EMBRY-RIDDLE
Aeronautical University
PRESCOTT, ARIZONA

March 3, 2017

From: Dr. Tim Holt, FRAeS, C.M., IAB Coordinator
To: College of Aviation/IAB Board Members

Subj: 2017 Industry Advisory Board (IAB) Narrative

Enclosure (1) Board Agenda
Enclosure (2) Session Questions
Enclosure (3) Word Cloud

Attendees:

Major Airlines
Capt. Bob O'Neil – Southwest Airlines
David Alpert – University Gateway
Capt. Peter Schlichting – American Airlines

Regional Airlines
Capt. Hovik Grozian – SkyWest Airlines
Capt. Kevin Wilson – Mesa Air
Peter Schiess – Ameriflight

Safety
Dr. Benjamin Goodheart – Aviation Safety & Claims
Ryan Thowson – Bechtel Corp.
Ms. Lorena De Rodriguez – SSI, Inc.

Helicopter
David Small – Air Methods
Rucie Moore – XP Services, Inc.

UAS
Travis Cieloha - Insitu
Ms. Monica England – 5D Robotics
Dr. Greg Crutsinger – Parrot, Inc.
Matt Lyon – Swift

Meteorology
Dr. Brian Klimowski – NWS

Members At Large
Randy Annett – FlightSafety Int.

ERAU CoA Representatives
Dr. Brent Bowen – Dean
Dr. Curtis James – Dept. Chair, AAS
Dr. Juan Merkt – Dept. Chair, AS
Mr. Jerry Kidrick – Dept. Chair, Flight
Dr. Erin Bowen – Dept. Chair, BSS
Mr. Brian Roggow – Safety Program Manager
Prof Dawn Groh – PC, Helicopter
Dr. Tim Holt – PC, Aeronautics
Dr. Mark Sinclair – PC, Meteorology
Prof Jennah Perry – PC, ATM
Prof Johnny Young – PC, UAS
Ms. Merrie Heath – Career Services

1. On February 3, 2017, the College of Aviation held its annual Industry Advisory Board on the Prescott campus of Embry-Riddle Aeronautical University. The following narrative is provided based on the Board agenda (Encl (1)), and preplanned session questions (Encl (2)).

Vr,

T.B. HOLT

Major Airlines

Without naming the names of specific institutions, how does ERAU's Prescott's intern's and graduate's performance and professional knowledge/skills compare with those students from other colleges/universities?

Although we have a very small sample size at FlightSafety, the graduates we have hired have done an outstanding job in our Tucson Center. Our SIC's come from many, varied backgrounds and the ERAU graduates are some of our top hires.

The Aeronautical Science Program Mission includes the following goals in the education of its students.

- Leadership required by today's aviation professionals
- Decision-Making aptitude to asses situations and manage risk
- Aeronautical knowledge required of an aviation professional
- Critical thinking and problem solving skills necessary in aviation and related fields

Based on last year's IAB meeting, a safety goal may be added to the program. We would like to get your feedback/comments on the adequacy of these educational goals.

Safety is of upmost importance in today's aviation world so I truly support adding this to your list of goals. Safety Management Systems (SMS) are gaining force in aviation and equipping your graduates with the knowledge of an SMS's purpose and use would dovetail well with the current industry trend. From a business aviation standpoint, many of the pilots that enter this field are also tasked with duties other than simply flying an aircraft. Budgeting, accounting, customer service, and many other business related skills are needed for a line pilot to move into higher roles in a company such as Chief Pilot or Director of Operations. These same skills are needed in the airline world as pilot's advance into managerial roles. Adding a goal to provide graduates this knowledge would give the ERAU candidates another advantage in the aviation field.

Are there any technological changes and advances in your segment of the aviation industry that should be placed into the ERAU degrees/programs/courses?

In today's world, the aircraft are becoming more and more avionics specific. Honeywell, Rockwell Collins, Garmin and others are beginning to dominate both the airline and business aviation world. As pilots are trained in new equipment, the understanding and use of the avionics is sometimes the key to success (or failure). Avionics classes that cover the various intricacies of these avionics platforms might be introduced.

