

Building a Rotary Wing Aviation Program to Facilitate Integration of Military Veterans and Service Members

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EDUCATION

Austin Peay State University M.A. in Military History 2016 Emphasis on WWII and the Cold War Graduated with Honors Awarded a Certificate in Security Studies

University of Pittsburgh B.A. in Physics 1976

TEACHING EXPERIENCE

Austin Peay State University Assistant Professor, Aviation Science 2018-Present Adjunct Instructor 2016-2017 Taught American History, HIST 2010 and HIST 2020

U.S. Army Academic and Flight Instructor 1983-2015 Executed initial qualification and mission training in A/MH-6 series helicopters. Developed syllabus, lesson plans and course material.

RELATED EXPERIENCE

2015 – 2018 Boeing Sikorsky Aircraft Support, Ft. Campbell, KY Flight Publications Manager Supervised production and revisions of Operator's Manuals, Crewmember Checklists, and Maintenance Test Flight Manuals for three U.S. Army Helicopters.

2001 – 2015 International Development and Resources, Ft. Campbell, KY Mission Flight Instruction AH-6 section Leader. Executed initial qualification and mission training in A/MH-6 series helicopters. Developed syllabi, lesson plans and course material. Conducted flight and academic instruction.

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MEMBERSHIPS The Society for Military History Army Aviation Association of America (Quad-A) Helicopter Association International (HAI) Aircraft Owners and Pilots association (AOPA)

CERTIFICATIONS FAA Commercial Pilot, Rotorcraft Helicopter, Airplane Multi-Engine Land Private Pilot, Airplane Single-Engine Land Flight Instructor, Rotorcraft Helicopter Flight Instructor Instrument, Rotorcraft Helicopter Instrument Rating Chief Instructor, Part 141 Flight School

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Abstract:

During the last decade, the commercial aviation industry has been increasingly affected by the shortage of skilled pilots, both fixed-wing and rotary-wing (helicopter). In the summer of 2022, several major airlines in the United States canceled a record number of scheduled flights or ran delayed due to the same reason [1]. A unique approach adopted by the airlines to address this challenge is to look for non-traditional sources such as retired military and veteran rotary wing pilots. This led to a growing shortage of helicopter pilots in the medical transport and offshore oil support industries [2]. This challenge also opens new opportunities and career pathways for veterans. Additionally, special training and experience requirements for certificated flight instructors (CFIs) to be able to provide flight instruction in the Robinson R22 and R44 variants make it cost-prohibitive for most military helicopter instructors to transition to civilian flight instruction careers.

The Bachelor of Science degree in Aviation Science, with a concentration in Rotary Wing (helicopter), offered by the engineering technology department of Austin Peay State University, is a unique venture in the State of Tennessee. The bachelor's degree will support any student who desires to pursue careers in flight instruction, aerial tourism, charter operations, and numerous other aviation applications. While completing a bachelor's degree in Aviation science, students are taught hands-on flight and academic skills in a professional setting. Flight skills and academics are taught at the University's Flight Facility located at the Clarksville Regional Airport (KCKV). Successful students receive a well-rounded undergraduate education in addition to the ability to obtain Federal Aviation Administration (FAA) Commercial Pilot and Flight Instructor certification. The combination of FAA certification and a bachelor's degree makes our graduates more competitive in the career market.

This paper will present the justification for a rotary-wing program, historical enrollment statistics since the program's inception in the fall of 2019, outreach efforts in Veteran and non-Veteran student recruitment, student experience, success stories of students' FAA certification, and employment data.

