4	46.0	50.2	48.0	42.7
2015	44.8	31.4	56.2	44.6	48.5	45.6	49.9	47.8	N/Ap
2014	44.8	31.5	55.8	43.1	48.5	45.5	49.8	47.7	N/Ap
2013	44.8	31.5	55.2	44.8	48.5	45.4	49.7	47.5	N/Ap
2012	44.7	31.5	54.7	47.8	48.3	44.8	49.9	47.2	N/Ap
2011	44.4	31.4	54.4	48.8	47.9	44.4	49.7	46.8	N/Ap
2010	44.2	31.4	53.8	50.8	47.6	44.2	49.4	46.4	N/Ap
2009	45.3	33.5	53.5	50.4	47.1	44.2	48.9	46.0	N/Ap
2008	45.1	33.6	53.2	50.1	46.9	44.8	48.5	45.8	N/Ap
2007	45.7	34.0	52.9	52.4	48.0	46.1	48.3	45.5	N/Ap
2006	45.6	34.4	52.9	51.5	47.7	46.1	48.1	45.2	N/Ap
2005	45.5	34.6	53.2	50.9	47.4	46.0	47.8	44.9	N/Ap
2004	45.1	34.2	N/Ap	51.3	47.0	45.9	47.5	44.6	N/Ap
2003	44.7	34.0	N/Ap	51.5	46.5	45.6	47.0	44.4	N/Ap
2002	44.4	33.7	N/Ap	51.0	46.2	45.5	46.6	44.2	N/Ap

1/ Includes helicopter (only) and glider (only).

2/ Includes pilots with an airplane and/or a helicopter and/or a glider and/or a gyroplane certificate. Pilots with multiple ratings will be reported under highest rating. For example a pilot with a private helicopter and commercial airplane certificates will be reported in the commercial category.

3/ In July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months.
Starting in April 2016, there is no expiration date on the new student pilot certificates, which causes a cumulative increase in this category of pilots.

N/Ap Not applicable. Sport certificate first issued in 2005. Remote pilot certificate first issued in 2016.

TABLE 13a
AVERAGE AGE OF ACTIVE WOMEN PILOTS BY CATEGORY
as of DECEMBER 31

Calendar Year	Type of Pilot Certificates							Flight Instructor	Remote Pilot
	Total 1/	Student 3/	Sport	Recre-ational	Private 2/	Commercial 2/	Airline Transport 2/	CFI	
2019	36.8	31.7	52.5	49.0	40.9	39.5	46.2	42.8	38.2
2018	37.5	31.4	51.8	41.0	42.3	40.5	46.4	43.7	38.6
2017	37.7	30.9	51.1	39.0	42.9	40.7	46.0	43.7	39.0
2016	38.0	30.4	50.4	37.0	43.1	40.8	45.6	43.7	40.5
2015	38.9	30.1	50.0	40.0	44.6	41.7	45.6	43.5	N/Ap
2014	38.9	30.2	49.7	40.0	44.6	41.6	45.2	43.2	N/Ap
2013	39.0	30.4	48.9	39.4	44.9	41.4	45.0	43.0	N/Ap
2012	38.9	30.6	49.4	41.7	44.7	40.5	45.1	42.5	N/Ap
2011	38.7	30.7	49.8	38.3	44.4	39.8	44.9	42.0	N/Ap
2010	38.5	30.7	49.7	46.5	44.0	39.4	44.3	41.5	N/Ap

1/ Includes helicopter (only) and glider (only).

2/ Includes pilots with an airplane and/or a helicopter and/or a glider and/or a gyroplane certificate. Pilots with multiple ratings will be reported under highest rating. For example a pilot with a private helicopter and commercial airplane certificates will be reported in the commercial category.

3/ In July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months.
Starting in April 2016, there is no expiration date on the new student pilot certificates, which causes a cumulative increase in this category of pilots.

N/Ap Not applicable. Remote pilot certificate first issued in 2016.

TABLE 14

NON PILOT AIRMEN CERTIFICATES HELD
BY FAA REGION AND STATE
DECEMBER 31, 2019 1/

FAA REGION AND STATE	Total Non Pilot Airmen	Ground Instructor	Flight Engineer	Mechanic	Repair men	Parachute Rigger	Dispatcher	Flight Navigator	Flight Attendant
Total 2/	**714,201**	**69,991**	**31,692**	**301,087**	**36,294**	**6,800**	**22,598**	**40**	**245,699**
United States--Total	**681,097**	**66,354**	**31,543**	**280,464**	**36,232**	**6,336**	**18,038**	**39**	**242,091**
Alaskan Region--Total	**6,403**	**754**	**548**	**3,434**	**306**	**90**	**316**	**0**	**955**
Central Region--Total	**43,953**	**4,854**	**2,805**	**21,435**	**3,108**	**398**	**1,311**	**1**	**10,041**
Iowa	2,717	432	83	1,309	365	40	25	0	463
Kansas	6,920	809	124	4,289	962	55	68	0	613
Kentucky	7,316	714	720	3,105	314	41	335	0	2,087
Missouri	10,126	1,085	362	4,913	522	101	164	0	2,979
Nebraska	2,376	275	78	1,281	393	33	38	0	278
Tennessee	14,498	1,539	1,438	6,538	552	128	681	1	3,621
Eastern Region--Total	**118,025**	**11,576**	**4,848**	**46,221**	**5,264**	**1,393**	**2,725**	**10**	**45,988**
Connecticut	5,127	518	256	2,300	864	46	126	0	1,017
Delaware	1,802	192	67	881	101	10	34	0	517
District of Columbia	547	51	12	69	4	0	17	0	394
Maine	1,682	224	93	726	202	24	45	1	367
Maryland	7,464	811	276	2,705	189	72	215	0	3,196
Massachusetts	7,790	789	281	2,862	480	71	134	0	3,173
New Hampshire	2,935	499	379	1,035	143	29	64	2	784
New Jersey	11,555	1,042	435	4,034	302	63	312	1	5,366
New York	25,231	1,745	414	9,484	761	148	825	1	11,853
North Carolina	19,463	1,816	860	8,104	830	384	270	0	7,199
Pennsylvania	16,476	1,867	770	7,107	697	182	336	1	5,516
Rhode Island	837	86	36	236	69	13	14	0	383
Vermont	657	93	48	296	73	12	14	1	120
Virginia	14,400	1,656	886	5,100	370	330	292	3	5,763
West Virginia	2,059	187	35	1,282	179	9	27	0	340
Great Lakes Region--Total	**96,285**	**9,343**	**4,187**	**36,394**	**5,750**	**605**	**3,061**	**1**	**36,944**
Illinois	25,179	2,177	977	7,166	962	138	994	0	12,765
Indiana	11,393	1,064	529	5,843	666	88	361	0	2,842
Michigan	16,413	1,728	613	6,555	1,075	93	328	0	6,021
Minnesota	14,885	1,235	946	4,916	539	56	484	0	6,709
North Dakota	1,013	111	35	626	72	10	15	0	144
Ohio	17,907	1,900	658	7,208	1,518	124	694	0	5,805
South Dakota	1,140	192	49	644	105	20	14	0	116
Wisconsin	8,355	936	380	3,436	813	76	171	1	2,542
Northwest Mountain Region--Total	**68,263**	**8,017**	**3,789**	**26,392**	**3,994**	**945**	**1,724**	**7**	**23,395**
Colorado	19,666	2,606	1,455	6,312	741	179	600	3	7,770
Idaho	3,974	442	144	1,939	346	204	54	0	845
Montana	2,506	361	112	1,319	203	130	68	0	313
Oregon	7,812	1,039	197	3,168	643	139	109	0	2,517
Utah	7,617	916	473	2,165	378	73	308	0	3,304
Washington	25,620	2,506	1,333	10,942	1,585	203	557	4	8,490
Wyoming	1,068	147	75	547	98	17	28	0	156
Southern Region--Total	**132,397**	**11,747**	**7,072**	**55,483**	**6,203**	**962**	**3,203**	**8**	**47,719**
Alabama	10,039	818	238	6,863	726	106	69	1	1,218
Florida	72,440	7,548	4,262	28,159	3,549	595	1,820	6	26,501
Georgia	39,778	2,439	2,096	15,527	1,383	180	1,146	1	17,006
Puerto Rico	2,152	165	22	838	176	21	48	0	882
South Carolina	7,854	764	445	4,028	368	60	114	0	2,075
Virgin Islands	134	13	9	68	1	0	6	0	37

TABLE 14

NON PILOT AIRMEN CERTIFICATES HELD
BY FAA REGION AND STATE
DECEMBER 31, 2019 1/

FAA REGION AND STATE	Total Non Pilot Airmen	Ground Instructor	Flight Engineer	Mechanic	Repair men	Parachute Rigger	Dispatcher	Flight Navigator	Flight Attendant
Southwest Region--Total	**104,582**	**9,179**	**4,278**	**49,456**	**5,550**	**683**	**3,702**	**5**	**31,729**
Arkansas	4,284	426	105	2,528	440	46	55	0	684
Louisiana	5,669	448	146	3,045	475	33	60	1	1,461
Mississippi	3,848	340	197	2,140	215	27	127	0	802
New Mexico	3,335	416	73	1,506	232	63	60	0	985
Oklahoma	13,865	839	180	10,406	1,136	80	125	1	1,098
Texas	73,581	6,710	3,577	29,831	3,052	434	3,275	3	26,699
Western-Pacific Region--Total	**110,406**	**10,829**	**4,015**	**41,031**	**6,055**	**1,223**	**1,961**	**7**	**45,285**
American Samoa	24	0	0	9	0	0	1	0	14
Arizona	24,577	2,738	805	9,032	1,607	326	493	1	9,575
California	67,606	6,537	2,387	26,803	4,036	716	969	5	26,153
Guam	714	44	27	222	6	10	12	0	393
Hawaii	7,532	415	221	1,895	83	64	236	0	4,618
Nevada	9,888	1,095	574	3,059	308	107	248	1	4,496
North Mariana Islands	65	0	1	11	15	0	2	0	36
U.S. Affiliates 4/	**82**	**0**	**1**	**21**	**15**	**0**	**2**	**0**	**43**
Outside United States and FS Total 6/	**33,887**	**3,692**	**150**	**21,241**	**64**	**501**	**4,595**	**1**	**3,643**
Armed Forces 3/	**766**	**55**	**1**	**608**	**2**	**37**	**35**	**0**	**28**
AA (Americas)[3]	24	1	0	22	0	0	0	0	1
AE (Europe and Canada)[3]	461	31	1	360	1	24	27	0	17
AP (Pacific)[3]	281	23	0	226	1	13	8	0	10
Federated States of Micronesia	4	0	0	4	0	0	0	0	0
Marshall Islands	3	0	0	3	0	0	0	0	0
Palau	10	0	0	3	0	0	0	0	7
Outside United States 5/	**33,104**	**3,637**	**149**	**20,623**	**62**	**464**	**4,560**	**1**	**3,608**

NOTE: Flight attendant data first available from Registry in 2005.

1/ Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, repairmen parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity and have been limited to those held by persons under 70 years of age.

2/ Includes Outside U. S.

3/ Military personnel holding civilian certificate and stationed in a foreign country.

4/ Includes Federated States of Micronesia, Marshall Islands, North Mariana Islands and Palau.

5/ Outside U.S. includes airmen certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates.

6/ FS stands for the Fight Standards Region, which includes Armed Forces as explained above (#3), and Federated States of Micronesia, Marshall Islands, and Palau.

TABLE 15

WOMEN NON PILOT AIRMEN CERTIFICATES HELD
BY FAA REGION AND STATE
DECEMBER 31, 2019 1/

FAA REGION AND STATE	Total Non Pilot Airmen	Ground Instructor	Flight Engineer	Mechanic	Repair men	Parachute Rigger	Dispatcher	Flight Navigator	Flight Attendant
Total 2/	**215,905**	**5,340**	**1,348**	**7,573**	**1,996**	**681**	**4,389**	**0**	**194,578**
United States--Total	**211,690**	**5,063**	**1,344**	**7,366**	**1,994**	**619**	**3,582**	**0**	**191,722**
Alaskan Region--Total	**1,194**	**73**	**33**	**107**	**8**	**7**	**112**	**0**	**854**
Central Region--Total	**9,981**	**334**	**108**	**548**	**195**	**32**	**257**	**0**	**8,507**
Iowa	461	19	2	23	24	1	2	0	390
Kansas	824	60	5	130	97	5	17	0	510
Kentucky	2,041	57	33	88	22	2	52	0	1,787
Missouri	2,725	72	13	88	25	12	31	0	2,484
Nebraska	299	20	2	13	9	3	9	0	243
Tennessee	3,631	106	53	206	18	9	146	0	3,093
Eastern Region--Total	**38,487**	**842**	**231**	**1,155**	**322**	**146**	**550**	**0**	**35,241**
Connecticut	1,050	39	12	51	75	5	26	0	842
Delaware	439	17	5	16	4	0	8	0	389
District of Columbia	225	7	1	6	0	0	3	0	208
Maine	365	20	5	10	24	2	9	0	295
Maryland	2,744	62	10	58	3	9	52	0	2,550
Massachusetts	2,619	57	9	66	31	11	31	0	2,414
New Hampshire	764	39	19	25	16	4	15	0	646
New Jersey	4,215	71	25	59	17	7	62	0	3,974
New York	9,149	119	24	380	50	20	185	0	8,371
North Carolina	6,324	131	24	173	43	40	38	0	5,875
Pennsylvania	4,664	125	31	136	26	22	54	0	4,270
Rhode Island	310	5	3	3	3	2	4	0	290
Vermont	119	6	4	7	5	2	2	0	93
Virginia	5,172	129	56	137	13	21	59	0	4,757
West Virginia	328	15	3	28	12	1	2	0	267
Great Lakes Region--Total	**32,967**	**698**	**204**	**844**	**377**	**66**	**621**	**0**	**30,157**
Illinois	10,646	164	66	152	61	19	190	0	9,994
Indiana	2,743	84	30	157	33	9	70	0	2,360
Michigan	5,509	130	22	185	81	10	94	0	4,987
Minnesota	6,013	82	38	93	23	2	90	0	5,685
North Dakota	137	4	2	4	4	1	1	0	121
Ohio	5,364	138	18	174	135	12	138	0	4,749
South Dakota	130	14	1	14	6	2	2	0	91
Wisconsin	2,425	82	27	65	34	11	36	0	2,170
Northwest Mountain Region--Total	**21,907**	**762**	**205**	**786**	**151**	**77**	**395**	**0**	**19,531**
Colorado	7,269	284	100	168	19	16	138	0	6,544
Idaho	837	38	2	57	3	14	13	0	710
Montana	377	26	5	39	4	10	13	0	280
Oregon	2,342	108	14	88	14	17	27	0	2,074
Utah	2,913	58	10	51	12	4	76	0	2,702
Washington	7,998	236	68	372	96	14	124	0	7,088
Wyoming	171	12	6	11	3	2	4	0	133
Southern Region--Total	**39,570**	**760**	**214**	**1,399**	**323**	**81**	**530**	**0**	**36,263**
Alabama	1,470	39	3	335	47	7	9	0	1,030
Florida	20,882	516	171	582	138	57	262	0	19,156
Georgia	14,754	154	34	374	100	12	221	0	13,859
Puerto Rico	551	3	0	13	9	0	18	0	508
South Carolina	1,882	48	6	94	29	5	18	0	1,682
Virgin Islands	31	0	0	1	0	0	2	0	28

