

# **BACHELOR OF SCIENCE IN AERONAUTICAL SCIENCE (BSAS) FREQUENTLY ASKED QUESTIONS**

V4.22

## **Q1. Is this the same proposal presented to CCAO in March?**

A1. No. The revised proposal includes the Fixed Wing Flight Education Pilots (FWFEP) and the Remotely Piloted Aircraft Systems (RPAS) tracks only. The other two tracks—the Helicopter Pilot and the Professional Pilot—have been removed.

Further, the previous proposal presented a 2.5-year program that included summer school. The revised proposal is a 4-year program that does not include required summer classes. Students will start in the fall semester of 2016.

The RPAS and FWEF tracks each require 120 credit hours, including 37 general education credit hours.

Finally, the program will be housed administratively in the College of Agriculture, Forestry and Natural Resources Management (CAFNRM). The faculty has voted to change the name to the College of Agriculture and Applied Science. This change will be applied for upon BSAS approval.

## **Q2. How is this program different from the Honolulu Community College (HonCC) Program?**

A2. UH Hilo will offer a 4-year Bachelor of Science in Aeronautical Science degree rather than a 2-year Associate of Science degree in Commercial Aviation. The UH Hilo program is a different degree which is offered at a different type of institution. Graduates with a BSAS will be eligible for different employment opportunities immediately upon graduation. The airport facility used will necessarily differ from that used by HonCC. The flight provider may differ as well.

## **Q3. Will WUE students be accepted into the program?**

A3. Yes, WUE students will be accepted into the program if they are US citizens. However, we are not basing enrollment estimates on WUE students in our business plan. Our enrollment estimates are limited to resident, first-time, full-time freshmen for the sake of simplicity and for other reasons to be discussed later. We have chosen to present a very conservative business plan.

## **Q4. Will international students with the appropriate visas be accepted into the program?**

A4. Initially, no international students will be accepted into the program. Once the program is up and running, UH Hilo will petition the Student and Exchange Visitors Program (SEVP), which is part of the US Department of Homeland Security, for certification.

Thus, we are not basing enrollment estimates on international students in our business plan. Our enrollment estimates are limited to resident, first-time, full-time freshmen, as will be discussed later.

Please note that SEVP certification is not limited to Aeronautical Science. In fact, the UH Hilo Doctor of Nursing Practice is currently seeking SEVP certification.

**Q5. Will transfer students be accepted into the program?**

A5. Yes, although transfers will initially be limited to domestic students. However, as with many other STEM majors, transfer students will likely need to start with the beginning AVIT curriculum. Consequently, transfer students may not be able to finish their UH Hilo-based studies in two years.

All AVIT credits taken at HonCC will fully articulate to UH Hilo. (Note: We are using common course numbering with HonCC.)

**Q6. What are the costs to UH Hilo?**

A6. UH Hilo will hire one Instructor (\$54k/year) and one APT (\$46,512/year) in Year 1 (AY 2016–17). The APT salary will begin at PBB-Step 1 with a 2% annual increase. UH Hilo will hire a second instructor in Year 2, a third instructor in Year 3, and a fourth instructor in Year 4. The salary cost in Year 4 (and thereafter as a Provisional program) will be ~\$265k.

The equipment cost (mostly for flight simulation hardware and software) will be \$20k/year in Year 1. The cost to the library will be \$10k in Year 1. The airport facility fee paid to the Foreign Trade Zone Center at the Hilo Airport will be \$60k/year in Year 1. The library, the equipment costs and the airport facility costs are projected to inflate at 2% annually. The cost of accreditation is \$10k (<http://www.aabi.aero/faq7.html>), to be paid in Year 4. Thus the total cost of the program to UH Hilo at maturity (Year 4) will be \$371k.

After the program becomes established, we can consider replacing instructors (who chose to depart UH Hilo) with tenure-track faculty.