Introduction:

There currently is a shortage of experienced helicopter pilots in the rotary-wing, general aviation industry. According to the FAA, the number of certificated helicopter pilots in 2022 was 27,500 which is nearly 4,000 less than a decade ago. [1] Traditionally, the U.S. military has been the main source of experienced pilots for the general aviation helicopter industry. Additionally, a nationwide shortage of airline pilots has caused the major airlines to greatly widen their recruiting practices. [2] This combined with the retirement of Vietnam-era helicopter pilots has led to a shortage of experienced pilots in many areas of the rotary-wing industry. None of these shortages has a more profound impact on the general public than the helicopter air ambulance industry (Medevac). [3] [4] [5] [6]

It is in response to this shortage that the University (APSU) created the Aviation Science Program, with a Concentration in Professional Rotary-Wing. This program was developed for students from all backgrounds to be successful, but it was also tailored to be attractive to both pilot and non-pilot Veterans.

Discussion:

The first problem with most pilot shortages is that they cannot be solved by just “making more pilots.” A 3,000-hour Pilot-in-Command (PIC) cannot be replaced by a 200-hour flight school graduate. While there are no specific experience level requirements for commercial helicopter operations, mandated by the FAA, most insurers require certain experience levels to provide coverage for the hiring companies. This is usually around 1,500 hours at a minimum. FAA SFAR 73 requires 10 hours of flight instruction before a helicopter pilot can act as pilot in command of a Robinson R22 or R44. Additionally, a helicopter pilot must log 50 hours of flight time in the R22/R44 before performing flight instruction in the Robinson helicopters, regardless of experience level. This training can cost over \$30,000.

The APSU program addresses this problem by providing students with the training that allows them to earn Private Pilot, Instrument, Commercial Pilot, Certificated Flight Instructor (CFI), and Certificated Flight Instructor-Instrument (CFII) certificates and ratings. Students that successfully earn these certificates and ratings can immediately begin building hours to reach that 1,500-hour experience level as soon as possible and earn a living while doing that. The added benefit of earning a bachelor's degree makes the graduate more competitive in the hiring market.

Another benefit for Veterans using GI Bill benefits to obtain flight training at an institution of higher learning (IHL) is that all the flight training will be covered. Veterans obtaining flight training at a flight school not connected to an IHL must obtain their Private Pilot certificate at their own expense. [7] The only expense that the GI Bill will not cover is any fee related to credentialing. Due to this, Veterans using the GI Bill for the APSU program will have to pay the examiner's fee for both the written knowledge test and the practical test (check ride) at each stage of training. Fees for the written knowledge tests vary between \$150-200, while practical tests vary between \$600-1200. At this time, no "top-off programs" exist that would help Veterans with fees over what the GI Bill covers. Neither does the program allow students to use the Edith Nourse Rogers STEM Scholarship to extend the GI-Bill benefits due to the program's CIP code being 49.0102.

Another aspect of the shortage is that not all Veteran helicopter pilots that do want to pursue jobs in the rotary-wing industry have the required FAA Certificates and Ratings that would allow them to immediately step into the civilian market. While the FAA did broaden the ability for rated pilot Veterans to convert military qualifications into civilian certificates and ratings, not all Veterans leaving active service have taken advantage of this opportunity.

Additionally, very few Veteran pilots with extensive experience in technologically advanced turbine-engine helicopters are qualified to fly small piston-engine training helicopters. The APSU program can also address this issue making it easier for Veterans to make the transition to the civilian hiring market. [8] For Veterans that already hold FAA certificates and ratings, the

admissions process includes a review of these certificates to provide the prospective student credit for those already achieved. While the University does not provide stand-alone flight training, the Veteran student can earn a second bachelor's degree during the additional flight training.

Why Rotary-Wing?

The first reason for creating a degree-producing rotary-wing flight school is the lack of programs that address the helicopter pilot shortage. APSU's program is the only program in the state of Tennessee. Additionally, in all of the states that surround Tennessee, there are only three other degree-producing programs. Two offer associate degrees and APSU and one other offers bachelor's degree. One university that has a satellite campus on Ft. Campbell, has a helicopter flight training program, but it is located at their campus in Arizona.

During the program's initial development stages, a student survey was conducted by the Executive Director of the Austin Peay Center at Ft. Campbell. The survey, conducted in 2015, indicated 40% of the students surveyed would enroll in an aviation science flight program. 59% of the respondents said they knew someone who would be interested in the proposed program.