TABLE 15

WOMEN NON PILOT AIRMEN CERTIFICATES HELD
BY FAA REGION AND STATE
DECEMBER 31, 2019 1/

FAA REGION AND STATE	Total Non Pilot Airmen	Ground Instructor	Flight Engineer	Mechanic	Repair men	Parachute Rigger	Dispatcher	Flight Navigator	Flight Attendant
Southwest Region--Total	**28,842**	**595**	**133**	**1,410**	**256**	**59**	**712**	**0**	**25,677**
Arkansas	681	23	3	52	15	3	6	0	579
Louisiana	1,328	29	2	52	19	3	9	0	1,214
Mississippi	788	17	8	42	11	1	28	0	681
New Mexico	823	41	2	57	10	3	11	0	699
Oklahoma	1,538	57	0	465	59	3	29	0	925
Texas	23,684	428	118	742	142	46	629	0	21,579
Western-Pacific Region--Total	**38,684**	**990**	**216**	**1,108**	**362**	**149**	**400**	**0**	**35,459**
American Samoa	13	0	0	0	0	0	1	0	12
Arizona	8,391	233	38	217	79	44	81	0	7,699
California	22,871	613	131	754	264	86	211	0	20,812
Guam	324	2	1	5	0	1	1	0	314
Hawaii	3,503	48	14	56	5	7	56	0	3,317
Nevada	3,556	94	32	76	14	11	50	0	3,279
North Mariana Islands	26	0	0	0	0	0	0	0	26
U.S. Affiliates 4/	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**
Outside United States and FS Total 6/	**4,273**	**286**	**4**	**216**	**2**	**64**	**812**	**0**	**2,889**
Armed Forces 3/	**52**	**9**	**0**	**9**	**0**	**2**	**5**	**0**	**27**
AA (Americas)[3]	1	0	0	0	0	0	0	0	1
AE (Europe and Canada)[3]	31	6	0	6	0	1	2	0	16
AP (Pacific)[3]	20	3	0	3	0	1	3	0	10
Federated States of Micronesia	0	0	0	0	0	0	0	0	0
Marshall Islands	0	0	0	0	0	0	0	0	0
Palau	6	0	0	0	0	0	0	0	6
Outside United States 5/	**4,215**	**277**	**4**	**207**	**2**	**62**	**807**	**0**	**2,856**

NOTE: Flight attendant data first available from Registry in 2005.

1/ Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, repairmen parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity and have been limited to those held by persons under 70 years of age.

2/ Includes Outside U. S.

3/ Military personnel holding civilian certificate and stationed in a foreign country.

4/ Includes Federated States of Micronesia, Marshall Islands, North Mariana Islands and Palau.

5/ Outside U.S. includes airmen certified by the FAA, who live outside the 50 states and other U.S. areas, territories, and affiliates.

6/ FS stands for the Fight Standards Region, which includes Armed Forces as explained above (#3), and Federated States of Micronesia, Marshall Islands, and Palau.

Table 16

AIRMEN CERTIFICATES ISSUED BY CATEGORY AND CONDUCTOR
Calendar Year 2019

Category of Certificates	Total Certificates Issued	Original Issuances				Additional Ratings				Original Issues by CFI
		Total	Examiner	Inspector	No Test	Total	Examiner	Inspector	No Test	
Pilot--Total	**146,934**	**48,063**	**40,346**	**669**	**7,048**	**51,296**	**43,432**	**886**	**6,978**	**47,575**
Student	48,477	902	496	406	0	0	0	0	0	47,575
Recreational	3	3	3	0	0	0	0	0	0	N/Ap
Sport Pilot	280	256	256	0	0	24	24	0	0	N/Ap
Airplane										
Private	39,678	23,756	20,724	57	2,975	15,922	13,551	41	2,330	N/Ap
Commercial	28,249	14,179	10,966	28	3,185	14,070	11,037	98	2,935	N/Ap
Airline Transport	27,452	6,690	6,494	147	49	20,762	18,430	742	1,590	N/Ap
Rotorcraft (only)	2,625	2,107	1,238	31	838	518	390	5	123	N/Ap
Glider (only)	170	170	169	0	1	0	0	0	0	N/Ap
Flight Instructor Certificates*	**15,448**	**7,973**	**5,862**	**83**	**2,028**	**7,475**	**6,808**	**58**	**609**	N/Ap
Remote Pilot Certificates*	**45,673**	**1,558**	**384**	**1,174**	**0**	**0**	**0**	**0**	**0**	**44,115**
Non Pilot--Total	**17,312**	**13,340**	**8,595**	**94**	**4,651**	**3,972**	**3,630**	**7**	**335**	**N/Ap**
Mechanic	10,976	7,360	7,320	9	31	3,616	3,605	4	7	N/Ap
Control Tower Operator	155	149	149	0	0	6	6	0	0	N/Ap
Repairman	2,629	2,605	0	2	2,603	24	0	2	22	N/Ap
Repairman Light Sport Aircraft	169	165	0	0	165	4	0	0	4	N/Ap
Parachute Rigger	359	342	268	20	54	17	15	0	2	N/Ap
Ground Instructor	2,096	1,795	1	0	1,794	301	0	1	300	N/Ap
Dispatcher	904	902	844	54	4	2	2	0	0	N/Ap
Authorized Aircraft Instructor	0	0	0	0	0	0	0	0	0	N/Ap
Flight Navigator	0	0	0	0	0	0	0	0	0	N/Ap
Flight Engineer	24	22	13	9	0	2	2	0	0	N/Ap

* Not Included in Total

Note: Additional ratings are entered on current airman certificates as follows:
Private, commercial, and airline transport pilot--aircraft category, class, and type instrument rating.
Helicopter pilot--instrument and type ratings.
Flight instructor--ratings for each aircraft category in which the holder is qualified, and instrument flying instructions.
Mechanic--airframe and power plant ratings.
Parachute rigger--senior or master rigger--senior or master rigger ratings.
Ground instructor--ratings for each subject in which the holder is qualified to give instruction.

N/Ap Not Applicable.

TABLE 17

ORIGINAL AIRMEN CERTIFICATES ISSUED BY CATEGORY

CALENDAR YEARS 2010 - 2019

Category of Certificates	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Pilot--Total	**95,638**	**86,936**	**74,130**	**76,978**	**84,905**	**89,022**	**85,353**	**91,618**	**91,081**	**85,576**
Student	48,477	45,354	38,401	36,712	49,062	49,261	49,566	56,348	57,168	56,008
Recreational	3	8	10	48	29	38	54	52	51	37
Sport	256	313	308	496	399	427	420	528	482	518
Airplane										
Private	23,756	20,730	17,752	17,082	16,473	17,795	15,776	16,571	16,802	14,977
Commercial	14,179	12,198	10,506	10,191	9,211	9,803	8,140	8,651	8,559	8,056
Airline Transport	6,690	5,795	4,449	9,520	6,544	7,749	8,346	6,396	4,677	3,072
Rotorcraft (only)	2,107	2,367	2,552	2,759	2,999	3,754	2,888	2,892	3,123	2,686
Glider (only)	170	171	152	170	188	195	163	180	219	222
Flight Instructor Certificates 1/	**7,973**	**6,327**	**5,310**	**5,043**	**4,544**	**4,987**	**3,723**	**4,116**	**4,097**	**4,486**
Instrument Ratings 2/	**14,852**	**13,020**	**11,443**	**11,020**	**10,103**	**11,290**	**9,318**	**9,643**	**9,555**	**8,828**
Remote Pilot Certificates 6/	**45,673**	**45,440**	**48,854**	**20,362**	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap	N/Ap
Non Pilot--Total	**13,340**	**12,569**	**11,931**	**11,965**	**12,442**	**13,971**	**12,018**	**12,701**	**12,798**	**11,741**
Mechanic	7,360	6,710	6,398	5,856	6,366	7,216	6,316	6,662	6,499	5,744
Control Tower Operator 3/	149	168	249	582	708	975	1,067	1,106	1,238	1,181
Repairman 4/	2,605	2,665	2,468	2,602	2,675	2,912	2,472	2,681	2,719	2,465
Repairman Light Sport Aircraft 5/	165	164	171	142	187	206	147	227	251	271
Parachute Rigger	342	304	372	439	396	419	246	220	246	210
Ground Instructor	1,795	1,575	1,353	1,256	1,160	1,228	947	1,006	927	1,148
Dispatcher	902	960	897	1,059	922	987	808	745	840	664
Authorized Aircraft Instr.	0	0	0	0	0	0	0	0	0	0
Flight Navigator	0	0	0	0	0	1	1	0	0	1
Flight Engineer	22	23	23	29	28	27	14	54	78	57

Note: In previous releases all instrument ratings had been shown as additional. Total instrument ratings issued can be found in table 21.

Student certificates issued were estimated until April 2016. They included those with a medical certification (Table 22), as well as those from Table 16 that did not require a medical examination. Until then, Table 22 data displayed combined FAA Medical Certificate and Student Pilot Certificates issued, nearly all obtained through the Medical Certification System. As such, the numbers included both first time applications and renewals. Student medical certifications remained valid for 24 calendar months for pilots age 40 or older, and for 60 months for pilots under the age of 40 (36 months for the latter until the July 2010 rule).

As of April 2016, combined medical certificate and pilot certificates are no longer issued, and there is no expiration date on the new student pilot certificates. Designated examiners, FAA inspectors, and Certified Flight Instructors (CFIs) process student pilot certificates, and FAA issues the certificate.

1/ Not included in total.

2/ Special ratings shown on pilot certificates represented above; not included in total.

3/ Prior to 2001 Control Tower Operators were not included.

4/ Prior to 1995, repairmen were included with mechanics.

5/ First reported in 2005.

6/ Started in August 2016. Not included in pilot totals. The number includes applications signed by CFI.

N/Ap Not Applicable

TABLE 18
ADDITIONAL AIRMEN CERTIFICATES ISSUED BY CATEGORY
CALENDAR YEARS 2010 - 2019

Category of Certificates	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Pilot--Total	**51,296**	**49,880**	**44,545**	**43,016**	**40,227**	**40,822**	**32,216**	**33,731**	**35,329**	**29,606**
Student 1/	0	1	0	174	590	698	676	694	857	1,057
Recreational	0	0	0	0	0	0	0	0	0	0
Sport	24	41	36	22	29	28	8	2	1	0
Airplane										
Private	15,922	13,989	12,555	11,900	11,067	11,396	10,098	10,720	10,703	10,260
Commercial	14,070	13,089	10,508	9,564	8,348	8,840	7,922	9,341	10,027	7,778
Airline Transport	20,762	22,122	20,723	20,747	19,823	19,481	13,288	12,768	13,694	10,890
Rotorcraft (only)	518	636	721	782	957	1,072	899	900	894	670
Glider (only)	0	3	2	1	3	5	1	0	10	8
Flight Instructor Certificates 1/	**7,475**	**5,895**	**4,943**	**4,542**	**4,231**	**4,501**	**3,723**	**4,323**	**4,417**	**4,595**
Instrument Ratings 2/	**15,892**	**13,793**	**11,372**	**10,786**	**10,070**	**10,243**	**8,900**	**9,192**	**9,122**	**8,775**
Non Pilot--Total	**3,972**	**3,604**	**3,364**	**2,896**	**2,839**	**3,159**	**2,848**	**2,988**	**3,305**	**2,614**
Mechanic	3,616	3,244	3,039	2,544	2,541	2,850	2,556	2,625	2,835	2,151
Control Tower Operator 3/	6	11	6	10	9	26	15	33	124	76
Repairman 4/	24	31	38	47	42	40	51	88	105	81
Repairman Light Sport Aircraft 5	4	8	14	10	15	8	13	9	19	30
Parachute Rigger	17	35	22	41	38	28	28	29	29	19
Ground Instructor	301	273	242	240	192	202	181	190	181	242
Dispatcher	2	0	2	3	1	5	1	9	3	9
Authorized Aircraft Instr.	0	0	0	0	0	0	0	0	0	0
Flight Navigator	0	0	0	0	0	0	0	0	0	0
Flight Engineer	2	2	1	1	1	0	3	5	9	6

1/ Not included in total.

2/ Special ratings shown on pilot certificates represented above; not included in total.

3/ Prior to 2001 Control Tower Operators were not included.

4/ Prior to 1995, repairmen were included with mechanics.

5/ First reported in 2005.

Note: Additional ratings are entered on current airman certificates as follows:

Private, commercial, and airline transport pilot--aircraft category, class, and type instrument rating.

Helicopter pilot--instrument and type ratings.

Flight instructor--ratings for each aircraft category in which the holder is qualified, and instrument flying instructions.

Mechanic--airframe and power plant ratings.

Parachute rigger--senior or master rigger--senior or master rigger ratings.