**Q7. How many students/year do you expect will enter the program?**

A7. Our conservative business plan projects that 20 resident, first-time, full-time freshmen students will enter the program every year. Students may choose to go part-time. There are no special admission requirements beyond medical and citizenship, as described in the proposal. Existing students may choose to change majors and join the BSAS program at any time.

**Q8. Where does that number 20 come from?**

A8. Embry-Riddle Aeronautical University (ERAU) has two campuses—Prescott, Arizona, and Daytona Beach, Florida. Over a ten year period (2002–11) ERAU enrolled an average of 15 new students each year from Hawaii. The 2014–15 tuition at ERAU Prescott is \$31,648 (<http://prescott.erau.edu/admissions/estimated-costs/>). Resident

tuition and fees at UH Hilo is \$7,036. This is a cost savings of \$24,612/year for Hawaii residents in 2014–15.

A 2015 survey of 15 members of the Hawai'i Club at ERAU revealed that at least 10 of the 15 would have pursued their education in Hawai'i, if they had that option available (<https://erauprescott.collegiatelink.net/organization/hawaiiclub>).

The University of North Dakota 2014–15 tuition for WUE students is \$10,935 (<http://und.edu/admissions/student-account-services/tuition-rates.cfm>). This is \$3,899/year more costly than UH Hilo for Hawaii residents. (For an article featuring Jerris Tagavilla, a Hawaii resident and aviation major at UND, please see the following URL: <http://und.edu/features/2014/07/tagavilla-silva.cfm>).

The WUE 2014–15 tuition at Central Washington University is \$11,912 or \$5,264 more than UH Hilo (<http://wue.wiche.edu/profile.jsp?id=124>). (This university is included because their contract with a flight provider is displayed in Appendix C.)

Given that UH Hilo can offer the BSAS at a much lower price than mainland universities, we believe it is reasonable to expect 20 Hawaii resident students will enroll each year as freshmen.

Finally, Perry Martin, President of Maryknoll School (MS) in Honolulu, shared with UH Hilo that MS will begin specific career paths in the fall of 2016, including aeronautical sciences. He expressed hope that this initiative “can be utilized as a feeder program toward postsecondary education” in aeronautical sciences at UH Hilo. His letter, along with other letters of support, may be viewed within the Appendix B of the program proposal.

**Q9. Can the program handle more than 20 students/year?**

A9. Yes. If our enrollment estimates prove to be low, UH Hilo can accommodate more students.

**Q10. How many full-time resident students will be enrolled in the program in Year 4?**

A10. Our business plan assumes that freshmen seeking the BSAS degree from UH Hilo will be retained at the average UH Hilo residential, first-time, full-time freshman rate (not to be confused with UH Hilo’s full-time, first-time freshmen retention rate, which includes international and non-resident students). This leads us to expect that 56 students will be enrolled in the program in Year 4.

**Q11. What is the tuition revenue of 56 full time resident students in Year 4?**

A11. In academic year 2016-17, full time resident students will pay \$7,656 for tuition (fall plus spring: [http://hilo.hawaii.edu/uhh/bo/cashier/tuition\\_schedule.php](http://hilo.hawaii.edu/uhh/bo/cashier/tuition_schedule.php)). The business plan assumes that tuition will remain constant over the following years. The tuition revenue will be approximately \$429k in Year 4. Tuition revenues will exceed costs in Years 2, 3 and 4 of the program.

**Q12. What are the likely flight instruction fees?**

A12. The ERAU Daytona Beach web site

(<http://daytonabeach.erau.edu/admissions/estimated-costs/>) advises students to plan to spend \$23,000-\$33,000 per year, for the first two years, and \$10,000-\$15,000 thereafter. The maximum cost estimated by ERAU is \$96,000 over four years.

Please note that different students need different numbers of hours of flight training to become proficient. As flight training costs are paid on an hourly basis, the costs to students vary. Also some students may choose to spend more or less time on flight instruction than others, as they balance the demands of ground school, family and employment. Students will graduate with different numbers of flight hours.