Creating the Program:

The first question to decide when building a flight training program is how to conduct the training. The Federal Aviation Regulations allow flight training to be conducted under two different sets of regulations; FAR Part 61 and FAR Part 141.

Title 14 U.S. Code of Federal Regulations (CFR), Chapter I, Subchapter D, Part 61 [9] specifies the requirements for ground and flight training for each of the pilot certificates and ratings available for pilot applicants desiring to operate aircraft within the U.S. National Airspace System (NAS). Part 61 breaks this training down into required hours and subjects of ground training and required hours and tasks for flight training. Part 61 does not specify how this training is to be conducted. It does not dictate the use of specific curricula or syllabi to facilitate the training, or indeed, that any training plan is followed as long as all training is completed and documented.

Title 14 U.S. Code of Federal Regulations (CFR), Chapter I, Subchapter H, Part 141 [10] specifies the requirements for establishing a Pilot School. Part 141 also mandates the required hours and subjects of ground training, and required hours and tasks for flight training, but it also mandates that these requirements be met through the use of curricula and syllabi for each certificate or rating applied for by the flight school. The flight school meets this requirement by developing Training Course Outlines (TCO) for each certificate or rating. Additionally, each TCO must include facilities, classrooms, equipment, training aids, and aircraft used for the training. They must also include staffing and means of training documentation to be used. Due to the highly regimented nature of the training, the FAA allows the flight school to use a slightly lower hour requirement for some aspects of training.

For a flight training program at an institute of higher learning (IHL) to be eligible for Veterans using GI Bill benefits, it need not be a Part 141 flight school. [7] That means the flight training could be conducted under Part 61. The advantage here is that the IHL does not need to go through the rigorous process of Part 141 certification by the FAA. However, for non-GI Bill

students to utilize Pell Grants or other federal student aid, the program must be a Part 141 flight school.

Degrees Offered:

The next question is what academic degree should be awarded. The original plan was for the program to award an associate degree. When this was proposed to the Tennessee Higher Education Commission (THEC), the proposal was rejected. THEC determined that this program should be reformatted to provide a bachelor's level (4-year program). See Appendix A for the program summary.

Certificates/Ratings Offered:

Next, the decision needed to be made as to what certificates and ratings should be offered. Some programs stop at the commercial pilot level; the first level where a pilot may start flying for compensation. However, it appeared to stop at this level would produce a pilot with a very low experience level. The likelihood of this low-time pilot being hired was remote. The most common route for low-time pilots to gain flight experience is through flight instruction. With this in mind, the decision was made to provide training for students to earn their flight instructor (CFI) and instrument flight instructor (CFI-I) certificates. This required APSU to develop and receive approval for five Training Course Outlines when applying for Part 141 certification from the FAA.

Program Cost:

Using the 2022 academic year tuition schedule for the APSU Center at Ft. Campbell, the 120-credit program totals \$35,430. The flight lab fees add \$96,619.50 to that tuition (see Appendix B). The approximate cost of a nearby fixed-wing program with a similar curriculum is \$ 60,000. [11]

Aircraft:

The next decision was what aircraft to obtain for the training. The predominant helicopter used for initial helicopter training in the U.S. is the Robinson R22. Its unmatched low initial acquisition cost makes it a natural choice for flight schools. It was determined, through initial research that the operating characteristics of the R22, were marginal, at best, for initial pilot training. The R22 suffers from an extremely low inertia main rotor system. This characteristic leaves the R22 main rotor susceptible to over-speeding and under-speeding in autorotation. Autorotation is the condition where the rotation of the helicopter's main rotor is caused by the airflow moving upward through the rotor system rather than by the engine. This is how a helicopter can descend to a safe landing after an engine failure. Learning how to perform an autorotative descent and landing is a vital part of learning how to pilot a helicopter. It was felt that an alternative aircraft was needed. It was during this search that the Guimbal G2 Cabri was discovered. While not well known in the U.S., at that time, the Guimbal looked like a much better candidate for initial pilot training.