TABLE 19

ORIGINAL AIRMEN CERTIFICATES APPROVED/DISAPPROVED BY CATEGORY AND CONDUCTOR
CALENDAR YEAR 2019

	Examiner				Inspector			
Category of Certificates	Approved	Dis approved	Total	Percent Approved	Approved	Dis approved	Total	Percent Approved
Pilot--Total	**40,346**	**10,819**	**51,165**	**78.9%**	**669**	**76**	**745**	**89.8%**
Student	496	0	496	100.0%	406	0	406	100.0%
Recreational	3	1	4	75.0%	0	0	0	N/A
Sport	256	39	295	86.8%	0	0	0	N/A
Airplane								
Private	20,724	6,716	27,440	75.5%	57	31	88	64.8%
Commercial	10,966	3,213	14,179	77.3%	28	11	39	71.8%
Airline Transport	6,494	738	7,232	89.8%	147	32	179	82.1%
Rotorcraft (only)	1,238	102	1,340	92.4%	31	2	33	93.9%
Glider (only)	169	10	179	94.4%	0	0	0	N/A
Flight Instructor Certificates*	**5,862**	**2,088**	**7,950**	**73.7%**	**83**	**23**	**106**	**78.3%**
Remote Pilot Certificates*	**384**	**0**	**384**	**100.0%**	**1,174**	**0**	**1,174**	**100.0%**
Non Pilot--Total	**8,595**	**3,239**	**11,834**	**72.6%**	**94**	**8**	**102**	**92.2%**
Mechanic	7,320	3,184	10,504	69.7%	9	7	16	56.3%
Control Tower Operator	149	0	149	100.0%	0	0	0	N/A
Repairman	0	0	0	N/A	2	0	2	100.0%
Repairman Light Sport Arcft	0	0	0	N/A	0	0	0	N/A
Parachute Rigger	268	4	272	98.5%	20	0	20	100.0%
Authorized Aircraft Instr.	0	0	0	N/A	0	0	0	N/A
Ground Instructor	1	0	1	100.0%	0	0	0	N/A
Dispatcher	844	51	895	94.3%	54	1	55	98.2%
Flight Navigator	0	0	0	N/A	0	0	0	N/A
Flight Engineer	13	0	13	100.0%	9	0	9	100.0%

* Not included in Total
N/A--Not applicable

TABLE 20

ADDITIONAL AIRMEN CERTIFICATES APPROVED/DISAPPROVED BY CATEGORY AND CONDUCTOR

CALENDAR YEAR 2019

	Examiner				Inspector			
Category of Certificates	Approved	Dis approved	Total	Percent Approved	Approved	Dis approved	Total	Percent Approved
Pilot--Total	**43,432**	**6,207**	**49,639**	**87.5%**	**886**	**91**	**977**	**90.7%**
Recreational	0	0	0	N/A	0	0	0	N/A
Sport	24	2	26	92.3%	0	0	0	N/A
Airplane								
Private	13,551	3,888	17,439	77.7%	41	19	60	68.3%
Commercial	11,037	1,499	12,536	88.0%	98	13	111	88.3%
Airline Transport	18,430	647	19,077	96.6%	742	59	801	92.6%
Rotorcraft (only)	390	165	555	70.3%	5	0	5	100.0%
Glider (only)	0	6	6	0.0%	0	0	0	N/A
Flight Instructor Certificates*	**6,808**	**896**	**7,704**	**88.4%**	**58**	**4**	**62**	**93.5%**
Non Pilot--Total	**3,630**	**549**	**4,179**	**86.9%**	**7**	**0**	**7**	**100.0%**
Mechanic	3,605	548	4,153	86.8%	4	0	4	100.0%
Control Tower Operator	6	0	6	100.0%	0	0	0	N/A
Repairman	0	0	0	N/A	2	0	2	100.0%
Repairman Light Sport Arcft	0	0	0	N/A	0	0	0	N/A
Parachute Rigger	15	0	15	100.0%	0	0	0	N/A
Authorized Aircraft Instr.	0	0	0	N/A	0	0	0	N/A
Ground Instructor	0	0	0	N/A	1	0	1	100.0%
Dispatcher	2	1	3	66.7%	0	0	0	N/A
Flight Navigator	0	0	0	N/A	0	0	0	N/A
Flight Engineer	2	0	2	100.0%	0	0	0	N/A

Note: Additional ratings are entered on current airman certificates as follows:
Private, commercial, and airline transport pilot--aircraft category, class, and type instrument rating.
Helicopter pilot--instrument and type ratings.
Flight instructor--ratings for each aircraft category in which the holder is qualified, and instrument flying instructions.
Mechanic--airframe and power plant ratings.
Parachute rigger--senior or master rigger--senior or master rigger ratings.
Ground instructor--ratings for each subject in which the holder is qualified to give instruction.

* Special ratings shown on pilot certificates represented above; not included in total.

N/A--Not applicable

TABLE 21
INSTRUMENT RATINGS ISSUED:
CALENDAR YEARS 2010 - 2019

Class of Certificate	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total--All Pilots	**30,744**	**26,813**	**22,815**	**21,806**	**20,173**	**21,533**	**18,218**	**18,835**	**18,677**	**17,603**
Airplane										
Private --Total	14,129	11,822	9,878	9,372	8,613	8,892	7,827	7,963	7,837	7,607
Commercial --Total	15,208	13,397	11,159	10,666	9,591	10,225	8,496	9,005	8,865	8,391
Rotorcraft (only)	1,407	1,594	1,778	1,768	1,969	2,416	1,895	1,867	1,975	1,605

TABLE 22
STUDENT CERTIFICATES ISSUED, BY MONTH:
2010 - 2019

YEAR	2019*	2018*	2017*	2016*	2015	2014	2013	2012	2011	2010
Total	**48,476**	**45,354**	**38,401**	**36,145**	**47,381**	**47,407**	**49,566**	**54,370**	**55,298**	**54,064**
January	49	3,202	2,173	3,714	3,805	3,882	4,480	4,637	4,319	4,232
February	3,651	3,462	2,180	3,700	3,327	3,154	3,921	4,187	3,841	3,719
March	6,691	4,110	3,250	5,287	3,833	3,451	4,662	4,531	4,762	4,390
April	5,613	3,441	2,495	1,753	3,918	3,881	3,693	4,199	4,201	4,432
May	4,041	3,958	2,828	2,948	3,882	4,159	4,029	4,736	4,590	4,346
June	3,546	3,611	3,128	3,001	4,856	4,614	4,336	5,133	5,190	5,224
July	3,847	4,460	3,141	3,096	4,659	4,833	4,789	5,099	5,286	5,130
August	4,488	3,998	4,536	3,670	4,867	5,104	5,492	5,958	6,506	5,985
September	4,889	4,242	2,588	3,921	4,188	4,195	4,025	4,262	4,862	4,957
October	5,068	4,635	5,534	2,815	3,863	3,963	3,926	4,120	4,238	4,380
November	3,712	3,140	3,945	1,302	3,061	3,133	3,293	3,907	3,881	3,733
December	2,881	3,095	2,603	938	3,122	3,038	2,920	3,602	3,622	3,536

* Until April 2016, this table shows combined FAA Medical Certificate and Student Pilot Certificates issued, nearly all obtained through the Medical Certification System. As such, the numbers included both first time medical certification applications and renewals. Student medical certifications remained valid for 24 calendar months for pilots age 40 or older, and for 60 months for pilots under the age of 40 (36 months for the latter until the July 2010 rule).

As of April 2016, combined medical certificate and pilot certificates are no longer issued, and there is no expiration date on the new student pilot certificates. Designated examiners, FAA inspectors, and Certified Flight Instructors (CFIs) process student pilot certificates, and FAA issues the new plastic certificate.

Aerospace Product and Parts Manufacturing in Sedgwick County, Kansas, 2020Q3[1]

		Current			5-Year History		5-Year Forecast				
NAICS	Industry	Empl	Avg Ann Wages	LQ	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
3364	Aerospace Product and Parts Manufacturing	24,234	$81,103	26.91	-3,008	-2.3%	9,826	3,692	6,764	-630	-0.5%
	Total - All Industries	**261,244**	**$49,012**	**1.00**	**-2,050**	**-0.2%**	**140,936**	**60,653**	**81,257**	**-974**	**-0.1%**

Source: JobsEQ®
Data as of 2020Q3
Note: Figures may not sum due to rounding.
1. All data based upon a four-quarter moving average
Exits and transfers are approximate estimates based upon occupation separation rates.

Air Transportation in Sedgwick County, Kansas, 2020Q3[1]

		Current			5-Year History		5-Year Forecast				
NAICS	Industry	Empl	Avg Ann Wages	LQ	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
4811	Scheduled Air Transportation	89	$31,979	0.12	-47	-8.2%	45	18	27	0	0.0%
4812	Nonscheduled Air Transportation	80	$54,829	0.94	5	1.3%	39	14	23	2	0.5%
481	Air Transportation	169	$41,557	0.20	-42	-4.4%	88	34	52	2	0.2%
	Total - All Industries	**261,244**	**$49,012**	**1.00**	**-2,050**	**-0.2%**	**140,936**	**60,653**	**81,257**	**-974**	**-0.1%**

Source: JobsEQ®
Data as of 2020Q3
Note: Figures may not sum due to rounding.
1. All data based upon a four-quarter moving average
Exits and transfers are approximate estimates based upon occupation separation rates.

JOBSEQ

Education Report

Airline/Commercial/Professional Pilot and Flight Crew

Kansas

WSU Tech
National Center for Aviation Training
4004 N Webb Rd
Wichita, KS 67226

Definition of Airline/Commercial/Professional Pilot and Flight Crew, CIP 49.0102

A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.

Awards

The table below is a list of postsecondary awards in CIP 49.0102 that were granted by institutions located in Kansas in the 2018 academic year.

Annual Awards, CIP 49.0102 - Kansas

Regions and Schools	Certs & 2yr Awards[1]
Hesston College	11
Kansas-All Schools	11

1. Undergraduate certificates and associate's degrees

Awards data are per the National Center for Education Statistics (NCES) and JobsEQ for the 2018 academic year. Any programs shown here reflect only data reported to the NCES; reporting is required of all schools participating in any federal finance assistance program authorized by Title IV of the Higher Education Act of 1965, as amended—other training providers in the region that do not report data to the NCES are not reflected in the above.

Occupation Crosswalk

The below table lists all occupations linked with the program, Airline/Commercial/Professional Pilot and Flight Crew, CIP 49.0102.

		Education and Training Requirements			Educational Attainment				
		Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-the-Job Training Needed to Attain Competency in the Occupation	No College	Some College, No Degree	Associate's Degree	Bachelor's Degree	Postgraduate Degree
53-2011	Airline Pilots, Copilots, and Flight Engineers	Bachelor's degree	Less than 5 years	Moderate-term on-the-job training	3%	10%	6%	65%	16%
53-2012	Commercial Pilots	High school diploma or equivalent	None	Moderate-term on-the-job training	4%	10%	7%	64%	15%

Education and training requirements are from the Bureau of Labor Statistics (BLS); educational attainment mix are regional data modeled by Chmura using Census educational attainment data projected to 2020Q1 along with source data from the BLS

Definition of Airline Pilots, Copilots, and Flight Engineers (53-2011)

Pilot and navigate the flight of fixed-wing, multi-engine aircraft, usually on scheduled air carrier routes, for the transport of passengers and cargo. Requires Federal Air Transport certificate and rating for specific aircraft type used. Includes regional, National, and international airline pilots and flight instructors of airline pilots.

Definition of Commercial Pilots (53-2012)

Pilot and navigate the flight of fixed-wing aircraft on nonscheduled air carrier routes, or helicopters. Requires Commercial Pilot certificate. Includes charter pilots with similar certification, and air ambulance and air tour pilots. Excludes regional, National, and international airline pilots.

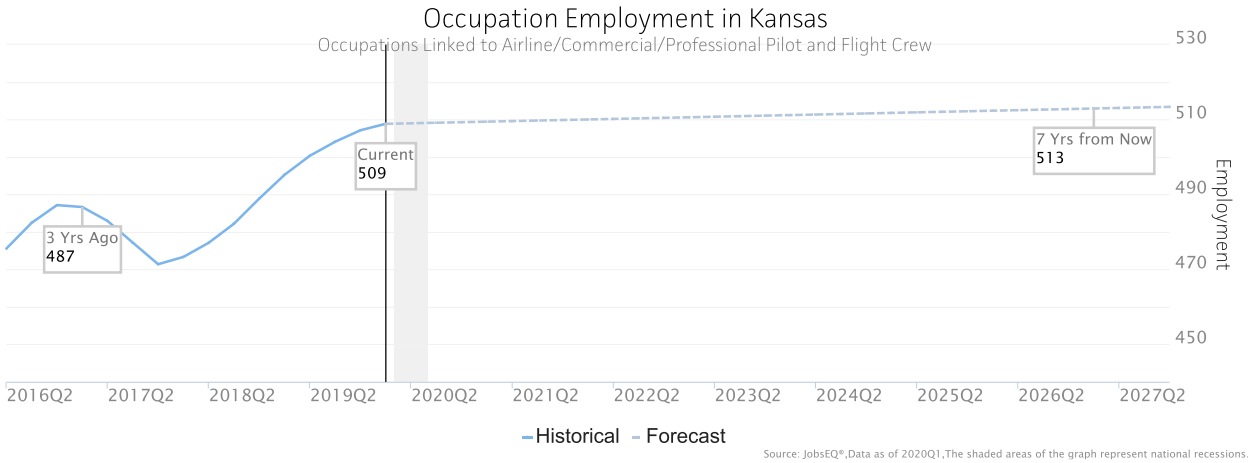
Occupation Details

As of 2020Q1, total employment for occupations linked to Airline/Commercial/Professional Pilot and Flight Crew in Kansas was 509. Over the past three years, linked occupations added 22 jobs in the region and are expected to need in aggregate approximately 368 newly trained workers over the next seven years.