We have chosen to illustrate costs at the “high end” of the scale in the cost of attendance and unmet need calculations, noting again that the actual costs for the average student will likely be less than that presented.

**Q13. Who pays the flight instruction costs?**

A13. Our business plan assumes that the student will pay the flight instruction costs following the structure outlined within the Central Washington University (CWU) contract, which may be viewed within Appendix C of the program proposal.

**Q14. What is the four year cost of attendance of resident students, assuming \$96k in flight instruction costs?**

A14.

	<b>Full Time on campus</b>	<b>Full Time w/ parent</b>	<b>Full Time off campus</b>
Tuition (2016–17)	\$30,624	\$30,624	\$30,624
Fees (2016–17)	\$1,800	\$1,800	\$1,800
Books	\$5120	\$5120	\$5,120
Room & Board	\$39,880	\$16,832	\$52,952
Personal	\$9,528	\$7,456	\$9,528
Travel	\$1,200	\$3,544	\$3,544
Loan Fees	\$288	\$288	\$288
Flight School Fees	\$96,000	\$96,000	\$96,000
<b>Total Cost for 4 Years</b>	<b>\$184,440</b>	<b>\$161,664</b>	<b>\$199,856</b>

**Q15. What is the minimum unmet need of Hawaii resident, non-veterans assuming \$96,000 in flight instruction fees over 4 years?**

A15.

**Maximum Aid Available – Residential**

	<b>Full Time on campus</b>	<b>Full Time w/parent</b>	<b>Full Time off campus</b>
Pell Grant	\$5,775	\$5,775	\$5,775
SEOG	\$2,000	\$2,000	\$2,000
Tuition Assistance	\$4,000	\$4,000	\$4,000
Federal Work Study	\$4,500	\$4,500	\$4,500
Federal Direct Subsidized Loan	\$4,750	\$4,750	\$4,750
Federal Direct Unsubsidized Loan	\$6,000	\$2,000	\$6,000
<b>TOTAL</b>	<b>\$27,025</b>	<b>\$23,025</b>	<b>\$27,025</b>
Total Aid for 4 Years	\$108,100	\$92,100	\$108,100
Less: Program Cost for 4 years	\$184,440	\$161,664	\$199,856
<b>Total Unmet Need</b>	<b>(\$76,340)</b>	<b>(\$69,564)</b>	<b>(\$91,756)</b>

**Q16. What is the unmet need of veterans, assuming \$96k in flight instruction costs?**

A16.

**Maximum Aid Available – Veterans with Post 9/11 G.I. Bill\***

	<b>Full Time on campus</b>	<b>Full Time w/ parent</b>	<b>Full Time off campus</b>
Total Aid for 4 Years	\$184,440	\$161,664	\$199,856
Less Program Cost for 4 Years	\$184,440	\$161,664	\$199,856
<b>Total Unmet Need</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>

\*[http://www.benefits.va.gov/gibill/flight\\_training.asp](http://www.benefits.va.gov/gibill/flight_training.asp)

**Q17. Why would students incur this much debt?**

A17. Although entry-level pilots have relatively low incomes, their salaries increase significantly through the years, enabling them to repay their student loans.

<b>Major US Airline Pilot Salaries*</b>				
<b>Airline</b>	<b>Year 1</b>	<b>Year 5</b>	<b>Year 10</b>	<b>Maximum</b>
Delta	\$58,579	\$121,915	\$167,437	\$244,550
American	\$33,600	\$95,040	\$170,880	\$204,480
United	\$58,483	\$130,641	\$171,360	\$225,389
Southwest	\$54,720	\$123,619	\$201,427	\$205,872
Hawaiian	\$32,400	\$90,000	\$178,200	\$179,100
Alaska	\$45,847	\$100,345	\$167,052	\$173,173
FedEx	\$58,725	\$123,041	\$198,224	\$242,893
UPS	\$33,946	\$128,698	\$217,939	\$227,674
Average	\$46,963	\$108,169	\$166,784	\$198,625
*Professional Pilot, 2013				