Another type of aircraft was needed for advanced instrument training. This aircraft would also be used for advanced flight training, giving students experience in a larger aircraft and at

higher gross weights. It was decided to go on with the Robinson R44. Although this Robinson aircraft is a larger version of the same design as the R22, it has much better flight characteristics.

The number of aircraft operated by the University is based on student population. While it was the University's goal to induct 20-25 students per academic year, it was decided to grow the fleet as the student population of the program grew. The initial plan was to procure two Guimbals and one R44, then expand the fleet as enrollment grew. Our current fleet consists of four Guimbals and two R44s. Of these aircraft, the University owns two of the Guimbals, the other aircraft are leased. APSU has submitted a down payment on a fifth Guimbal.

The program also has an Advanced Aviation Training Device (AATD) manufactured by Platinum Simulators. Because of the sophistication of this AATD, the FAA will allow up to 40% of the flight time toward the instrument rating to be flown in this device. [12] This allows

students to learn the proper operation of the instrumentation and navigation equipment without wasting actual blade hours. This device was obtained through a grant from the Tennessee Department of Transportation.



Figure 1: Initial fleet of aircraft at APSU

Faculty:

Finding faculty for the program has proven to be a challenge for reasons mentioned earlier in this paper. The local population around APSU has a higher-than-normal percentage of rotary-wing pilots, both active duty and retired/separated. However, practically none of these individuals have the required certification (CFI/CFI-I). Even if they do, they usually do not have the qualifications to fly the APSU aircraft or experience teaching in the civilian world. APSU can easily qualify instructors in the Guimbal since it only requires five hours of flight training. Due to special flight training requirements mandated by the FAA, a potential instructor requires ten hours of flight instruction to act as a pilot in command and fifty hours of flight experience in the R44 to instruct in it. This is hard for most pilots to obtain on their own and is cost prohibitive for APSU

to provide.

The few civilian instructors that are available to recruit usually do not have the required educational experience. An Associate degree is required for flight training. A Bachelor's degree is required for flight training and academic instruction in lower-level courses (1000-2000 series). A Master's is required for flight training and academic instruction in upper-level courses (3000-4000 series). These are all requirements placed on the program from its certification by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Between the helicopter pilot shortage and the academic requirements for teaching academics, finding qualified candidates for full-time faculty positions continues to be a challenge for the program.

Staff:

The initial personnel plan called for one administrative assistant. This person, however, needs to have knowledge over and above standard administrative skills for university department-level administration. The individual needs to have experience with flight training records keeping, TSA flight training security requirements, FAA student pilot registration, and flight scheduling. Aircraft maintenance personnel manning is a major consideration for flight school certification. The FAA considers one maintainer per three aircraft to be a minimum standard for proper maintenance. It is also vital to the program if at least one of those maintainers has FAA Inspection Authority (IA) certification.

Program Certification:

Aviation programs at IHLs usually operate under two different certification entities: academic and FAA certification (three if you also count VA). SACSCOC is the governing body of academic certification in Tennessee. SACSCOC accreditation was obtained for the program in the spring of 2018. Provisional FAA Part 141 Flight School certification was obtained in the summer of 2019. Full certification was awarded in the summer of 2021.

Support for Veterans at APSU:

APSU's proximity to Ft. Campbell, KY is an ideal location for a Rotary-wing aviation program for several reasons. Ft. Campbell is the home of the U.S. Army's only Air Assault Division. This results in the division having a high percentage of personnel with aviation-related military occupation specialties. Additionally, those personnel not directly associated with aviation and aviation support are still familiar with helicopters and their operations. Due to this, there is a group of potential students who are familiar with helicopters.

With Ft. Campbell's presence close to Clarksville, TN, a large percentage of the local population is either active-duty Military, recently separated military veterans, or retired military. This results in APSU having a higher-than-usual military-affiliated student body. Nationwide, Veterans make up 3-4% of the undergraduate student population [11], however, at APSU's Veterans population is over 20%. APSU has a longstanding relationship with the Veteran's community. This, however, can be somewhat of a double-edged sword.