What can ERAU do for your organization?

Continue to provide aviation professionals to help fill the various positions in the varied aviation field. The IAB board needs to consider adding positions to help provide representation in the business aviation field as well. With the Phoenix area so close, there are numerous operators that I know who would be interested in serving on the board. This is truly a win-win proposition as the business aviation community can benefit from the talents of the ERAU graduates while students benefit from another potential avenue for future careers.

Does your organization have any new opportunities for student internships?
Flightsafety has paid SIC/Intern positions available throughout the United States. In addition, engineering internships and starting positions are also found in our simulator and visual manufacturing facilities in Tulsa, St. Louis and Austin. All of these positions can be found/viewed at www.flightsafety.com. The Tucson Center participates in the ERAU-Prescott job fairs and has provided information on these positions as well.

What resume items/qualifications would you like to see in a flight instructors' resume when you are considering them for a position.
Business aviation position requirements vary considerably depending on the aircraft equipment flown and the company. Total time is sometimes an issue when trying to get a pilot hired into a position. The more the better. In addition, jet transition courses or turbine transition courses with turbine or jet experience is readily sought after in the business aviation sector. Lastly, business aviation pilots must also be very customer focused as they deal directly with their passengers. They act as baggage handlers, catering orders, maintenance schedulers, dispatchers and truly about any job associated with aviation. Having students understand these requirements and providing them the skills to succeed is paramount for ERAU students.

Helicopter

Suggestions for emphasis in degree programs:

- Soft skills and professionalism:
  - Pilots need to have excellent interpersonal skills. This is important not only later on in their career but early on as well. Many of the initial jobs in the industry are in customer service oriented fields such as tourism.
  - Emphasis on teamwork and problem solving. Many jobs require problem solving skills in and out of the cockpit. Adjusting to short notice missions and/or mission changes is problem solving with a crew. Company directed projects or ideas for improvement from the pilot him/herself require group work. Organizations rarely view their pilots as individuals but as a part of the company team both in small and large operations.
  - Companies want good employees. Timeliness, neatness, and enthusiasm for the job is key.
- Emphasis on safety:
  - Program safety goal is a must. Safety culture is pervasive in the industry and must be incorporated at all levels.
  - A deep understanding of SMS programs is a requirement. Pilots should be versed in a just safety culture and their role in it as pilots and future leaders/managers.
- Aviation business management focus
  - Having basic business management skills would distinguish our graduates in the industry. Most pilots have no interest or knowledge of how the business side of things works and how the pilots and day-to-day operations fit in to the picture. Soft skills and professionalism would fall under this.

- Suggested ERAU Actions:
  - Include industry experts in capstone courses for a richer experience.
  - Consider a mini-course on the maintenance management/airworthiness/aircraft certification side of the business. An understanding of the process is a valuable tool for pilots in many facets of the commercial helicopter industry.
- Feedback on the changes made based on the 2016 IAB:
  - Great job including tablet use from early on. Continue to expand on use of technology in the aircraft.
  - Good choice to include G1000 into AS429 – the system is the preferred EFMS equipment in the industry and an understanding of its functionality is critical.
  - Continue to include industry experts and site visits. Getting students out of the classroom and exposing them to the daily operations of various commercial operators makes them more well-rounded. IAB members all offered to guest speak and share their individual expertise.
  - The scenario-based exams given in AS 389 are "awesome."

UAS

What would be the ideal set of knowledge and skill for a BSUAS graduate to have when he/she graduates.