Snapshot of Occupations Linked to Airline/Commercial/Professional Pilot and Flight Crew in Kansas[1]

		Current						3-Year History	7-Year Forecast				
SOC	Occupation	Empl	Avg Ann Wages[2]	LQ	Unempl	Unempl Rate	Online Job Ads[3]	Ann %	Total Demand	Exits	Transfers	Empl Growth	Avg Ann Growth %
53-2012	Commercial Pilots	398	$100,700	1.05	3	0.6%	10	1.5%	291	78	207	5	0.2%
53-2011	Airline Pilots, Copilots, and Flight Engineers	111	$154,800	0.13	1	0.6%	1	1.5%	78	22	57	-1	-0.1%
	Total - Linked Occupations	**509**	**$112,400**	**0.42**	**3**	**0.6%**	**11**	**1.5%**	**368**	**100**	**264**	**4**	**0.1%**
2042	49.0102	509	$112,400	0.42	3	0.6%	11	1.5%	368	100	264	4	0.1%
	Total - All Occupations	**1,511,211**	**$47,500**	**1.00**	**47,126**	**3.1%**	**66,433**	**0.5%**	**1,191,245**	**457,691**	**738,017**	**-4,463**	**0.0%**

Source: JobsEQ®
Data as of 2020Q1 unless noted otherwise
Note: Figures may not sum due to rounding.
1. Data based on a four-quarter moving average unless noted otherwise.
2. Wage data are as of 2019 and represent the average for all Covered Employment
3. Data represent found online ads active within the last thirty days in the selected region; data represents a sampling rather than the complete universe of postings. Ads lacking zip code information but designating a place (city, town, etc.) may be assigned to the zip code with greatest employment in that place for queries in this analytic. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list).



Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q3, imputed where necessary with preliminary estimates updated to 2020Q1. Wages by occupation are as of 2019 provided by the BLS and imputed where necessary. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns. Occupation unemployment figures are imputed by Chmura.

Employment by Industry

The table illustrates the industries in Kansas which most employ occupations linked to Airline/Commercial/Professional Pilot and Flight Crew. The single industry most employing these occupations in the region is Nonscheduled Air Transportation, NAICS 4812. This industry employs 85 workers in the linked occupations—employment which is expected to increase by 8 jobs over the next ten years; furthermore, 90 additional new workers in these linked occupations will be needed for this industry due to separation demand, that is, to replace workers in this occupation and industry that retire or move into a different occupation.

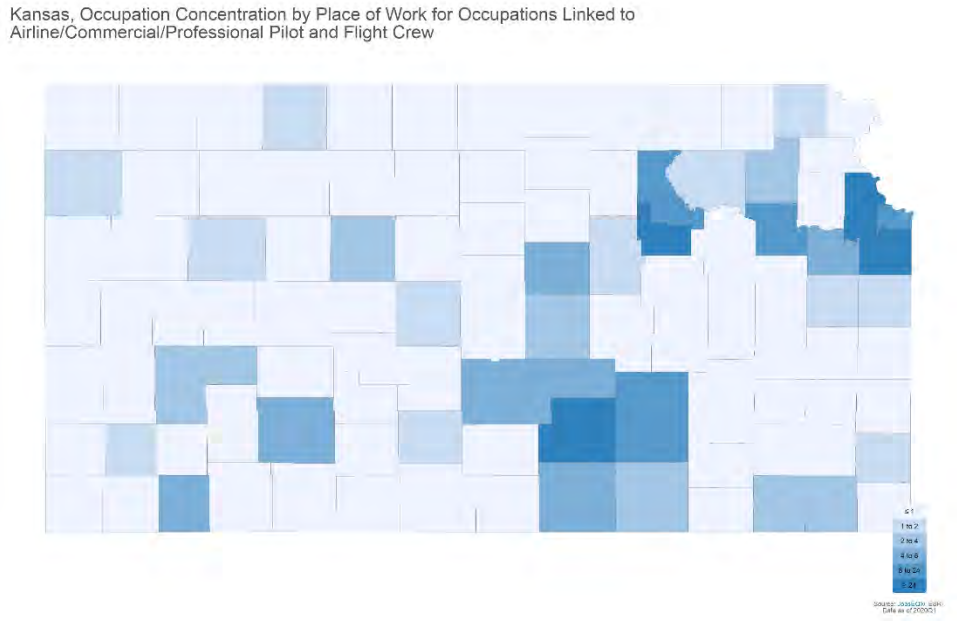
Industry Distribution for Occupations Linked to Airline/Commercial/Professional Pilot and Flight Crew in Kansas

		Current		10-Year Demand			
NAICS Code	Industry Title	% of Occ Empl	Empl	Exits	Transfers	Empl Growth	Total Demand
4812	Nonscheduled Air Transportation	16.7%	85	25	66	8	98
3364	Aerospace Product and Parts Manufacturing	14.1%	72	19	51	-5	66
6115	Technical and Trade Schools	9.8%	50	13	35	-4	45
4881	Support Activities for Air Transportation	9.1%	46	13	35	3	51
4879	Scenic and Sightseeing Transportation, Other	7.6%	39	11	30	4	45
4921	Couriers and Express Delivery Services	5.3%	27	8	20	0	27
6219	Other Ambulatory Health Care Services	4.9%	25	7	18	0	26
5511	Management of Companies and Enterprises	4.5%	23	7	17	1	25
4811	Scheduled Air Transportation	4.5%	23	6	17	0	23
9281	National Security and International Affairs	1.9%	10	3	7	-1	9
5413	Architectural, Engineering, and Related Services	1.5%	8	2	6	0	8
1151	Support Activities for Crop Production	1.3%	7	2	5	0	7
9211	Executive, Legislative, and Other General Government Support	1.3%	7	2	5	0	7
5611	Office Administrative Services	1.1%	6	2	5	1	8
9261	Administration of Economic Program	1.0%	5	1	3	0	4
9231	Administration of Human Resource Programs	0.8%	4	1	3	0	4
4821	Rail Transportation	0.8%	4	1	3	0	4
5613	Employment Services	0.7%	4	1	3	0	4
5416	Management, Scientific, and Technical Consulting Services	0.7%	4	1	3	1	5
5612	Facilities Support Services	0.7%	3	1	3	0	4
	All Others	11.4%	58	16	42	-2	56

Source: JobsEQ®
Data as of 2020Q1 except wages which are as of 2019. Note that occupation-by-industry wages represent adjusted national data and may not be consistent with regional, all-industry occupation wages shown elsewhere in JobsEQ.
Note: Figures may not sum due to rounding.
Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q3, imputed where necessary with preliminary estimates updated to 2020Q1. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns.

Geographic Distribution

The map below illustrates the county-level distribution of employed workers in Kansas in occupations linked to Airline/Commercial/Professional Pilot and Flight Crew. Employment is shown by place of work.



Top Counties with Employment Linked to Airline/Commercial/Professional Pilot and Flight Crew, 2020Q1

Region	Employment
Sedgwick County, Kansas	187
Johnson County, Kansas	106
Leavenworth County, Kansas	26
Geary County, Kansas	24
Shawnee County, Kansas	23
Riley County, Kansas	12
Wyandotte County, Kansas	12
Butler County, Kansas	8
Douglas County, Kansas	7
Harvey County, Kansas	6

Source: JobsEQ®
Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q3, imputed where necessary with preliminary estimates updated to 2020Q1.

Demographic Profile

The population in Kansas was 2,908,776 per American Community Survey data for 2014-2018.

Of individuals 25 to 64 in Kansas, 34.5% have a bachelor's degree or higher which compares with 32.9% in the nation. Per American Community Survey 2014-2018 estimates, the region has about 40,194 students enrolled in grade 12.

Summary[1]

	Percent		Value	
	Kansas	USA	Kansas	USA
Demographics				
Population (ACS)	—	—	2,908,776	322,903,030
Male	49.8%	49.2%	1,449,413	158,984,190
Female	50.2%	50.8%	1,459,363	163,918,840
Median Age[2]	—	—	36.5	37.9
Under 18 Years	24.6%	22.8%	715,545	73,553,240
18 to 24 Years	10.3%	9.6%	298,556	30,903,719
25 to 34 Years	13.2%	13.8%	383,220	44,567,976
35 to 44 Years	12.0%	12.6%	350,391	40,763,210
45 to 54 Years	12.1%	13.2%	353,237	42,589,573
55 to 64 Years	12.7%	12.8%	370,050	41,286,731
65 to 74 Years	8.4%	8.8%	245,020	28,535,419
Population Growth				
Population (Pop Estimates)[4]	—	—	2,913,314	328,239,523
Population Annual Average Growth[4]	0.3%	0.7%	8,061	2,146,799
People per Square Mile	—	—	35.6	92.9
Educational Attainment, Age 25-64				
No High School Diploma	8.8%	11.2%	128,354	18,885,967
High School Graduate	23.7%	25.8%	345,665	43,699,272
Some College, No Degree	23.5%	21.0%	341,813	35,525,113
Associate's Degree	9.5%	9.1%	138,269	15,389,737
Bachelor's Degree	22.4%	20.8%	326,291	35,261,652
Postgraduate Degree	12.1%	12.1%	176,506	20,445,749
Social				
Poverty Level (of all people)[5]	12.4%	14.1%	350,280	44,257,979
Households Receiving Food Stamps/SNAP	8.1%	12.2%	90,685	14,635,287
Enrolled in Grade 12 (% of total population)	1.4%	1.4%	40,194	4,442,295
Disconnected Youth[3,5]	2.3%	2.6%	3,677	438,452
Children in Single Parent Families (% of all children)[5]	29.3%	34.3%	200,697	23,973,249
Uninsured	9.0%	9.4%	256,512	29,752,767
Speak English Less Than Very Well (population 5 yrs and over)	4.6%	8.5%	125,376	25,647,781

Source: JobsEQ®

1. American Community Survey 2014-2018, unless noted otherwise
2. Median values for certain aggregate regions (such as MSAs) may be estimated as the weighted averages of the median values from the composing counties.
3. Disconnected Youth are 16-19 year olds who are (1) not in school, (2) not high school graduates, and (3) either unemployed or not in the labor force.
4. Census 2019, annual average growth rate since 2009
5. See Rio Arriba errata note in the Data Dictionary.

RTI (Job Postings)

Occupations

SOC	Occupation	Total Ads
53-2012.00	Commercial Pilots	60
53-2011.00	Airline Pilots, Copilots, and Flight Engineers	3

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Locations

Location	Total Ads
Wichita, KS 67202	9
Wichita, Kansas	9
Kansas City, Kansas	5
Olathe, Kansas	5
Chanute, KS 66720	3
Wichita, KS 67209	3
Olathe, KS 66061	2
Olathe, KS: 12901 W. 151St, 66062	2
Pittsburg, KS 66762-8556	2
Wichita, KS 67209-2926	2

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Employers

Employer Name	Total Ads
Med-Trans	10
Atlas Air	9
CAE Inc.	4
Centerline Aviation, LLC	4
Garmin	4
Air Medical Group Holdings	3
FlightSafety International	3
Berry Aviation	2
Bombardier Aerospace and Transport	2
Bombardier Transportation	2

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Certifications

Certificate Name	Total Ads
Certified Flight Instructor (CFI)	3
Driver's License	1

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Hard Skills

Skill Name	Total Ads
Aviation	11
Flight Simulators	8
Customer Relationship Management (CRM)	5
Microsoft Office	5
Personal Computers (PC)	4
Ability to Lift 41-50 lbs.	3
Word Processing	3
Competitive Analysis	2
Microsoft PowerPoint	2
Ability to Lift 31-40 lbs.	1

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Soft Skills

Skill Name	Total Ads
Communication (Verbal and written skills)	17
Customer Service	8
Adaptability/Flexibility/Tolerance of Change and Uncertainty	6
Cooperative/Team Player	6
Self-Motivated/Ability to Work Independently/Self Leadership	6
Enthusiastic/Energetic	5
Coaching/Mentoring	3
Interpersonal Relationships/Maintain Relationships	3
Problem Solving	3
Customer Focused	2

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Job Titles

Job Title	Total Ads
First Officer	5
Certified Flight Instructor	4
737 First Officer	3
MTC Pilot Rotor Wichita KS Bell 407	3
Part 107 Drone Pilot	3
Pilot Interface Designer	3
EGM- Float Pilot Fixed Wing	2
Fixed Wing Pilot-In-Command on DHC-8 (ISR) - Telecommute	2
KC-46 - Pilot Instructor - McConnell	2
MTC Pilot Rotor Bell 407 - KS	2

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Education Levels

Minimum Education Level	Total Ads
Bachelor's degree	9
High school diploma or equivalent	4
Unspecified/other	50

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Programs

Program Name	Total Ads
Engineering	4
Human Factors	2
Technical	1

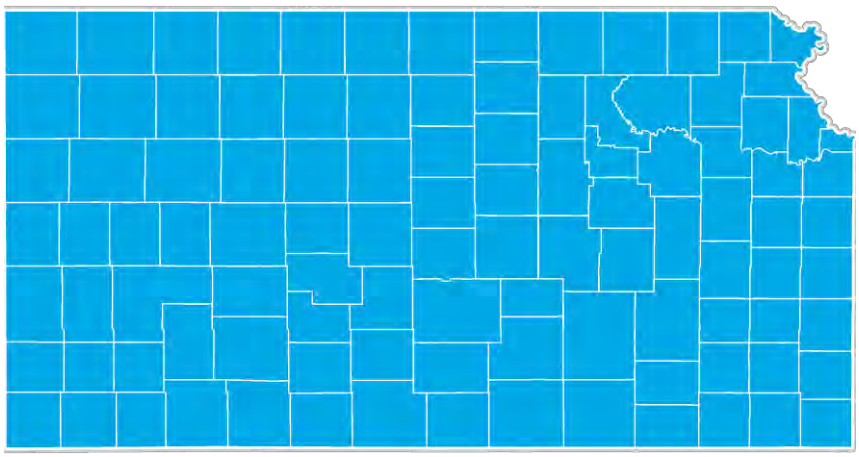
Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Job Types

Type	Total Ads
Full-Time	27
Permanent	7
Part-Time	5
Temporary (unspecified)	4
Unspecified/other	26

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 7/5/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Kansas Regional Map



Source: JobsEQ®, http://www.chmuraecon.com/jobseq

FAQ

What is CIP?

The 2010 Classification of Instructional Programs (CIP) is taxonomy of instructional program classifications and descriptions. It was developed and has been updated by the U.S. Department of Education's National Center for Education Statistics (NCES).

What is SOC?

The Standard Occupational Classification system (SOC) is used to classify workers into occupational categories. All workers are classified into one of over 804 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 22 major groups, 95 minor groups, and 452 occupation groups. Each occupation group includes detailed occupations requiring similar job duties, skills, education, or experience.