The 85/15 Rule:

For any academic program to be approved for financial aid by the GI Bill it must have a minimum of 15 % “non-supported students.” “Non-supported” means that the students must not be using any type of scholarship or incentive that is not available to any or all students. In other words, the institution could not offer subsidies to students to enter the aviation program to make the numbers look good. The intent is for the institution to strive to keep costs as low as possible to make it attractive for non-GI Bill students. The program’s proximity to Ft. Campbell makes it immensely popular with the Veteran population, while it is vital for APSU to recruit non-veterans to the program. This requires APSU to promote the program well outside of the local area.

Non-military Affiliated Students:

Recruitment of non-military affiliated students has been pursued through several methodologies. APSU’s Public Relations and Marketing department has advertised the program in local newspapers and television outlets, as well as on social media platforms. Aviation Science Program staff have reached out to county and statewide school systems through STEM awareness efforts. APSU Center at Ft. Campbell and College of STEM staff and faculty have operated Aviation Science displays at airshows and other aviation-related events such as Women in Aviation and Black Aviation Professionals Network sponsored events. The program has also staffed booths at the annual Army Aviation Association of America (Quad A) Mission Solutions Summit and Helicopter Association International (HAI) Heli-Expo. All of these efforts have enabled APSU to expand awareness of the program beyond the regional Ft. Campbell area.

APSU Center at Ft. Campbell:

Having the Aviation program housed under the APSU Center at Ft. Campbell provides several advantages to the program and its students. The first is academic and financial aid advising staff that are familiar with the particular needs of active duty and Veteran students. Credit evaluation for college credits granted through military experience and training is done through the American Council on Education (ACE). Secondly, the program runs on the APSU Center system of semesters.

This is a system of five shorter eight-week semesters that compromise the academic year. The shorter semesters are designed to make scheduling by active-duty personnel easier. However, the shorter semesters would not be able to accommodate the length of most of the flight training courses, the courses were divided into two parts for all but the final instrument flight instructor course.

Access to military installations by non-military students is accomplished through the use of an installation-issued pass. This pass would be issued at the beginning of the academic year and would be good for that year. The student would be reissued a new pass for successive years as long as they remained in good standing with the University.

Student Pathways and success experiences:

The APSU Aviation Science Program Director has recently been selected to join the Helicopter Association International’s (HAI) Workforce Development Working Group. [13] The working group’s goal is to “develop a comprehensive recruitment plan that addresses critical areas such as educational outreach, the Mil2Civ transition, job fairs, and marketing. The group

will also seek collaboration within the industry to cultivate partnerships to recruit and retain talent.” One of the primary tasks, within that goal, is to establish a pathway for our graduates to bridge the experience gap between their post-graduation experience level of around 200 hours to the 1,500-hour level where pilots are eligible for jobs in the medical transport and petroleum production support industries.



Figure 2: The first graduating class of students from the Aviation Science Program.

This program produced its first graduating class in Fall 2022. Figure 2 shows the first graduating class of seven students from the Aviation Science Program. Of those seven graduates, all have found employment in pilot positions. Currently, there are 35 active students enrolled in the program. The majority of the current students are military-affiliated and are glad to pursue their dream of becoming helicopter pilots. Below are some of the comments made by students (these comments are published in a local newspaper [14] as well as on the university’s website [15]) thanking the program and faculty for initiating the Aviation science program and helping them to relish their dreams:

- “I joined this program in pursuit of my dream of becoming a helicopter pilot. It was perfect timing for the school to launch the aviation science program just as I was exiting the military at Fort Campbell, which is why I chose this particular place – to utilize my GI Bill benefits in a convenient location.”
- "It requires you to have cognitive skills as well as motor skills. It calls upon students to utilize decision-making practices and provides endless opportunities for learning and growth because that is what the industry demands. The staff members and instructors demonstrated

exceptional professionalism throughout the years, and I would recommend the program to anybody searching for a helicopter program."