- Stick experience—AS220, AS235, AS403, AS473, AS495V courses have required flight time
- Log book experience—Each student is required to have a log book and log every flight operation and sim time
- Confidence (i.e. when giving flight briefings, etc.)—Students getting experience, and experience builds confidence
- Radio communication skills/ATC flight training—Adding a required ATC course to B.S. UAS program starting in Fall 2017
- Ability to fly the UAVs manually--AS220, AS235, AS403, AS473, AS495V
- Adopt and adhere to a set of guidelines and learn to maintain proficiency (Paul will send 350-9 guidelines)—We are working towards this in our flight training with printed guidelines for them to meet in all flight operations.
- Risk management—Our CRM course teaches about the risks, and when they fly, they have to do a risk assessment.
- Write well (to a government standard)—Papers are assigned in AS403, AS495V. All students will be required to take AS207—Intro to Aviation Research, in addition to English Composition, Speech, and Technical Report Writing –OR-- Business Communications –OR—Intelligence Writing
- Monica:
  - A firm understanding of regulations as specific to commercial operations and working within ATC harmony, the flying should always be 2nd to regs and professionalism
    They should be able to call on the phone the local Tower Operator or by building a relationship with a pilot, FAA employee or other qualified pilot to get them to the tower operator and be ready for a conversation if needed about safety—All UAS majors and minors required to take AS324--Global UAS Regulations and all majors take AS405--Aviation Law.

- Someone of respect within the pilot community will give you the best employee they are always professional and ERAU graduates demonstrate this attitude—We are working toward helping our students personify these ideals. They are being exposed to the industry in our courses, and we discuss ethics with them throughout the curriculum.
- Fresh military who have flown the Puma, Raven or ScanEagle, those already flying small fixed wing will be excellent operators—Our flight training focuses on developing skill flying fixed wing and multi-rotor aircraft from both line-of-sight and teaching them beyond visual line-of-sight operations through our simulation lab.
- Have multirotor and fixed wing flying experience, at least the basics using a simulator and inexpensive off the shelf type UAV's at least for 6 weeks to build time.—See responses above.
- Look for those who can fly manual line of sight, FPV doesn't help with this skill. If someone can LOS a vehicle out 400-700 feet 30 feet off the ground the entire traverse by following terrain (no video) they can fly in my opinion. Which leads to good eyesight, people should have good eye sight and know what direction the vehicle is moving at all times.—Our flight training curriculum seeks to achieve all of these learning outcomes. We encourage all of our students to get medicals to ensure that they are in the best health possible.

- Travis:
  - Fundamental understanding of business operations in a unmanned company.—Our students are required to take at least one business course called BA201--Principles of Management and our AS322--Operational and Industrial Aspects of UAS course. Moreover, it is suggested that they take additional business or economics courses.
  - Deployment of unmanned vehicles in multi-dimensional airspace.—In our AS473 course, we touch on the different types of airspaces and planning. We run scenarios that are multi-faceted with regards to airspace.
  - Requirements for aircraft, simulators, and training certification.—These are covered mostly in our AS125 UAS ground school course and in our AS324 Global UAS Regulations courses.
  - Fundamental understanding of design and development process.—These topics are currently beyond the scope of our program.
  - Safety programs with respect to production, design/development, and aircraft operations.— Our CRM course teaches about the risks, and when they fly, they will have to do a risk assessment. We are currently in the process of building a risk assessment matrix in collaboration with other ERAU campuses.
  - The difference between federal acquisition and commercial programs.—This is also beyond our scope at this time.
  - Understanding of information collection and processing schemes.—In fall 2016, we completely revamped our AS403 UAS Sensing Systems course to include not only additional sensors into the curriculum but the use of software like Pix4D for processing and displaying data obtained during UAS operations. We developed this curriculum through consultation with a company called UAI.
  - Understanding of NAS agreements COA, 333, Test Site, etc….—Covered in our AS125 UAS ground school course and in our AS324 Global UAS Regulations courses and to a certain extent in other courses.
- Matt Bartow (Insitu):
  - This is not "sexy", but in particular for the BS degree I think the evolving regulatory environment for airworthiness certification is a very challenging and cross-functional topic spanning operating procedures/limitations, design robustness/fault tolerance and warranty/liability. Students with a keen awareness for the impacts of system (hardware and

software) reliability and safety will be valuable to us for as long as I can see into the future! Our AS125 UAS ground school course and our AS324 Global UAS Regulations course cover the regulatory environment in detail. We teach our students about redundancy in AS235 and to a lesser extent in all of our courses, and our students obtain a well-rounded knowledge. We should discuss this topic of system safety and reliability with the IAB further.