What is training concentration?

Training concentration analysis compares local postsecondary training output to the national norm. As an example consider registered nurses. If in the nation, one RN award is granted for every twelve RNs employed, that 1:12 ratio is the national norm. If in your region your schools also grant one RN award for every twelve RNs employed, then your region will be right at the national norm, or we say at 100% of the national norm which is termed a 100% training concentration. If your region grants two RN awards for every twelve employed, your region would be at twice the national norm or have a 200% training concentration. Similarly, if your region grants one RN award for every twenty-four employed, your region would be at half the national norm or have a 50% training concentration. (Note that this analysis, relying on data provided by Title IV postsecondary schools, provides an incomplete training picture for occupations receiving much of their training from other sources.)

What is the program-to-occupation crosswalk?

Training programs are classified according to the Classification of Instructional Programs (CIP codes). For relating training programs, this report uses a modified version of the CIP to SOC crosswalk from the National Center for Education Statistics (NCES). While this is a very helpful crosswalk for estimating occupation production from training program awards data, the crosswalk is neither perfect nor comprehensive. Indeed, it is hard to imagine such a crosswalk being perfect since many training program graduates for one reason or another do not end up employed in occupations that are most related to the training program from which they graduated. Therefore, the education program analyses should be considered in this light.

As an example of the many scenarios that may unfold, consider a journalism degree that crosswalks into three occupations: editors, writers, and postsecondary communications teachers. Graduates with a journalism degree may get a job in one of these occupations—and that may be the most-likely scenario—but a good number of these graduates may get a job in a different occupation altogether (the job may be somewhat related, such as a reporter, or the job may be totally unrelated, such as a real estate agent). Furthermore, a graduate may stay in school or go back to school for a degree that will lead to other occupation possibilities. Still another possibility includes the graduate not entering the labor market (maybe being unemployed, being a non-participant, or moving to another region).

What is separation demand?

Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand

does not include all turnover—it does not include when workers stay in the same occupation but switch employers. The total projected demand for an occupation is the sum of the separation demand and the growth demand (which is the increase or decrease of jobs in an occupation expected due to expansion or contraction of the overall number of jobs in that occupation).

What is a location quotient?

A location quotient (LQ) is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an occupation (or industry) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is NAICS?

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of economic activity. The NAICS Code comprises six levels, from the "all industry" level to the 6-digit level. The first two digits define the top level category, known as the "sector," which is the level examined in this report.

Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and Textron Aviation

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Textron Aviation to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background
This MOU serves as notification that Textron Aviation recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose
This MOU will establish the role of and scope of agreed involvement for Textron Aviation in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Textron Aviation undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- ☑ Provide a guaranteed interview opportunity to graduates of the following program(s): Flight/Pilot Training Program at one of WSU Tech Campuses or at industry partner facility.
- ☑ Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- ☑ Provide up to date job descriptions, credential requirements, and application instructions for positions you are actively recruiting for.
- ☑ Provide constructive feedback to interviewed graduates as appropriate.
- ☑ Provide information regarding hiring requirements, trends, or changes in requirements to WSU Tech.
- ☑ Donate to WSU Tech labs (i.e. metal or other materials, tools, machinery, etc.)
- ☑ Refer denied applicants to further training at WSU Tech.
- ☑ Actively host students in applied learning activities such as apprenticeships, internships or independent study options for this program(s).

Reporting of Outcomes

Reports and evaluation of program effectiveness and adherence to the agreement will be ongoing and communicated to employer partners annually. Any student hired will require the following reporting: date of hire, hourly wage, status of employment 30, 60, 90 days after initial hire, and if no longer employed, the reason for separation.

Additional data may be requested to comply with associated grant requirements.

Funding

This MOU is not a commitment of funds; however, WSU Tech personnel are available to discuss scholarship opportunities to help business partners grow their own workforce as well as social media marketing and asset donations.

Duration

This MOU is at will and may be modified by mutual consent of authorized officials from WSU Tech and Textron Aviation . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Textron Aviation and will remain in effect until modified or terminated by any one of the partners by mutual consent.

Your generosity and collaboration for the students of WSU Tech is greatly appreciated and we are honored to have you as a supporter and partner!

Notice of Nondiscrimination

The WSU TECH Board of Directors supports and complies with Title VI and Title VII of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973 and Amendments, The Americans with Disabilities Act, Title IX and all requirements imposed by or pursuant to the regulations of the Department of Health and Human Services and the Department of Education. It is the policy of the Board of Directors that no person in the United States (on the grounds of race, color, religion, sex, national origin, ancestry or disability) shall be excluded from participation in, denied the benefit of or otherwise subjected to discrimination under any program or activity of, or employment with WSU Tech. Persons with inquiries may contact the Human Resources Director at 4004 N. Webb Road Wichita, KS 67226 or by phone at 316.677-9500.

Legal Citation

Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)

This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Textron Aviation to provide the above checked services for the Flight/Pilot Training Program programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Textron Aviation
Partner Representative Name: Michele Gifford
Position Title: Director Human Resources
Address: One Cessna Blvd., Wichit, KS 67
Telephone: 316.517.8870
Signature_____
Date: 3/29/21

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature_____
Date: 3/29/21

ORTEGA AVIATION SERVICES, LLC

March 10, 2020

Dr. Sheree Utash
President, Wichita State University Campus of Applied Sciences & Technology
4004 North Webb Road
Wichita, KS 67226

RE: WSU Tech's FAA Aviation Workforce Development – Pilots Grant Proposal

Dear Dr. Utash:

As the Managing Member of Ortega Aviation Services LLC, I am pleased to offer this letter of support and commitment for the *Developing a Pilot Pipeline in Kansas* project as part of the Federal Aviation Administration's Aviation Workforce Development - Pilots program. The *Developing a Pilot Pipeline in Kansas* project is focused on developing a streamlined and integrated educational pathway from secondary to post-secondary education to create a pipeline of qualified manned and unmanned pilots. Ortega Aviation Services will partner with Wichita State University Campus of Applied Sciences and Technology (WSU Tech), with WSU Tech as the lead organization, in implementing this project and carrying out the proposed activities.

Ortega Aviation is passionate about fostering aviation throughout our community. Our organization provides flight training, as well as mentoring, aircraft transport and consulting for all ranges of airplanes, and aircraft needs. With two aircraft located at Dwight D. Eisenhower airport, we are equipped to provide flight training in our state-of-the-art Cessna 172S model, G1000 equipped airplanes.

We are happy to mentor and entertain internships and employment with graduates of the WSU Technical College.

In support of the *Developing a Pilot Pipeline in Kansas* project, Ortega Aviation Services is committed to providing and/ or participating in the following activities:

- Collaborate with WSU Tech and secondary partners to share pilot and unmanned aircraft operators career opportunities; and
- Support WSU Tech, secondary partners, and postsecondary partners in ensuring developed curriculum and pathways are meeting industry demands.

We look forward to working with WSU Tech to develop a diverse pipeline of pilot and unmanned aircraft operators whom are highly skilled and trained to meet the needs of the aviation industry today and in the future.

Sincerely,

Teresa L. Ortega
Managing Member
Ortega Aviation Services LLC
teresa@ortegaaviation.com

Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Air MD to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background

This MOU serves as notification that Air MD recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose

This MOU will establish the role of and scope of agreed involvement for Air MD in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Air MD undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

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The WSU TECH Board of Directors supports and complies with Title VI and Title VII of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973 and Amendments, The Americans with Disabilities Act, Title IX and all requirements imposed by or pursuant to the regulations of the Department of Health and Human Services and the Department of Education. It is the policy of the Board of Directors that no person in the United States (on the grounds of race, color, religion, sex, national origin, ancestry or disability) shall be excluded from participation in, denied the benefit of or otherwise subjected to discrimination under any program or activity of, or employment with WSU Tech. Persons with inquiries may contact the Human Resources Director at 4004 N. Webb Road Wichita, KS 67226 or by phone at 316.677-9500.

Legal Citation
Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)

This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Air MD to provide the above checked services for the Professional Pilot programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Air MD- Air Methods Lifesave Region
Partner Representative Name: Gregory J Monty
Position Title: Aviation Operations Director
Address: 3445 N Webb Rd Wichita, KS 67206
Telephone: 316 932 1439 — Gregory.Monty@airmethods.com
Signature
Date: 26 JAN 21

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature
Date:

Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and Textron Aviation

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Textron Aviation to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background
This MOU serves as notification that Textron Aviation recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose
This MOU will establish the role of and scope of agreed involvement for Textron Aviation in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Textron Aviation undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- ☑ Provide a guaranteed interview opportunity to graduates of the following program(s): at one of WSU Tech Campuses or at industry partner facility.
- ☑ Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- ☑ Provide up to date job descriptions, credential requirements, and application instructions for positions you are actively recruiting for.
- ☑ Provide constructive feedback to interviewed graduates as appropriate.
- ☑ Provide information regarding hiring requirements, trends, or changes in requirements to WSU Tech.
- ☑ Donate to WSU Tech labs (i.e. metal or other materials, tools, machinery, etc.)
- ☑ Refer denied applicants to further training at WSU Tech.
- ☑ Actively host students in applied learning activities such as apprenticeships, internships or independent study options for this program(s).

Reporting of Outcomes
Reports and evaluation of program effectiveness and adherence to the agreement will be ongoing and communicated to employer partners annually. Any student hired will require the following reporting: date of hire, hourly wage, status of employment 30, 60, 90 days after initial hire, and if no longer employed, the reason for separation.

Additional data may be requested to comply with associated grant requirements.

Funding
This MOU is not a commitment of funds; however, WSU Tech personnel are available to discuss scholarship opportunities to help business partners grow their own workforce as well as social media marketing and asset donations.

Duration
This MOU is at will and may be modified by mutual consent of authorized officials from WSU Tech and Textron Aviation . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Textron Aviation and will remain in effect until modified or terminated by any one of the partners by mutual consent.

Your generosity and collaboration for the students of WSU Tech is greatly appreciated and we are honored to have you as a supporter and partner!

Notice of Nondiscrimination
The WSU TECH Board of Directors supports and complies with Title VI and Title VII of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973 and Amendments, The Americans with Disabilities Act, Title IX and all requirements imposed by or pursuant to the regulations of the Department of Health and Human Services and the Department of Education. It is the policy of the Board of Directors that no person in the United States (on the grounds of race, color, religion, sex, national origin, ancestry or disability) shall be excluded from participation in, denied the benefit of or otherwise subjected to discrimination under any program or activity of, or employment with WSU Tech. Persons with inquiries may contact the Human Resources Director at 4004 N. Webb Road Wichita, KS 67226 or by phone at 316.677-9500.

Legal Citation
Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)

This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Textron Aviation to provide the above checked services for the Professional Pilot programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Textron Aviation
Partner Representative Name: Maggie Topping
Position Title: Sr. VP, HR & Communications
Address: 1 Cessna Blvd., Wichita, KS 67215
Telephone: 316.517.1287
Signature_____
Date: 12/7/20

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature_____
Date: 12/7/20

Collaboration Agreement between
Wichita State University Campus of Applied Sciences and Technology (WSU Tech)
and

This Memorandum of Understanding (MOU) sets forth the terms and understanding between Wichita State University Campus of Applied Sciences and Technology (WSU Tech) and Yingling Aviation to provide support and opportunities for the programs outlined in this document to publicly support WSU Tech students.

Background
This MOU serves as notification that Yingling Aviation recognizes a need to develop a talent pool in this industry for specific program(s). This partnership outlines opportunities for the organization to support WSU Tech. The opportunities are listed below in their entirety and include membership on the Industry Advocate Team, hosting Applied Learning Opportunities, and providing Guaranteed Interviews and/or other aspects of support designed to increase the workforce by removing barriers for individuals being trained to enter the pipeline.

Purpose
This MOU will establish the role of and scope of agreed involvement for Yingling Aviation in regard to aforementioned programs. Involvement and participation is defined by supporting the goals set out below and providing use of the company logo for outreach, coordination, and retention campaigns/ events for enriching, sourcing, and securing a viable talent pipeline.

Support will be accomplished by Yingling Aviation undertaking the following activities in these critical areas. (Please check which areas you wish to participate in.)

Business/IndustryPartnerwill:

- ☐ Provide a guaranteed interview opportunity to graduates of the following program(s): at one of WSU Tech Campuses or at industry partner facility.
- ☑ Engage in Industry Advocate Team meetings twice a year to provide industry expertise in curriculum guidance, focus groups on retention and recruitment for students.
- ☑ Provide up to date job descriptions, credential requirements, and application instructions for positions you are actively recruiting for.
- ☑ Provide constructive feedback to interviewed graduates as appropriate.
- ☐ Provide information regarding hiring requirements, trends, or changes in requirements to WSU Tech.
- ☐ Donate to WSU Tech labs (i.e. metal or other materials, tools, machinery, etc.)
- ☐ Refer denied applicants to further training at WSU Tech.
- ☐ Actively host students in applied learning activities such as apprenticeships, internships or independent study options for this program(s).

Reporting of Outcomes
Reports and evaluation of program effectiveness and adherence to the agreement will be ongoing and communicated to employer partners annually. Any student hired will require the following reporting: date of hire, hourly wage, status of employment 30, 60, 90 days after initial hire, and if no longer employed, the reason for separation.

Additional data may be requested to comply with associated grant requirements.

Funding
This MOU is not a commitment of funds; however, WSU Tech personnel are available to discuss scholarship opportunities to help business partners grow their own workforce as well as social media marketing and asset donations.

Duration
This MOU is at will and may be modified by mutual consent of authorized officials from WSU Tech and Yingling Aviation . This MOU shall become effective upon signature by the authorized officials from WSU Tech and Yingling Aviation and will remain in effect until modified or terminated by any one of the partners by mutual consent.

Your generosity and collaboration for the students of WSU Tech is greatly appreciated and we are honored to have you as a supporter and partner!

Notice of Nondiscrimination
The WSU TECH Board of Directors supports and complies with Title VI and Title VII of the Civil Rights Act of 1964 as amended, Section 504 of the Rehabilitation Act of 1973 and Amendments, The Americans with Disabilities Act, Title IX and all requirements imposed by or pursuant to the regulations of the Department of Health and Human Services and the Department of Education. It is the policy of the Board of Directors that no person in the United States (on the grounds of race, color, religion, sex, national origin, ancestry or disability) shall be excluded from participation in, denied the benefit of or otherwise subjected to discrimination under any program or activity of, or employment with WSU Tech. Persons with inquiries may contact the Human Resources Director at 4004 N. Webb Road Wichita, KS 67226 or by phone at 316.677-9500.