- "Having wanted to go to flight school while I was in the Army, this of course sparked my interest. (.....) Additional retired Army aviators were added as instructors, bringing even more experience and knowledge on board. It has been a privilege flying with these gentlemen and with this program, learning so much along the way as well as getting the opportunity to instruct."
- "I do believe that this program will continue to grow and be one of the many things that Austin Peay is known for. I would absolutely recommend this program to anyone interested in flight training. The great faculty and staff that help run and support it continue to perfect the pilot training process."

Conclusion:

Two major lessons learned through the development and growth of the program are important to discuss. The first is the importance of having an open non-adversarial relationship with the state Veterans Administration office. The second is to have a similar open and non-adversarial relationship with the local FAA Flight Standards District Office (FSDO).

APSU's relationship with the Nashville FSDO was fairly straightforward in that the procedures for gaining FAA Part 141 flight school status are spelled out in great detail in the regulation (FARs) and advisory circulars (ACs). Maintaining open and responsive communications with the FAA office is key to this relationship. Being readily available for inspections is also vital to the relationship.

Our relationship with the Veterans Administration (VA) has required far more effort from various offices of the APSU administration. Dubious and outright fraudulent activities by a few flight training providers have made the VA wary of all new flight training programs. Sitting down with VA representatives as early in the development phase as possible can facilitate the VA approval process by incorporating policies and procedures that can mitigate the chances for fraud and abuse of the VA educational aid system.

In closing, the Aviation Science program is a growing program that serves the needs of both Veterans that are eager to begin careers as professional helicopter pilots and to help military helicopter pilot's transition to the civilian rotary-wing industry. This program and others like it will be vital to meet the needs of the nation's civilian helicopter workforce.

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Appendix A

General Education Core	
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General Education Requirements	41
University-Wide Freshman Seminar	1

Total Credits	42
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Major Requirements that Satisfy General Education	
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GEOG 1015	Physical Geography	3
MATH 1710	Precalculus Algebra	3
PHYS 1010	Concepts: Motion, Heat, and Sound	3
PHYS 1011	Concepts Lab: Motion, Heat, and Sound	1
PSYC 1030	Introduction to Psychology	3

Concentration Requirements	
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Lower Division Requirements	
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AVI 1000	Introduction to Aviation Science	3
AVI 1020	Aviation Regulations	3
AVI 1040	Private Pilot Operations	3
AVI 1060	Flight Navigation	3
AVI 1100	Rotor-Wing Private Pilot Lab I	2
AVI 2000	Instrument Flight Operations	3
AVI 2020	Commercial Flight Operations	3
AVI 2100	Rotor-Wing Private Pilot Lab II	2
AVI 2120	Instrument Flight Operations Lab I	2
AVI 2140	Instrument Flight Operations Lab II	2
MGT 1110	Introduction to Business	3

Total Credits	29
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General Education Core	42
Lower Division Requirements	29
Upper Division Requirements	43
Upper Division Free Electives	6

Total Credits	120
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Upper Division Requirements		
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AVI 3000	Flight Safety Management	3
AVI 3020	Aerodynamics	3
AVI 3040	Air Traffic Control	3
AVI 3060	Rotor-Wing Aircraft Design	3
AVI 3070	Certified Flight Instructor	3
AVI 3080	Aviation Meteorology	3
AVI 3090	Prime Mover Technologies	3
AVI 3100	Commercial Flight Operations Lab I	2
AVI 3120	Commercial Flight Operations Lab II	2
AVI 3140	Certified Flight Instructor Lab I	2
AVI 4000	Certified Flight Instructor Instrument 3	3
AVI 4020	Night Vision Systems	3
AVI 4040	Mountain Flight Operations	3
AVI 4100	Certified Flight Instructor Lab II	2
AVI 4120	Certified Flight Instructor Instrument Lab	2
AVI 4200	Aviation Capstone	3

Total Credits	43
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Upper Division Free Electives	
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courses numbered 3000 - 4999.