What minimum simulation and flight training should we require for our students to graduate?

- Based on performance vs. time (go/no go requirements) We discuss aircraft performance and go/no go requirements throughout the curriculum.
- ERAU needs to develop a set of performance standards and have check rides/practical evaluations We are working towards this goal, eventually will have standards and check rides in place. However, at this time, our students and instructors are all new to UAS flight training. Our students in AS473 UAS Simulation course do a check ride in the simulator.
- Concept operations/lingo/exposure to platforms and control systems—Students gain this exposure throughout the curriculum.
- Exposure to the different missions that each platform is able to accomplish (and the payloads it can carry)—We have added a new course that will become the capstone for the B.S. UAS degree entitled AS495V—UAS Mission Execution, which teaches students how to approach each mission and which platforms can be used to accomplish the mission.
- Benefits of helicopter/multi-rotor/fixed wing--Students gain this exposure throughout the curriculum.
- Monica:
  - In regards to commercial multirotors (a lot of the discussion at the IAB meeting was based on defense or defense type platforms and it should be all platforms) When starting students out I give them a Nano $40 UAV you might consider the $40 syma x10 as a pet UAV they keep at all times ready to fly. They should take care of that for a week then move up to a 330 size UAV. I recommend 20 hours minimum for simulator time. All they need to do is take off, hover and land in very small spaces. They do this for 100 hours then ask them to do spot pirouettes going left then right (small figure 8s) for 100 hours you'll have the best pilot ever. This is how a friend of mine was trained 5 years ago, when there was no programs or training.—This is a great suggestion, we are taking it into consideration.
- Travis:
  - Is this a flight regimen program or a general program for unmanned vehicles; may curtail my answers for question #1 if this is a flight program.
  - Minimum for understanding in a general program would be a capstone project to witness operations.—This is the essence of the new AS495V course.
  - Minimum for flight related would be up to the university but I would recommend at least 50 hours in the SIM with the capstone mentioned above.

--Students have logged flight and sim time. We would estimate that they get 30-50 h minimum sim time and perhaps the same amount of logged flight time.

  - Seeing how this would be likely an ICOMC2 program, it would be advantageous to understand what vehicles they plan to integrate. Some are using quad-copters, others are using strictly simulation based activities. If they integrate an operational vehicle such as a quad, I would recommend 50-100 hours total seeing how no one will be issuing a certificate for their accomplishments; unless we partner with them in the future.

We have indeed purchased INEXA (which is the commercial version of ICOMC2) and students are learning to integrate the software with multiple platforms.

In what ways should we change the minor in UAS to make it more cutting-edge (http://catalog.erau.edu/prescott/minors/unmanned-aircraft-systems/)?

- Monica: See Question #4.
- Travis: See Question #4.

In what ways should we change the BSUAS major to make it more cutting-edge (http://catalog.erau.edu/prescott/aviation/bachelors/unmanned-aircraft-systems/)?

- Monica: Sure it could change to include more of the systems related developments, especially in using computer software like graphics, imaging, mission planners, flight controllers, autonomous systems, and sensors.—We have incorporated virtually all of these suggestions with the addition of new software (INEXA, IMPACT, SwiftGCS, and Pix4D) and existing software like Mission Planner, the addition of UAS flight training, additional sensors in our sensing course, etc. We are still considering how to incorporate autonomous systems into the curriculum.
- Travis:
  - They will need to understand TCPED—We touch on all these.
  - They will need the fundamental understanding or elements of the technical representatives unless they are just going to be pilots/maintainers.—Our focus is primarily in UAS operations, although we do teach the students about the technical aspects of the UAS in AS235 (building quadcopters from kits) and touch on this in our flight training and other courses in the curriculum. Beginning in Fall 2018, we hope to begin offering AS315—UAS Robotics.
  - Add curriculum that focuses on mission coordination and tactics for fire, search & rescue, geographical, atmospheric, border patrol, and law enforcement to name a few.—We have added an experimental course this semester entitled AS495V—UAS Mission Execution, which will become a permanent course this fall and serve as the capstone experience for UAS majors.
  - Looks like there are elements from the pro-aero degree program in there; may want to look at marketing, finance, strategic planning, corporate operations, and fundamentals of technical writing (proposals, BOEs, etc…)—We touch on all these items in ged. ed. and UAS courses. Students who want to delve deeper into marketing, finance and corporate operations can take certain specified electives in business and economics courses.