**Q18. What kinds of jobs can UH Hilo BSAS graduates obtain immediately upon graduation?**

A18. UH Hilo students will be eligible for employment as commercial pilots at Mokulele Airlines in their third year of study. Immediately upon graduation, BSAS graduates can be employed as commercial pilots (flying aircraft with less than 10 seats), as certified flight instructors at, or they can serve as pilots in the military, including the Hawaii National Guard. (Note: Military pilots must have a college degree!) Other aeronautical-related employment opportunities and their annual salary ranges are listed below.

<b>Projected Pilot Job Eligibility at 300 hours</b>		
<b>Category</b>	<b>Location</b>	<b>Annual Starting Pay</b>
Flight Instructor	HI (statewide), Mainland	\$12k – \$20k
Charter Service (Mokulele)	HI (statewide), Mainland	\$18k – \$20k
Air Tours	HI (statewide), Mainland	\$20k – \$30k
Military Pilot	Oahu, Mainland	\$35k
Skydive Jump Pilot	Oahu, Mainland	\$30k – \$60k
Banner Towing	Oahu, Mainland	\$25k – \$50k
Glider Towing	Oahu, Mainland	\$0 (volunteer) – \$15k
Traffic Monitoring	Mainland	\$35k – \$50k
Agricultural (Aerial Spray)	Mainland	\$30k – \$50k
Bush Pilot	Mainland	\$15k – \$20k
Pipeline Monitoring	Mainland	\$15k – \$20k
Photography	Worldwide	\$20k – \$30k
Aircraft Ferry	Worldwide	\$15k – \$20k
Fish Spotter	Worldwide	\$15k – \$20k

**Q19. What is the pathway to employment as a commercial pilot for Hawaiian Airlines?**

A19. A BSAS graduate of UH Hilo will need additional hours of flight time to be employed as a first officer for Hawaiian Airlines. This will typically take 5 years after graduation. The flight hours can be obtained by employment as a flight instructor. They can also be obtained as a pilot for Mokulele Airlines, flying airplanes that carry less than 10 passengers. After attaining 1500 flight hours and ATP certification, the pilot can be employed by Island Air at a higher salary, flying turbine-engine aircraft that carry 50-60 passengers. Thus, a May 2020 BSAS graduate can be a first officer for major airlines, such as Hawaiian Airlines, as early as May 2025.

<b>Sample Career Pathway to Hawaiian Airlines</b>	
Graduate UH Hilo with BSAS degree with Private Pilot, Instrument, Commercial, Multi-Engine, Certified Flight Instructor, and Certified Flight Instructor for Instrument ratings, as well as ~300 flight hours	May 2020
Begin employment as a flight instructor or as a Mokulele Airlines pilot and work 1–2 years to accumulate 1500* flight hours, qualifying to apply for an ATP rating	May 2020
Begin job at regional airline flying turbo-prop and/or smaller turbine multi-engine aircraft such as Island Air to gain 1000 hours of “turbine time” and 300 hours of multi-engine time	May 2022
Submit application to fly as First Officer at Hawaiian Airlines	May 2025
*After program accreditation in Year 4, this requirement is reduced to 1000 hours.	

**Q20. Will Hawaiian Airlines be hiring pilots in the near future?**

A20. Yes. The FAA mandates that a commercial airline captain must retire at age 65 or accept demotion to a first officer. (Very few airline captains chose the latter option.) Thus every airline can predict when their captains will be stepping aside. Hawaiian Airlines is clearly concerned about a possible pilot shortage. In its *2014 Annual Report*, Hawaiian Airlines stated that:

A higher than normal number of pilot retirements could adversely affect us. We currently have a large number of pilots eligible for retirement. Among other things, the extension of pilot careers facilitated by the FAA’s 2007 modification of the mandatory retirement age from age 60 to age 65 has now been fully implemented, resulting in large numbers of pilots in the industry approaching the revised mandatory retirement age. If pilot retirements were to exceed normal levels in the future, it may adversely affect our operations.