Legal Citation
Opportunities in Applied education and job placement at WSU TECH are available to all students regardless of race, color, national origin, sex or disability in compliance with Title VI:34 CFR 100.3(b) Guidelines VII-A, Title IX: 34 CFR 106.31(d), Section 504: CFR 104.4(b)

This Memorandum of Understanding (MOU) sets forth the terms and understanding between WSU Tech and Yingling Aviation to provide the above checked services for the Professional Pilot programs to publicly support WSU Tech students.

Contact Information and Signatures

Company Name: Yingling Aviation
Partner Representative Name: Gail Shepherd
Position Title: Director, Human Resources
Address: 2010 S Airport Rd Wichita, 67[redacted]
Telephone: 3169433246
Signature Gail Shepherd
Date: 02/11/2024

WSU Tech
WSU Tech Representative Name: Megan Madasz
Position: Director of Industry & Workforce Collaboration
Address: 301 S. Grove Wichita, KS 67211
Telephone: 316.677.1876
E-mail: mmadasz@wsutech.edu
Signature_____
Date:

AIRBUS

[Airbus Amber]

WSU Tech
4004 N. Webb Road
Wichita, KS 67266

19 April 2021

To whom it may concern,

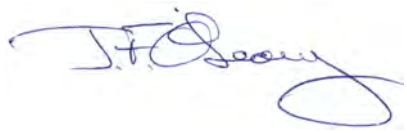
The purpose of this letter is to express my support for the creation of a Part 141 Flight School at WSU Tech. Developing a new generation of pilots is critical to the future of aviation and could significantly contribute to the success of Wichita's aviation industry.

Although COVID-19 dramatically disrupted the aviation industry, some sources estimate a need for 35,000 - 50,000 pilots worldwide by 2025. Some major airlines have already started hiring pilots due to the increased demand for air travel and they expect this trend to continue.

While the Wichita metropolitan area already has a large aviation presence, one thing it lacks is a pilot training program. WSU Tech has the opportunity to better serve our local community members and the aviation industry by providing access to a high-value, affordable training program.

As we continue to overcome the challenges of COVID-19, both personally and professionally, I believe a WSU Tech Flight School could be a pivotal piece of the recovery and it has my full support.

Sincerely,



John O'Leary
Vice President, Engineering
Airbus Americas, Inc.

WSU Tech
Program Design

PLT Professional Pilot

Program Course List

Number	Title	Credits	R – Required E – Elective	Description	Pre/Corequisites P- Pre -Req C – Co-Req
PLT 104	**Introduction to Aviation**	3	R	This course will expose the student to knowledge areas of emphasis pertaining to FAA regulations, accident reporting, chart usage, navigation, radio communications, weather, collision avoidance, aerodynamics, systems, weight and balance, stall awareness, aeronautical decision making, preflight and ground operations. Successful completion of this	C - PLT 112 Private Pilot Flight Lab

				course will provide the student with all information necessary to successfully pass the required FAA written exam for Airplane Single Engine Land (ASEL) and be adequately prepared for the oral portion of the required practical test.	
PLT 108	**Simulated Flight Lab I**	1	R – AAS Only	This course provides the student the opportunity to gain familiarity with the FMS and aircraft operations. The course allows the student to rehearse all required maneuvers defined by the FAA to successfully complete the Private Pilot Practical Flight Exam.	C- PLT 112 Private Pilot Flight Lab C - PLT 104 Introduction to Aviation
PLT 112	**Private Pilot Flight Lab**	2	R	This course will enable the student to develop the knowledge and skills required to safely exercise the privileges and responsibilities of a Private Pilot and pass the Private Pilot Practical Flight Exam. Course content includes instruction in aerodynamics, aircraft systems, FAA regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, basic	C - PLT 104 Introduction to Aviation

				flight physiology, and flight safety.	
PLT 116	**Aviation Weather**	3	R – AAS Only	This course entails the study of weather hazards, meteorological flight planning, aviation weather equipment and human factors in weather flying safety. Elements of the atmosphere with emphasis on those processes that affect the global atmospheric circulation, and meteorology as it applies to the operation of aircraft with emphasis on observation of weather elements and interpretation of flight planning weather information will be emphasized.	
PLT 120	**Instrument Regulations and Procedures**	3	R	Instrument Regulations and Procedures (3) - This course will provide the student with a detailed study of the regulations, procedures, publications, and weather considerations necessary for operating IFR in the national airspace system. Terminal and enroute procedures will be studied in detail. Successful completion of this course will provide the student with all information necessary to successfully pass the required FAA written exam and be adequately prepared	C- PLT 128 Basic Attitude Instrument Flying P - PLT 112 Private Pilot Flight Lab

				for the oral portion of the practical test required.	
PLT 124	**Simulated Flight Lab II**	1	R- AAS Only	This course provides the student the opportunity to rehearse aircraft control solely by referencing the instruments, enter flight plans and procedures, and learn to operate their flight management system effectively during flight. Familiarization with avionics utilization is a central focus of this lab.	P - PLT 112 Private Pilot Flight Lab C - PLT 120 Instrument Regulations and Procedures C - PLT 128 Basic Attitude Instrument Flying
PLT 128	**Basic Attitude Instrument Flying**	2	R	This course will introduce the student to the skills required to fly the airplane solely by referencing the instruments in the panel. Performing the four basics of flight, timed turns, unusual attitude recovery, navigation by VOR and GPS, performing both precision and non-precision approaches, as well as planning and executing cross country flight will prepare the student to successfully meet the standards set forth by the FAA to earn the Instrument Rating.	C- PLT 120 Instrument Regulations and Procedures P - PLT 112 Private Pilot Flight Lab
PLT 132	**Aviation Safety and Human Factors**	3	R - AAS Only	This course provides the student with a detailed introduction into aspects of aviation safety, aviation safety programs, risk management, and the associated	

				components of pilot psychology, physiology, human factors, and accident review and investigation. This course also introduces the student to issues influencing human performance in the complex operational aviation environments. Theory and practical applications of cognitive processing, decision-making, interpersonal interaction and communication will be presented. This course also provides an introduction to design elements intended to optimize man-machine interaction.	
PLT 136	**Crew Resource Mangement**	2	R - AAS Only	This course will provide the student the opportunity to explore the many issues involved in Crew Resource Management. It will expose the student to issues involved with communication, situational awareness, pilot judgement, risk assessment and mitigation, and workload management. Students will practice various models of risk assessment and mitigation as well as learn how to properly utilize all available resources in order to conduct a safe and efficient flight both	

				solo and as part of a crew.	
PLT 140	**Avionics**	2	R - AAS Only	This course provides the student an overview of the Garmin G1000 Glass cockpit and explores the use of advanced technology in the field of aviation. It also exposes the student to future technologies and their impact on the aviation industry. Topics include flight management systems, geospatial referencing systems, airspace information as well as control systems (ADS-B and NextGen).	
PLT 144	**Introduction to Commercial Flight**	2	R	This course provides the student exposure to the aeronautical knowledge areas required by FAA regulations for a Commercial Pilot Certificate (ASEL). Successful completion of the course will provide the student with all information necessary to successfully pass the required FAA written exam and be adequately prepared for the oral portion of the practical test required.	C - PLT 152 Commercial Flight I P - PLT 128 Basic Attitude Instrument Flying
PLT 148	**Simulated Flight Lab III**	1	R - AAS Only	This course allows the student to rehearse all required maneuvers defined by the FAA to successfully complete the Commercial Pilot	P - PLT 128 Basic Attitude Instrument Flying C- PLT 144 Introduction to Commercial

				Practical Flight Exam.	Flight C- PLT 152 Commercial Flight I
PLT 152	**Commercial Flight I**	3	R	This course will introduce the student to all commercial maneuvers and standards. The student will also build hours towards minimum time requirements required to successfully pass the Commercial Pilot Practical Exam.	C- PLT 144 Introduction to Commercial Flight P - PLT 128 Basic Attitude Instrument Flying
PLT 156	**Multiengine Aircraft Operation**	2	R	This course is designed to develop the knowledge and skills necessary to safely and proficiently exercise the privileges and responsibilities of a Commercial Pilot with a Multi-engine rating. Included are discussions concerning Aeronautical Decision Making of multi-engine aircraft systems, aerodynamics, Crew Resource Management, weight and balance, aircraft performance, and abnormal/emergency procedures. The course also includes a scenario - based introduction to U.S. Title 14 Code of Federal Regulations (CFR) governing common carriage commercial operations.	C - PLT 160 Multiengine Flight Lab P - PLT 128 Basic Attitude Instrument Flying

PLT 160	**Multiengine Flight Lab**	1	R	This course provides the practical experience necessary for the student to demonstrate safe operation of a multi-engine aircraft,as well as demonstrate knowledge of best single engine rate of climb (Vyse) and Minimum Control Speed (Vmc). The student will learn how to determine engine failure, demonstrate aircraft control with a simulated engine failure, and perform Instrument approaches during simulated engine failure. The tasks in this course will prepare the student to successfully pass the Multi-Engine Airplane (AMEL) exam.	C - PTL 156 Multiengine Aircraft Operation P - PLT 128 Basic Attitude Instrument Flying
PLT 164	**Commercial Flight II**	3	R	This course enables the student to complete all cross country and time requirements needed to meet minimum standards to sit for the Commercial Pilot Practical Exam.	P - PLT 152 Commercial Flight I C- PLT 168 Certified Flight Instruction
PLT 168	**Certified Flight Instruction**	5	R	Provides the student with a detailed study of the responsibilities and teaching concerns of a flight instructor. The course is divided into two major sections: fundamentals of teaching and learning, including effective teaching methods, learning process, consideration of flight	C- PLT 164 Commercial Flight II P - PLT 152 Commercial Flight I

				training syllabi, effective evaluations, and flight instructor responsibilities; the second section is concerned with the analysis of the flight maneuvers involved with Private Pilot, Commercial Pilot and Flight Instructor Certificates	
PLT 172	**Simulated Flight Lab IV**	1	R - AAS Only	This course allows the student to practice and refine skills necessary to act as a Certified Flight Instructor. Emphasis on familiarization with sight picture flying in the right seat, teaching and demonstrating all required flight maneuvers simultaneously. This lab will assist the student in meeting the requirements to successfully pass the FAA exam for Certified Flight Instructor.	C- PLT 164 Commercial Flight II C- PLT 168 Certified Flight Instruction P - PLT 152 Commercial Flight I
PLT 176	**Certified Flight Instruction Lab**	1	R	This course will provide practical teaching experience for the student during flight as they demonstrate skills flying in the right seat, teaching and demonstrating all required flight maneuvers simultaneously to successfully pass the FAA Practical Exam for Certified Flight Instructor.	P - PLT 164 Commercial Flight II
PLT 180	**Gas Turbine Engine Systems**	2	R - AAS Only	This course will provide an in-depth examination of the	

				turbine engine through the study of its development, theory of operation and the function of turbine engine components.	
CED 115	**Computer Applications**	3	R - AAS Only	This course introduces students to the fundamental concepts and operations necessary to use computers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology, introduction to the windows environment, introduction to networking, introduction to word processing, introduction to spreadsheets, and introduction to databases.	
ENG 101	**Composition I**	3	R - AAS Only	This course is designed to improve the reading and writing skills of students. The emphasis is on fundamental principles of written English in structurally correct sentences, paragraphs and expository themes. Critical analysis of essays will be used to aid in developing the student's thinking, support of thesis and style. Students are introduced to the basic components of research by writing a documented essay in Modern Language	ENG 030 English

				Association (MLA) style.	
	Math Electives		One course from list below required AAS		
MTH 101	Intermediate Algebra	3	E	This course will provide students with the algebraic skills necessary to begin understanding abstract mathematical concepts that involve arithmetic and algebraic manipulation, equations and inequalities, graphs, analysis of equations and graphs, and real-world applications.	MTH 095 Beginning Algebra with Review OR appropriate placement test score
MTH 112	C**ollege Algebra**	3	E	This course will enable the student to use and interpret the mathematical symbols and notation relating to functions. The student will analyze the graphs of various mathematical functions with the assistance of a graphing utility, including polynomial, rational, root, absolute value, logarithmic and exponential functions, and solve related equations and inequalities, including systems of equations and inequalities. The student will use both graphical analysis and equation solving in the context of word problems. Topics include: Equations and Inequalities; Functions and	MTH 101 or MTH 102 or MTH 105 or appropriate placement score