How should $100,000 of capital be invested into student training over these next 6 months (what aircraft, simulators, sensing equipment to buy)?

- Purchasing sims (Study which ones will allow the simulations of different type of aircraft, while avoiding overlap) and developing curriculum (Travis will send)—Purchased Simlat IMPACT software subscription and Insitu INEXA; procuring simulation scenarios from Simlat to incorporate into our simulation course; we also have lower-end simulation software (RealFlight 7.5 and Phoenix Pro RC software).
- Sensing systems (use the RFP process to define requirements for vendors, mission specific criteria)—lidar, thermal imaging, asbi, etc.—Thus far, we have acquired a multispectral sensor, FLIR cameras, and high resolution visible imaging cameras as well as Pix4D software for rendering the images into 3D datasets

- DJIs or 3DR—We currently have 2 DJI Phantoms and 1 3DR Solo
- Lynx (?) – Doesn't matter which aircraft (logged hours and correct control software)—We purchased one Lynx aircraft to date.
- Monica: I would make students purchase nanos and cheaper UAVs to take care of while going through the training, this is how they do weapons in the military. They should know every part and be able to make repairs and fly at a moments notice through obstacles with nanos, indoor or outdoor. Friends of mine use the Phoenix 5 simulator it comes with a controller as a package for beginners.—This semester, we have begun requiring students to purchase kits to build their own MX quadcopter in our AS235 course, then learn to fly them. This not only gives them flight experience with a relatively inexpensive aircraft but also teaches them how the various components of the quadcopter work.
- Travis: I would recommend purchasing SIMs and developing curriculum to meet some of the requirements outlined in #2 and #4.—See response to Travis's first bullet above.

Is it wise to remove the requirement that BS-UAS (UAS bachelor's degree) majors be US citizens? Your thoughts on ITAR?

- Yes, but that will limit the platforms/software that we can use but opens doors to other civilian opportunities.
- Monica: I don't want to comment on this because of different opinions and I know that Prescott opened up the degree to foreign nationals but security is a top concern and there are problems with a few countries that we have commerce sanctions with that we should be on guard about training. The problem is, we can't tell who is a legitimate student just wanting to learn or if the student is going to use the training for harming people or our country. I do have students I mentor in India and they have all expressed that they would love to be able to study at ERAU. Example to answer your question: We have Mexican cartels hacking DHS drones now, should we not examine each individual from every country as a case-by-case basis? It is a very difficult subject to answer. My question is why is Prescott taking on this and WorldWide is not? Are the views different and isn't ERAU supposed to be a unified university at all campuses? Kind of a weird thing to me.—We are not teaching any material that is ITAR controlled in our curriculum; the student visa vetting process should resolve this issue.
- Travis: We already have EAR compliant versions of ICOMC2 through UNR/COCC; I would say there is no need unless they plan to use a vehicle that is restricted. May want to talk to DOHS to determine if there will be restrictions in the future.—Since we are primarily training commercial/civilian/public UAS operators of unrestricted UAS platforms, we removed this citizen requirement last year.

<u>Action Items:</u>

- Emphasize professionalism in the aviation industry and compliance with regulations—Through our flight training guidelines, our AS125 (Part 107 certificate), AS324 (global regulations), as we fly builds upon professionalism in some fashion.
- Should all ERAU students be required to have AMA membership (insurance)?—Since 14 CFR Part 107 was released in August 2016, we require all UAS minors and majors to obtain their sUAS certificate.
- Review course descriptions and outcomes to verify that we are meeting the ideal knowledge and skill set specified by the IAB (especially Monica and Travis's input)—We have

proposed catalog changes to respond to all of these recommendations, which will be fully implemented beginning Fall 2017.