**Q21. Are BSAS students eligible for “special” scholarships?**

A21. Yes. For an example of scholarships available, see the following URL: [https://www.wai.org/education/scholarship\\_list\\_2015.cfm](https://www.wai.org/education/scholarship_list_2015.cfm). UH Foundation scholarships may also be available (<http://www.uhfoundation.org/scholarships>).

**Q22. Will BSAS students have a dedicated staff adviser?**

A22. Yes, UH Hilo will dedicate an adviser to BSAS students. This is the APT position in the business plan.

**Q23. What is the national outlook for employment of pilots in the United States?**

A23. The US Government Accountability Office has published a study entitled *Current and Future Availability of Airline Pilots*. The report states that:

Looking forward, industry forecasts and the Bureau of Labor Statistics' employment projections suggest the need for pilots to be between roughly 1,900 and 4,500 pilots per year, on average, over the next decade, which is consistent with airlines' reported expectations for hiring over this period.

American Airlines reports they now employ 3038 captains between 50 and 59 years of age, and 770 captains between 60 and 64 years of age. In 2025, the year our first (class of 2020) BSAS graduates are eligible for employment at a major airline, American Airlines alone expects 713 mandatory retirements ([http://www.airlinepilotcentral.com/airlines/legacy/american\\_airlines](http://www.airlinepilotcentral.com/airlines/legacy/american_airlines)).

**Q24. Will there soon be an international shortage of pilots?**

A24. Many industry analysts believe that the aviation industry is at the incipient stage of a crisis caused by a shortage of qualified pilots. (See *Pilot Shortage Could Lead to Less Qualified Pilots by 2031: REPORT* available at the following URL: [http://www.huffingtonpost.com/2012/07/13/pilot-shortage-could-lead\\_n\\_1670614.html](http://www.huffingtonpost.com/2012/07/13/pilot-shortage-could-lead_n_1670614.html)).

According to a report published by Boeing, airlines will take delivery of tens of thousands of new commercial jetliners over the next 20 years and that 1.1 million pilots will be needed to fly those airplanes. (See *Boeing Forecasts Rising Demand for Commercial Pilots and Technicians* available at the following URL: <http://www.prnewswire.com/news-releases/boeing-forecasts-rising-demand-for-commercial-pilots-and-technicians-269155981.html>).

**Q25. What are some lessons learned from Honolulu Community College?**

A25. The following are lessons learned from the HonCC aviation program.

- Communication between the host school and the provider is important. If a student is struggling on one side, the other should know about it, and the two must collaborate to support the student in the best manner available. **This will be a key function of the dedicated APT advisor, as stated in the business plan.**
- When flight costs are outlined, the UH Hilo adviser should break it down to weekly costs to aid students in budgeting and flight scheduling. Students need to have clear semester budget outlines.



- Sometimes planes break down and, to top that off, we are on an island, so getting parts doesn't happen over-night. If the provider is down one aircraft for a week or more, that could significantly affect students' course completion rates. The provider should possess a back-up plan for when equipment is down for maintenance to prevent the loss of student flight time. This should be built into the RFP.
- Scheduling 20 students to fly multiple times each week can get confusing, especially when they all take the same classes. Flight time must be scheduled around coursework. Students must work closely with schedulers to ensure they stay on track.
- Students pursuing pilot certificates without a focus on education were not successful in the HonCC program. The UH Hilo program should be focused on education as the primary mission with flight certificates as a secondary result of the training.

**Q26. What is the status of the UH Hilo RFP?**

A26. We anticipate releasing the RFP in the first week of May.