Total Credits	6
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Appendix B

B.S.: Aviation Science: Rotor Wing
2022-2023
<p>Lab fees are based on the flight and ground hours listed in the course syllabus Training Course Outlines (TCO) for each flight lab in accordance with FAR Part 141. APSU monitors student progress closely and strives to provide safe, effective, and financially responsible training to all students. Some students may require more training to attain the required proficiency to pass FAA exams and check rides; therefore, costs may be higher than the minimums listed below. The syllabus total is the total cost if the student meets the minimum required syllabus flying hours.</p>

	Hours	Cost/ Hr	Cost
Rotor-Wing Private Pilot Lab 1 (AVI 1100)			
Dual Instruction (Guimbal G2)	17.5	\$459.00	\$8,032.50
Solo (Guimbal G2)	0.5	\$459.00	\$229.50
Instructor Fee	18.0	\$55.00	\$990.00
Syllabus Total:			\$9,252.00

Rotor-Wing Private Pilot Lab II (AVI 2100)			
Dual Instruction (Guimbal G2)	10.0	\$459.00	\$4,590.00
Solo (Guimbal G2)	4.0	\$459.00	\$1,836.00
Dual Instruction (Robinson R44)	5.0	\$732.00	\$3,660.00
Solo (Robinson R44)	0.5	\$732.00	\$366.00
Instructor Fee	19.5	\$55.00	\$1,072.50
Syllabus Total:			\$11,524.50

Instrument Flight Lab I (AVI 2120)			
Dual Instruction (Guimbal G2)	10.5	\$459.00	\$4,819.50

Dual Instruction (AATD)	7.0	\$70.00	\$490.00
Instructor Fee	17.5	\$55.00	\$962.50
Syllabus Total:			\$6,272.00

Instrument Flight Lab II (AVI 2140)			
Dual Instruction (Robinson R44)	13.0	\$732.00	\$9,516.00
Dual Instruction (AATD)	7.0	\$70.00	\$490.00
Instructor Fee	20.0	\$55.00	\$1,100.00
Syllabus Total:			\$11,106.00

Commercial Flight Operations Lab I (AVI 3100)			
Dual Instruction (Guimbal G2)	18.5	\$459.00	\$8,491.50
Solo (Guimbal G2)	2.0	\$459.00	\$918.00
Instructor Fee	20.5	\$55.00	\$1,127.50
Syllabus Total:			\$10,537.00

Commercial Flight Operations Lab II (AVI 3120)			
Dual Instruction (Guimbal G2)	7.3	\$459.00	\$3,350.70
Solo (Guimbal G2)	4.1	\$459.00	\$1,881.90
Dual Instruction (Robinson R44)	9.7	\$732.00	\$7,100.40
Solo (Robinson R44)	6.4	\$732.00	\$4,684.80
Instructor Fee	27.5	\$55.00	\$1,512.50
Syllabus Total:			\$18,530.30

Certified Flight Instructor Lab I (AVI 3140)			
Dual Instruction (Guimbal G2)	13.5	\$459.00	\$6,196.50
Instructor Fee	13.5	\$55.00	\$742.50
Syllabus Total:			\$6,939.00

Certified Flight Instructor Lab II (AVI 4100)			
Dual Instruction (Guimbal G2)	7.1	\$459.00	\$3,258.90
Dual Instruction (Robinson R44)	6.9	\$732.00	\$5,050.80
Instructor Fee	14.0	\$55.00	\$770.00
Syllabus Total:			\$9,079.70

Certified Flight Instructor Instrument Lab I (AVI 4120)			
Dual Instruction (Robinson R44)	17.0	\$732.00	\$12,444.00
Instructor Fee	17.0	\$55.00	\$935.00
Syllabus Total:			\$13,379.00

Degree Total:			\$96,619.50
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