- Require introductory ATC course for all students (anonymous)-- Adding a required ATC course to B.S. UAS program starting in Fall 2017.
- Use ICOMC2 to allow students to write software plugins for the UAS software, weather overlays, ADS-B, Jeppesen Charts, Engine outs (Kris Kokkeby, Boeing)—We have obtained INEXA (which is the commercial version of ICOMC2) and while students are becoming well versed in the operational use of INEXA, training them in writing software plugins is outside the scope of our operational program.

Situational Awareness—going from one point to another w/ airspace restrictions. Loss of link procedures. Where is the A/C going to land? Sim training. (Paul Runez, Boeing)—These topics are all covered in detail in AS473—UAS Simulations course required for majors, touch on these items in other courses.

Meteorology

Employment trends. Dr. Klimowski discussed various trends within NWS. It was noted that right now, there is a Federal hiring freeze.

Future of the field. For greater efficiency, NWS forecasters will be forecasting for a broader geographical region. This will require employees to have a good grasp of physical meteorology though a wider range of sub-disciplines.

Knowledge/skills. Dr. Klimowski emphasized the need for good communications and computer graphics skills.

Entry-Level Meteorologist Positions. It is currently a highly competitive market, with many more applicants than positions for aspiring NWS meteorologists. Alternative paths to the professional meteorologist positions exist for students, most notable the Pathways Program (the Pathways program is for current students and recent graduates). A post-graduate degree would also make a candidate more competitive, as well as volunteer experience at a NWS office.

It was also noted, with gratitude, that several enhancements to the Applied Meteorology program have already been made in response to NWS input from previous years.

Proposed Action Item - Propose industry participation in Senior Thesis and other capstone experiences. This will help students to build critical professional relationships.

What internship opportunities does your company offer students and/or recent graduates? Other than the application directly for career positions into the NWS, the "Pathways" program is available for students and recent graduates. Information on the program can be found here: https://www.opm.gov/about-us/careers-at-opm/students-recent-graduates/

Do you feel that ERAU Prescott candidates are adequately represented in your pool of applicants for these internships? Yes, very much so!

What services can Career Services offer you and your company to assist with your recruitment of interns and/or talent? If students are identified that are interested in the NWS as a career, facilitating communications between the NWS and the students would be beneficial.

To your knowledge, has your company posted positons on the ERAU EagleHire network? Not to my knowledge.

Finally, reflect a moment on what you would like to see from interns and/or entry-level talent in terms of career preparedness – i.e. What specific information would you like to see on resumes? What specific certificates/ratings/skill sets would be ideal for your company for an entry-level position? Any areas of improvement you would like to mention as a guide for Career Services as they work with students throughout the year. ERAU has already been very responsive to the industry needs, with the focus added on Emergency Response Meteorologists (based on previous IAB input). On resumes, we'd like to see experience in programming (Python, other scripting languages); interactions with emergency management and other core partners of the NWS, tangible communications skills (presentations, etc); as well as great grades in the core courses!

Safety

Dr. Bowen conducted IAB members on a tour of the BSS Department labs and facilities, including a demonstration by Dr. Fogleman of the motion capture system in the ergonomics laboratory and a tour of updates to the accident investigation lab. Faculty members with expertise in the occupational safety/industrial hygiene components of the MS program were included in the IAB meeting to provide information on those courses and programs.

The IAB first discussed the KSA needs for program graduates. Echoing what was said in the 2016 meeting, members reiterated the importance of "soft skills" in program graduates as a major need. In particular, graduates must demonstrate the ability to interact, engage with others, show self-management, and accountability. In addition, members talked about graduates being able to articulate and "define what 'good' looks like – and defining what 'safe' looks like" and also the "ability to recognize that you can't apply one tool to everything". IAB members concurred that the addition of a new core course in the MS program, "Safety Training and Leadership" could potentially include some of these skills and help address this problem. IAB members also suggested that student participation in corporate consulting activities or certification courses in addition to academic coursework may assist with skill development in this area.

IAB members also mentioned that consulting or certification opportunities marketed to non-students may provide revenue-generating opportunities for the department and student funding.