				Graphs; Polynomial and Rational Functions; Exponential and Logarithmic Functions; Systems of Equations and Inequalities; Matrices and Determinants. The learning outcomes and competencies detailed in this outline meet, or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as approved by the Kansas Board of Regents (Transfers as MAT 1010).	
PDV 105	**Blueprint for Personal Success**	2	R - AAS Only	The professional world is full of challenging situations, including conflicting personalities, miscommunication, and cultural differences. In this course, students will learn about typical workplace etiquette protocols, communication standards, and cultural awareness strategies in order to navigate these common obstacles. This course will prepare students by educating them on the importance of establishing and maintaining their professional image in the workplace. Whether students are working on the	

				manufacturing floor, in a medical facility or in a professional office setting practicing professional etiquette will help ensure that their occupational environment is positive and productive. Students will integrate internal attitudes with external behaviors so that their personal attributes reflect the expectations of their future employers. The course provides a study of human relations and professional development in today's rapidly changing world. The course prepares students for living and working in a complex society through a focus on professionalism, work ethic, teamwork (collaboration) and oral communication. Topics include: Goal Setting, Entry Level Leadership, Communication, Teamwork and Diversity, Career Management, Lifestyle Design, and Disruption in Industry.	
	Communication Electives		One course from list below required for AAS		
SPH 101	**Public Speaking**	3	E	Covers fundamental basics to all good private and public speaking experiences and elements in voice production and	

				improvement, bodily movement, confidence, poise and understanding of all types of public speeches. Required of all transfer curricula.	
SPH 111	**Interpersonal Communication**	3	E	Improves individual communication skills. By understanding the elements of effective communication, students are able to create environments that bring out the best in themselves and others. In addition, students learn how to better turn ideas and feelings into words, how to listen more effectively, respond more appropriately to what others have said and, most important of all, how to maintain and develop good interpersonal relationships with their families, their peers and fellow workers. Emphasis is placed on small-group activities, interviewing skills and verbal and non-verbal communication.	
	Social Sciences Electives		One course from the list below for AAS		
ECO 105	Principles of Macroeconomics	3	E	This course explores the fundamental aspects of the United States economy including growth, fiscal and monetary policies, unemployment, inflation, national debt, money and the Federal Reserve System. National and	EdReady GMID - Score of 39 or higher

				international policy topics are discussed.	
ECO 110	Principles of Microeconomics	3	E	Attention will be given to the methods of producing the goods and services that our economy provides. The following areas are explored: supply, demand, pricing, scarcity, business firms and business anti-trust and public interest, incomes, wages and salaries, income distribution, taxes, and tax reform.	EdReady GMID - Score of 39 or higher
POL 101	American Government	3	E	A general study of the development, structure and functions of the American National Government. Topics to be studied include an introduction to government, principles of constitutionalism and federalism, political parties and political behavior, the Presidency, congress, the judiciary and the federal bureaucracy, Of specific emphasis is an analysis of decision-making in government, public participation and influence in government as well as a study of specific problems concerning the operation of the federal government.	
PSY 101	General Psychology	3	E	A general introduction to the scientific study of behavior and	

				mental processes to enable students to apply the knowledge they gain about the history of psychology, psychological perspectives, biological bases of behavior, sensation and perception, learning, cognition, intelligence, motivation, development, personality, psychological disorders and treatments of disorders, social psychology and critical thinking skills to enhance the quality of his/her life as he/she interacts with others and the environment.	
PSY 110	Child Psychology	3	E	This course is a scientific study of child behavior and development from the prenatal period through adolescence. This includes special emphasis in topics of physical development, cognitive and language development, social-emotional development and attachment, socialization, and practical applications of discipline and child rearing.	PSY 101 General Psychology
PSY 120	Developmental Psychology	3	E	A study of individual development from conception through death to enable	PSY 101 General Psychology

				students to apply the knowledge they gain about the general areas of biological, neurological, physical, cognitive, social, emotional and personality development at each stage of life to enhance more meaningful interactions with others and better understanding of his/herself.	
SOC 101	Principles of Sociology	3	E	An introductory study of human society to acquaint students with the influence and patterns of individual and group interaction by exploring the development, characteristics, and functioning of human groups; the relationships between groups, and group influences on individual behavior.	N/A
SOC 115	Social Problems	3	E	This course will examine the major problems of contemporary society, the social causes, potential solutions, and impact on public policy utilizing sociological theories and perspectives. Students will acquire an understanding of unique issues such as, inequality, crime, deviance, violence, substance abuse, and problems within	SOC 101 Introduction to Sociology

				socialization institutions.	
SOC 125	Community Health Worker I	3	E	Community Health Workers connect with their communities providing health care outreach and education, client-centered counseling, case management and client/community based advocacy. This course is designed to introduce students to the basic skills and knowledge required to be an effective Community Health Worker. In this scenario based learning environment students will be exposed to their role as community advocates, public health issues in the US, and cultural humility. Faculty and students will engage in interactive scenarios to introduce and reinforce topics such as client centered counseling, care management and client interview techniques.	N/A

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2020)

Institution: WSU Tech
Proposed Program: Professional Pilot Program

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:		15	--	
Part II. Initial Budget		Implementation Year		
A. Faculty		Existing:	New:	Funding Source:
Full-time	2.5 Director. Faculty, .5Maintenance	$	$125,000	Institutional Funds/Student Tuition
Part-time/Adjunct	15	$	$56,000	Student Flight Fees
		Amount	Funding Source	
B. Equipment required for program		$ 82,012	Two Cessna 172 Airplanes lease-Offset from Student Flight Fees and Industry Donation	
C. Tools and/or supplies required for the program		$15,000	Institutional Funds	
D. Instructional Supplies and Materials		$		
E. Facility requirements, including facility modifications and/or classroom renovations		$ 10,000	Capital Outlay	
F. Technology and/or Software				
G. Other *(Please identify; add lines as required)*		$81,000	Hanger Rental, Additional Insurance, Fuel, Maintenance—Offset by Flight Fees, student fees, Some maintenance fees will be shared with AMT program-Institutional Funds and Student tuition	
Total for Implementation Year		$369,012	Student Flight Fees, Institutional Funds, Capital Outlay, Industry Donation, Student Fees and Student Tuition	

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

Pilot program isn't setup like a traditional CTE program. In addition to the traditional Tuition and Fees structure, Student Flight Fees are added to student costs to cover Flight instruction time. The Flight Fees have been developed to offset the plane lease, fuel, insurance, instructor cost, plane hanger fee, and small margin for overhead.
The traditional tuition and fee structure will be used to offset classroom instructional costs of faculty, course materials, and required FAA simulation time.

KBOR Fiscal Summary for Proposed Academic Programs

CA-1a Form (2020)

Students are billed at $265 per each dual flight hour (flying with an instructor) and $195 for each solo flight hour (flying without an instructor). The per hour flight fees covers the expenses associated with flight: lease time, flight instructor time, fuel, insurance, hanger, and maintenance. WSU Tech Flight estimated fees are listed on the Chart below.

Overall Student Flight Fees

License/Rating	Minimum Flight Hours	Student Flight Fees
Private Pilot	35	$8,855
Instrument Pilot	35	$8,575
Commercial Pilot	120	$27,600
Multi engine	20	$8,900
Certified Flight Instructor	25	$5,925

These costs are based on average dual/solo mix hours per rating and could change for each student. Students can and usually do choose to fly more than the minimum. The flight hour fees do not change.

PROGRAM SUSTAINABILITY COSTS (Second and Third Years)				
Part I. Program Enrollment		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	2	
Part II. Ongoing Program Costs		First Two Years		
A. Faculty		Existing:	New:	Funding Source:
Full-time	1	$	$ 49,000	Institutional Funds/Student Tuition
Part-time	20	$	$122,000	Student Flight Fees
		Amount	Funding Source	
B. Equipment required for program		$267,000	Continued leases for planes from year 1. Additional Cessna 172 and Multi-Engine Plane-Offset from Student Flight Fees	
C. Tools and/or supplies required for the program				
D. Instructional Supplies and Materials		$5000	Institutional Funds	
E. Facility requirements, including facility modifications and/or classroom renovations		$		
F. Technology and/or Software		$5000	Student Funds	
G. Other *(Please identify; add lines as required)*		$181,0000	Hanger Rental, Additional Insurance, Fuel, Maintenance—Offset by Flight Fees,	
Total for Program Sustainability		$458,000	Student Flight Fees, Institutional Funds, Student Tuition, Student Fees	

WSU TECH Professional Pilot Program
IAT Meeting ~ March 31, 2021 ~ 2:00pm ZOOM

I. Attendees

Bill Christiansen, *Christiansen Aviation*	Dave Franson, *Wichita Aero Club*	Michele Gifford, *Textron Aviation*
John O'Leary, *Airbus Americus*	Pamela Olson, *King Schools*	Kirby Ortega, *Ortega Aviation Services*
Teresa Ortega, *Ortega Aviation Services*	Chad Raney, *Flight Safety*	Matthew Sanders, *Contractor for Ortega Aviation Services*
Paul Spranger, *Midwest Aviation*	Erik Taylor, *King Schools*	Lindsay Ulfig, *Textron Aviation*
Allison Varriano, *Textron Aviation*		
Jim Hall, *WSU Tech*	Scott Lucas, *WSU Tech*	Alan Goodnight, *WSU Tech*

II. Greeting/Meeting Kick off/Introductions

III. Program/Curriculum review - Shared the Program Configurations handout (Appendix A)

a. Program certs
   i. AAS – 4 semester long that include 43 credits of Technical Studies and 17 credits of General Studies.
   ii. There will be four (4) Certificate of Completions (COC) offered for each rating
      1. Private Pilot – Semester 1
      2. Instrument Pilot – Semester 2
      3. Commercial Pilot – Semester 3
      4. Certified Flight Instructor or Multi engine – Semester 4
   iii. Flight Hours per Rating handout (Appendix B) - Flight hours to be flown as part of the Part 141 program from each rating. These are estimates of hours based on other programs.

b. Cost – approx. $70,000 – this is in line with other Part 141 programs in the region – this includes all expenses for the program (tuition, simulations cost, flight bag, flight suit, etc.)

c. Scheduling – Plan on starting with 15 students in the fall semester each year.

d. Staffing Needs – We have identified the following position that need to be filled: one full-time faculty to start in July responsible for teaching classes on campus (not including flight classes), a Program Director who will be in charge of the entire program, an A&P Mechanic to perform maintenance on aircraft. Kirby Ortega is listed as our chief flight instructor. We will get our flight instructors from Ortega Aviation.

e. Program Modality
   i. Hybrid Model – non-flight classes will take place on campus, since they are hybrid it allows the students to be on campus for a limited amount of time, most likely in the late afternoon or evening, making it easier for working adults to take the program.
   ii. We have adopted the King curriculum for the actual flight cert programs – this is a web-based program.
      1. Matthew Sanders spoke about the curriculum – students with have lessons and videos they will complete at home then come into the classroom with questions

over the homework and discuss it with the instructors. In class assignments have been created to go along with the at home lessons. Erik Taylor created a workbook to help students with important information – vocab words, questions, etc. that they have to answer to reinforce the lessons.

f. Aircraft
    i. Top Hawk Program – Textron has awarded us a brand-new Cessna 172 G100 equipped airplane. We will utilize Cessna aircraft in our fleet. Bill Christiansen has been coaching Alan on the ongoing leasing details.
    ii. Lease a second aircraft in the fall
    iii. Maintenance will be done in house on anything that is not warranty work,
    iv. Hanger the aircraft at Midwest Corporate Aviation then dispatching out of our hangar – will have a designated place for the certified aircraft for this program

IV. Part 141 Review
    a. Ortega Aviation won the RFP
    b. Teresa Ortega spoke - As of Monday this week – approval was received for TCO for private pilot has been approved. This provides the template for which Teresa can prepare the other TCO's – first drafts have been completed. Safety and procedures manual should be ready to submit next week.
    c. The King Schools has been a tremendous help in the process.

V. IAT Duties – Jim reviewed the duties of our IAT members
    a. Members approve program information that will be submitted to KBOR
    b. Industry members provide Feedback on Students
    c. Curriculum Review once the program gets up and running
    d. Letters of Support of program – all members present have provided letters of support
    e. Ways to support our program – promote our program by word of mouth, scholarships, donations

VI. Discussion
    a. Chad Raney had a question about requirement – age and physical requirement – suggested not to have it so restricted – could start earlier than 17 years in the program but they could not take their check ride until they are 17; height/weight is flexible because weight is a combined between instructor and student. Allison seconded Chad's suggestions about the physical requirements.

VII. Program Approval
    a. Jim Hall showed the Program Outcome Summary handout (Appendix C) for review. This shows the Student Learning Outcomes and the Program Outcomes.
        i. John O'Leary asked if these outcomes were similar to other certification programs at the school. Jim and Scott both said they are similar except these lean more towards the certification that you get instead of specific skills. The goal of the program is to prepare the students to successfully take the certification exam, but we cannot force them.
        ii. Paul Spranger mentioned that we might want to add a clause for students that are failing

b. Program Outcome Approval
    i. Paul Spranger motioned to accept as presented – Bill Christiansen seconded the approval of program outcomes; all approved

c. Program Configuration Approval
    i. Erik asked if we listed pre-requisites for later courses – Yes, we list them in our course catalog and program sheets
    ii. Teresa Ortega motioned to accept as presented – Chad Raney seconded; all approved

Meeting adjourned 3:03pm

PLT Professional Pilot Training

Program Configurations

AAS Professional Pilot Training

Credits

Technical Studies	43
General Studies	17
Total Credits	**60**

Semester 1

Course #	Course Title	Credits	Function
PLT 104	**Introduction to Aviation**	3	Technical Studies
PLT 108	**Simulated Flight Lab I**	1	Technical Studies
PLT 112	**Private Pilot Flight Lab**	2	Technical Studies
PLT 116	**Aviation Weather**	3	Technical Studies
PDV 105	**Blueprint for Personal Success**	2	General Studies
	Math Elective	3	General Studies

Semester 2

Course #	Course Title	Credits	Function
PLT 120	**Instrument Regulations and Procedures**	3	Technical Studies
PLT 124	**Simulated Flight Lab II**	1	Technical Studies
PLT 128	**Basic Attitude Instrument Flying**	2	Technical Studies
PLT 132	**Aviation Safety and Human Factors**	3	Technical Studies
PLT 136	**Crew Resource Management**	2	Technical Studies
ENG 101	**Composition I**	3	General Studies
PLT 140	**Avionics**	2	Technical Studies

Semester 3

Course #	Course Title	Credits	Function
PLT 144	**Introduction to Commercial Flight**	2	Technical Studies
PLT 148	**Simulated Flight Lab III**	1	Technical Studies
PLT 152	**Commercial Flight I**	3	Technical Studies
PLT 156	**Multiengine Aircraft Operation**	2	Technical Studies
PLT 160	**Multiengine Flight Lab**	1	Technical Studies
	Communication Elective	3	General Studies
	Social Science Elective	3	General Studies

Semester 4

Course #	Course Title	Credits	Function
PLT 164	**Commercial Flight II**	3	Technical Studies
PLT 168	**Certified Flight Instruction**	5	Technical Studies
PLT 172	**Simulated Flight Lab IV**	1	Technical Studies
PLT 176	**Certified Flight Instruction Lab**	1	Technical Studies
PLT 180	**Gas Turbine Engine Systems**	2	Technical Studies
CED 115	**Computer Applications**	3	General Studies

COC Certified Flight Instructor CC-CERT_FLT CFLI

Credits

Technical Studies	6
Total Credits	**6**

Semester 1

Course #	Course Title	Credits	Function
PLT 176	**Certified Flight Instruction Lab**	1	Technical Studies
PLT 168	**Certified Flight Instruction**	5	Technical Studies