Dr. Bowen updated IAB members on progress of the program toward Qualified Academic Program approval from the Board of Certified Safety Professionals (BCSP); recommended at the last IAB meeting, the department has modified curriculum to better align with the BCSP domains and is in the process of preparing paperwork for submission to BCSP. IAB agrees that BCSP designation as a QAP would be a strong marketing opportunity for the program and aid in growth. One member cautioned however, that the CSP exam (for which students would be

eligible to sit following QAP designation) has a ‘heavy’ statistics component – the faculty will review curriculum as appropriate to ensure students are prepared for this aspect.

IAB members stated that most of the current equipment in use in the department appears current; it is important though that students be aware of safety management software programs that may be available (even just familiarity with their existence) and application of data from IH/OSHA measurement tools, rather than in the basic tool use.

Delivery format updates – IAB members were updated on the status of the executive MS-SS rollout, which met with much positive support and praise. IAB felt that the change to the executive format could open the program up to a larger audience and provide new focus and energy to the program.

Visibility/Success strategies – IAB discussed applications of the program to UAVs and Robotics as opportunities to create niche expertise in collaboration with other programs on campus. The department plans to investigate these opportunities and evaluate for feasibility.

College of Aviation, Industry Advisory Board

February 3rd, 2017

Time	Location	Topic	Facilitated By
0900-0915	Student Union	Welcome and Introductions	Dr. Brent Bowen, Dean CoA
0915-0930	Student Union	Career Services Brief	Ms. Merrie Heath
0930-1030	Student Union	Program Briefings	Department Chairs
• Applied Aviation Sciences			Dr. Curtis James
• Aeronautical Science			Dr. Juan Merkt
• Aeronautical Science (Flight Dept.)			Mr. Jerry Kidrick
• Safety			Dr. Erin Bowen
1045-1130	Campus	Abbreviated Campus Tour	All Attendees
1130-1230	Student Union	Lunch	All Attendees
1240-1340	Campus	Program Resources Tour	Program Chairs & Members
1350-1450		Program Breakouts	Program Chairs & Members
• Flight Line (F6)		AS – Majors	Dr. Juan Merkt
• Flight Line (F4)		AS – Regionals	Mr. Jerry Kidrick
• Flight Line (F3)		AS – Helicopter	Prof. Dawn Groh
• AC1/#302		UAS	Prof. Johnny Young
• AC1/#241		Meteorology	Dr. Mark Sinclair
• RASC/#115		Safety	Dr. Erin Bowen
1500-1530	Student Union	Wrap up and Closing	All Attendees

Encl (1)

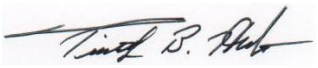
Hello,

As participants in our upcoming February 3rd Industry Advisory Board meeting, a list of suggested discussion points has been developed; they are provided below, and broken out by subject area. These are being sent now to permit you adequate time for your contemplation, as well as discussion about the topics with your managers and coworkers and for research, if required. As an experienced and knowledgeable representative of your company or industry, we're asking for your feedback and opinion. No written responses to these questions are needed prior to our IAB meeting. We only ask that you come prepared to discuss the issues that are pertinent to you and how they impact your segment of industry. We also encourage you to develop some discussion points and recommendations designed to help us improve our academic degree and flight programs in order for us to better prepare our graduates to be your future employees.

Please email me if you have any questions.

Thank you again for your great support and for devoting your time to this.

Sincerely,



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Encl (2)

Aeronautical Science (fixed wing and helicopter, as appropriate):

1. Without naming the names of specific institutions, how does ERAU Prescott's intern's and graduate's performance and professional knowledge/skills compare with those of students from other colleges/universities?

2. The Aeronautical Science Program Mission includes the following goals in the education of its students:

A. Leadership required by today's aviation professionals

B. Decision-making aptitude to assess situations and manage risk

C. Aeronautical knowledge required of an aviation professional

D. Critical-thinking and problem-solving skills necessary in aviation and related fields

Based on last year's IAB meeting, a Safety goal may be added to the program. We would like to get your feedback/comments on the adequacy of these educational goals.

3. Are there any technological changes and advances in your segment of the aviation industry that should be placed into ERAU degrees/programs/courses?

4. Are there any knowledge and skill areas that should be more/less emphasized in our curriculum based on job requirements in your segment of the aviation industry?

5. If you are in the Helicopter Industry, is having Flight Instructor Certificate and experience a must to gain initial employment in your sector of the industry?

6. In order of importance, what do you consider to be the top 5 issues of today, with regards to your segment of the industry and ERAU's College of Aviation degree programs and flight training?

7. What can ERAU do for your organization?

8. Does your organization have any new opportunities for student internships?

9. Given the current pilot shortage (please address if this is affecting your airline), how does your airline plan to approach pilot hiring in the near term? This question relates to the flow or pace of hiring given that if airline hiring of collegiate flight instructors occurs in large numbers at any given time, the impact can be devastating on the collegiate program an ultimately on the airline. In a related question, is your airline reducing flight/routes as a result of a lack of pilots?

10. What resume items/qualifications would you like to see on a flight instructors resume when you are considering them for a position i.e., multi-engine instructor upgrade, upset recovery training, etc.? If an instructor already has an ATP how does your airline look at that certificate that is; would you prefer the potential employee got that qualification as part of your hiring process or prior to applying to your organization?

11. There is an ongoing discussion on the use of technology in the cockpit as it relates to hands-on flying skills and systems monitoring. Please comment on how our graduates/instructors are prepared to meet the demands of your new-hire training and what if anything we can do to better prepare them either academically or in the area of pilot skills/knowledge.

12. Is the pilot shortage real or not? Why/why not? Is there an airline-sponsored solution?

13. Does ERAU have a bridge program with your airline and if so, how is it working? How can it be improved?

UAS

1. What would be ideal knowledge and skill set for a BSUAS graduate to possess when he/she enters the industry?

2. In what ways should we change the UAS minor to make it more cutting-edge (http://catalog.erau.edu/prescott/minors/unmanned-aircraft-systems/)?

3. In what ways should we change the BSUAS major to make it more cutting-edge (http://catalog.erau.edu/prescott/aviation/bachelors/unmanned-aircraft-systems/)?

4. What minimum simulation and flight training should we require for our minors and majors to graduate?

5. ERAU is planning on purchasing a mobile UAS Command Trailer in 2017 to support our new capstone course. What equipment and/or capabilities should be included in this resource?

6. What aircraft platforms should we acquire for training our students?

Meteorology

1. What are the employment trends in your organization (meteorology jobs)?

2. What is the future of the field, and what new opportunities will exist for meteorologists in the future?

3. What knowledge/skill will make meteorology graduates more employable?

4. What research or internship opportunities (paid/unpaid) exist in your organization for ERAU students?

Safety

1. What do students & new employees in Safety most need from the MS program in order to be successful (knowledge, skills, and abilities)?

2. Equipment updating – with what technology and safety tools do students need training and expertise?

3. How can we increase the success and visibility of the BS in Industrial Psychology & Safety program?


experience
Skills
pilots
UAS
aircraft
safety
requirements
curriculum
quadcopter
equipment
Trailer
systems
sensors
eBee
phantom
shortage
hardware
JetBlue
LIDAR
Pix4D
GCPs
thermal
Parrot
BSUAS
hired
SMS
GPS
GIS
BCSP
operations
autopilot
candidates
collaboration
consulting
AltusUAS
Velodyne
MissionCaster
NWS
Robertson
Operations
corporate
networking
scenarios
Autodesk
professionalism
hands-on
Teamwork
inspections
avionics
CRM
cockpit
train
Insitu
maintenance
partnerships
interns
intern's
M100
camera
cameras
multirotor
50-100K
vehicles
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successful
Management
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R-ATP
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M600
GSIS
G1000
C172
sprayers
AUVSI
3DR
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reliance
robotics
disasters
Deploy
SLAM
lab
demo
30X
solar
Lynx
FAA
QAP
wildlife
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