COC Commercial Pilot CC-COMM_PLT CPLT

Credits

Technical Studies	8
Total Credits	**8**

Semester 1

Course #	Course Title	Credits	Function
PLT 144	**Introduction to Commercial Flight**	2	Technical Studies
PLT 152	**Commercial Flight I**	3	Technical Studies
PLT 164	**Commercial Flight II**	3	Technical Studies

COC Instrument Rating CC-INSTR_RAT INRT

Credits

Technical Studies	5
Total Credits	**5**

Semester 1

Course #	Course Title	Credits	Function
PLT 120	**Instrument Regulations and Procedures**	3	Technical Studies
PLT 128	**Basic Attitude Instrument Flying**	2	Technical Studies

COC Multiengine Pilot CC-MULTI_PLT MEPL

Credits

Technical Studies	3
Total Credits	**3**

Semester 1

Course #	Course Title	Credits	Function
PLT 156	**Multiengine Aircraft Operation**	2	Technical Studies
PLT 160	**Multiengine Flight Lab**	1	Technical Studies

COC Private Pilot CC-PRVT_PLT PRPL

Credits

Technical Studies	5
Total Credits	**5**

Semester 1

Course #	Course Title	Credits	Function
PLT 104	**Introduction to Aviation**	3	Technical Studies
PLT 112	**Private Pilot Flight Lab**	2	Technical Studies

Flight Hours per Rating

Rating		Solo	Dual	Total
Private		17	24	41
Instrument Rating		0	39	39
Commercial Pilot		60	60	120
Certified Flight Instructor		0	25	25
	Total	**77**	**148**	**225**

WSU Tech

PLT Professional Pilot Training

Program Outcome Summary

Program Information

Instructional Level Associate of Applied Science

Career Cluster Transportation, Distribution and Logistics

CIP Code 49.0102

Description

This program prepares students for careers in the aviation industry as Professional Pilots. The program provides students the opportunity to progress through five FAA certifications/ratings including Private Pilot, Instrument Rating, Commercial Pilot, Multi-Engine Rating and Certified Flight Instructor. Located at the National Center for Aviation Training the program focuses on solid aviation skill sets, using state of the art equipment and is grounded in safety and risk management.

Accreditation Information

Federal Aviation Administration - Part 141

Entry Requirements

- 17 or more years of age
- Completion of application and related procedures
- Documentation of high school graduation or satisfaction of high school equivalency certificate requirements Satisfactory completion of a GED
- Class 3 Medical Exam
- Full financing must be in place prior to acceptance.
- Student Pilot Certificate Math and English placement scores that equate to intermediate algebra and composition I
- Physical requirements – due to the safety requirements of flying in a Cessna 172 student cannot be taller than 6’3” or exceed 250 lbs.

Credentials

Enter Data or N/A

Related Outcomes

Student Learning Outcomes

1. Communication- The student will demonstrate the ability to communicate effectively using written and/or oral communication.

Criteria

1.1. Communicate in writing and orally his/her ideas on a topic objectively or subjectively in a competent and confident manner.
1.2. Choose and narrow a topic appropriately for the audience, occasion, and purpose.
1.3. Communicate the thesis/specific purpose in a manner appropriate for the audience and occasion.
1.4. Provide supporting material appropriate to the topic, audience, occasion, and purpose.
1.5. Use an organizational pattern appropriate to the topic, audience, occasion, and purpose.
1.6. Use language appropriate to the topic, audience, occasion, and purpose.
1.7. Use vocal variety in rate, pitch, and intensity (volume) to heighten and maintain interest and that is appropriate to the topic, audience, occasion, and purpose.
1.8. Use an appropriate rhetorical strategy
1.9. Use appropriate grammar, sentence structure, punctuation, spelling, and format, and within a given word count.

2. Information Literacy- The student will recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.

Criteria

2.1. The student will be able to determine the nature and extent of the information needed.
2.2. The student will be able to access needed information effectively and efficiently.
2.3. The student will be able to evaluate information and its sources critically and incorporate selected information into his or her knowledge base and value system.
2.4. The student, individually or as a member of a group, will be able to use information effectively to accomplish a specific purpose.
2.5. The student will be able to understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.

3. Problem Solving- The student will demonstrate the ability to analyze information and solve problems.

Criteria

3.1. Effectively define the problem
3.2. Distinguish between probable and improbable causes of a problem.
3.3. Distinguish between plausible and implausible inferences, predictions and interpretations based upon a problem presented.
3.4. Recognize and evaluate assumptions based on information presented in a short passage.
3.5. Recognize restatement of data, valid hypotheses and the reasons for data presented.
3.6. Weigh evidence and decide if generalizations or conclusions based upon the given data are warranted.
3.7. Determine if data from various experiments (sources) support one or another hypothesis based upon a given problem.
3.8. Distinguish between effective and ineffective action based on information presented.
3.9. Predict consequences.
3.10. Use evidence or sound reasoning to justify a position.
3.11. Distinguish between relevant and extraneous facts when presented with a problem.
3.12. Determine the appropriate method of inquiry when presented with a problem.

4. Workplace Skills - Demonstrates a mastery of workplace skills/soft skills, exhibits initiative, adapts to varied situations

Criteria

4.1. Attendance, Punctuality, and Reliability - Student is punctual to and attends all class sessions. Student is prepared to actively
engage in material/activities for all class sessions and all assigned work from the instructor.
4.2. Productivity - Student demonstrates an understanding of all content. Student always uses time well throughout the class to
ensure assignments get done on time. Student always provides meaningful ideas when participating with the group in class
discussion and activities.

4.3. Attitude - Student always demonstrates respect for the instructor and fellow students and performs all required duties effectively. Student presents positively with all assignments and the work of others. Students conducts all work relationships with integrity and respect. Student always demonstrates a positive and appropriate representation of the institution or organization.

4.4. Respect - Student regularly treats instructor and classmates with respect, courtesy, and tact. Student does not engage in harassment of any kind. Student demonstrates classroom and workplace policies effectively.

4.5. Problem Solving and Decision Making - for and suggests solutions to problems. Student regularly demonstrates critical
thinking skills.

Program Outcomes

1. **Graduates of the program will obtain the skills needed to build and promote a culture of safety in the aviation industry.**
2. **Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Private Pilot Certification**
3. **Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Instrument Rating**
4. **Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Multi-Engine Rating**
5. **Upon completion students in this program will be prepared to effectively complete all exams/testing associated with FAA Commercial Pilot Certification**
6. **Upon completion students in this program will be prepared to effectively complete all exams associated with FAA Certificate Flight Instructor Certification**

WSU Faculty Senate Meeting

April 5, 2021, 3:00 PM

Agenda:

- Consideration and Approval of New Academic Program – Professional Pilot Training

Attendees:

- Joe Varrientos, Lead Faculty, Electronics Technology
- Chuck Kauffman, Faculty, Automotive Technology
- Scott Simpson, Faculty, Aircraft Maintenance Technology
- Linda Sessions, Lead Faculty, Computer Technology
- Kourtney Maison, Faculty, Humanities
- Lisa Hilt, Lead Faculty, Social Science
- Vrenda Pritchard, Lead Faculty, Allied Health
- Alan Goodnight, Program Director, Professional Pilot Training Program
- Jim Hall, Dean, Aviation & Manufacturing Technologies
- Pam Layman, Faculty, Mathematics
- Travis Krehbiel, Lead Faculty, Natural Science
- Cassandra Hoshaw, Faculty, Phlebotomy
- Lauren Thornhill, Faculty, Health Science
- Roger Attebury, Faculty Lead, Welding

Opening:

- The regular meeting of the WATC Faculty Senate was called to order at 3:00 pm on April 5, 2021 on Zoom.

Open Issues:

- None

New Business:

1. **New Program Presentation – Professional Pilot Training** (Jim Hall & Alan Goodnight)
    a. New Associate in Applied Science.
    b. Though questioning by faculty in attendance, learning outcomes of the program were identified as highly relevant for the Greater Wichita Area.
    c. Many questions were asked by the senate surrounding the implementation of the program. No questions were of concern but asked for additional clarity.
    d. **Vote:** Joe Varrientos motioned to approve the program as presented.
    e. **Result:** Unanimous approval by all senate members present.

Agenda for Next Meeting:

- To be determined

Adjournment:

- Meeting was adjourned at 3:29 pm by Joe Varrientos. Time and date of next general meeting to be held at 3:00 p.m. on April 21, 2021 on Zoom.

Minutes submitted by: Joe Varrientos, Vice President, Faculty Senate

Carl D. Perkins Funding
Eligibility Request Form

Strengthening Career and Technical Education for the 21st 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*

Carl D. Perkins Funding
Eligibility Request Form

Strengthening Career and Technical Education for the 21st Century Act

CA-1c Form (2020)

Name of Institution	Wichita State University Campus of Applied Sciences and Technology
Name, title, phone, and email of person submitting the Perkins Eligibility application *(contact person for the approval process)*	Dr Scott Lucas VP Aviation and Manufacturing Slucas@wsutech.edu 3166779535
Name, title, phone, and email of the Perkins Coordinator	Lisa Myers Perkins Coordinator & Grants Specialist 316677190 Lmyers1@wsutech.edu
Program Name	Professional Pilot
Program CIP Code	49.0102
Educational award levels and credit hours for the proposed request	60 – AAS
Percentage of tiered credit hours for the educational level of this request	77%
Number of concentrators for the educational level	15
Does the program meet program alignment?	There is no alignment project for this program.
Justification for conditional approval: *(this section must reference information found within the Local Needs Assessment)*	A recent study from The Boeing Company provides an overarching framework for the need's assessment information in this new program proposal. According to the Pilot and Technician Outlook 2020-2039 study, the demand for new Pilots in North America will exceed 200,000. This demand will come from a combination of commercial and business Aviation and be driven by retirements and the expected expansion of commercial fleets. The Boeing Company further estimates that the annual need for new pilots will be about 5200. A review of FAA data on new pilot certifications (U.S. Civil Airmen Statistics, 2019) awarded each year in the US since 2010 strengthens the needs assessment. The average number of certificates awarded annually between 2010 and 2019 is 2500. This leaves a significant gap between the expected need for new pilots and the expected supply of newly

	qualified pilots. The WSUTech proposed program will help to fill this gap. A review of the state and local data for pilot demand reinforces the connection between the pilot population ready to retire and the need for new pilots. According to JobsSQ data, total employment for occupations linked to Airline/Commercial/Professional Pilot (CIP 49.0102/Soc Codes 53-2012 and 53-2011) and Flight Crew in Kansas was 509. Over the past three years, linked occupations added 22 jobs in the region and are expected to need in aggregate 98 new pilots over the next five years, with over 90% of those open positions coming from those exiting the profession. Data provided by the Kansas Long Term Occupational Projections offer a similar picture of Kansas and the South-Central Region's needs. Commercial Pilots (SOC 53-2012) indicates 360 openings in the South-Central region through 2026, with 356 of those openings resulting from pilots leaving the profession. Statewide data (53-2012) shows a similar trend with a total of 509 slots through 2026, with 490 of the openings resulting from pilots leaving the profession.

Signature of College Official___  _____Date___4/16/2021____

Signature of KBOR Official_____ Date_____

KBOR Excel in CTE Fee Summary for Proposed Academic Programs

CA-1b Form (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.*

Institution Name:	Wichita State University Campus of Applied Sciences and Technolgoy
Program Title:	Professional Pilot
Program CIP Code:	49.0102

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

Fee	*Short Description*	*Amount*	*Explanation*
Flight Bag Package	Flight Suit, headphones, Ipad, software	$ 1,650.00	On-campus flight students
Online Textbook	Online required Textbooks for PLT courses all five ratings plus Avionics	$ 1,445.00	

*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.*

Course ID	*Short Description*	*Amount*	*Explanation*
PLT 104	Introduction to Aviation	$ 2,099.00	Fee is only for on-campus students
PLT 108	Simulated Flight Lab I	$ 735.00	Only available to on-campus students who meet entrance requirements
PLT 112	Private Pilot Flight Lab		Only available to on-campus students who meet entrance requirements
PLT 116	Aviation Weather		
PLT 120	Instrument Regulations and Procedures	$ 249.00	Only available to on-campus students who meet entrance requirements
PLT 124	Simulated Flight Lab II	$ 735.00	Only available to on-campus students who meet entrance requirements
PLT 128	Basic Attitude Instrument Flying		Only available to on-campus students who meet entrance requirements
PLT 132	Aviation Safety and Human Factors		
PLT 136	Crew Resource Management		
PLT 140	Avionics		
PLT 144	Introduction to Commercial Flight	$ 249.00	Only available to on-campus students who meet entrance requirements

PLT 148	Simulated Flight Lab III	$ 735.00	Only available to on-campus students who meet entrance requirements
PLT 152	Commercial Flight I		Only available to on-campus students who meet entrance requirements
PLT 156	Multiengine Aircraft Operation	$ 249.00	Only available to on-campus students who meet entrance requirements
PLT 160	Multiengine Flight Lab		Only available to on-campus students who meet entrance requirements
PLT 164	Commercial Flight II		Only available to on-campus students who meet entrance requirements
PLT 168	Certified Flight Instruction	$ 249.00	Only available to on-campus students who meet entrance requirements
PLT 172	Simulated Flight Lab IV	$ 735.00	Only available to on-campus students who meet entrance requirements
PLT 176	Certified Flight Instruction Lab		Only available to on-campus students who meet entrance requirements
PLT 180	Gas Turbine Engine System		
PDV 105	Blueprint for Personal Success	$ 30.00	
	15 Credits of General Education	$123.00	

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.*

Item	***Short Description***	***Estimated Amount***	***Explanation***
Testing Fees	WSU Tech cannot charge FAA Testing fees per rating	$ 300.00	Age restrictions
License/Rating	Minimum Flight Hours	Student Flight Fees	
Private Pilot	35	$8,855	All students would be charged flight fees
Instrument Pilot	35	$8,575	All students would be charged flight fees
Commercial Pilot	120	$27,600	All students would be charged flight fees
Multi engine	20	$8,900	All students would be charged flight fees
Certified Flight Instructor	25	$5,925	All students would be charged flight fees

Total		$ 9,130.00