If you follow our faculty who contribute to the ERAU WW Globe blog, you may remember a few weeks back (Nov. 20) when our own Dr. Bruce Conway covered the topic of reflection. Bruce made great points about how most take this time of year to “take stock” of their accomplishments both personal and professional. Following Bruce’s lead, I’d like to take this opportunity to share some of the recent accomplishments of our team; the College of Aeronautics.

The ERAU Worldwide College of Aeronautics (COA) has experienced an incredibly successful and productive year. Fundamental to this success was the transition from a department to college structure on 1 Jul 2013. This structure allowed for the development of three separate departments; Department of Engineering Sciences, Department of Aeronautics Undergraduate Studies, and the Department of Aeronautics Graduate Studies. The college supports 14 academic degree programs (when considering our associate degrees) including the University’s largest undergraduate degree program (Bachelor of Science in Aeronautics) and largest graduate program (Masters of Aeronautical Science). The following is a list of activities and projects currently being pursued or completed within the last year from the COA.

MASTER OF SCIENCE IN UNMANNED SYSTEMS DEGREE

The Master of Science in Unmanned Systems (MSUS) degree is a recently approved new graduate program with the primary focus on the application of unmanned systems to support the growing and dynamic needs of the industry.

NEW ENGINEERING DEGREE PROGRAMS

The Engineering Sciences Department within the COA launched two new engineering degree programs, one leading to an Associates of Science in Engineering Fundamentals (ASEF) and the other a Bachelor of Science in Engineering Technology (BSET). This adds to the growing suite of engineering degrees offered by the COA that includes the Master of Systems Engineering.
AVIATION MAINTENANCE OPERATIONS MINOR

A curriculum change added an Aviation Maintenance Operations (AMO) minor course of study. The proposed minor can be included in any degree program with the exception of the BSAvM. The minor consists of 18 credit hours to reflect current aviation maintenance management principles in a global environment.

AABI ACCREDITATION AND SELF STUDY

The COA has submitted the final self study to AABI seeking accreditation or the BSA degree program. Six Worldwide site visits were conducted. The accreditation team’s final report will be submitted to the AABI Board of Trustees and a decision announced during the February 2015 AABI Winter meeting.

RESEARCH JOURNAL

The COA initiated the International Journal of Aviation, Aeronautics, and Aerospace (IJAAA) project, in cooperation with the ERAU Scholarly Commons, beginning in summer of 2013. The IJAAA went live at the beginning of January 2014. Within the first three weeks of operation, the Journal received 12 submissions. Among these, four have been published in the first issue which was released approximately one month after the initiation of the Journal. Our average editorial decision time has been 14 days. In the first month of operation, 150 unduplicated document downloads occurred from our site.

MOOC – THE HUMAN FACTOR IN AVIATION

In Aug 2013 and again in Mar 2014, Embry-Riddle Aeronautical University launched its first Massive Open Online Course (MOOC), The Human Factor in Aviation. The initiative started on a cautious note, limiting enrollment to 1000 enrollees. This enrollment cap was reached within 11 days and was an overwhelming success. The ERAU MOOC attracted a wide variety of people of various age, ethnicities, and educational backgrounds. Ages ranged from 16 years old to 56 years old, with educational backgrounds ranging from high school students to industry professionals holding Masters and Doctoral degrees. Participants were geographically located around the globe from 37 different countries with 76% being already employed in some capacity with the aviation industry. We had a total of 25 faculty and adjunct SMEs who volunteered to help with the MOOC on discussion boards, twitter, blogs, email, and any other aspect of the MOOC that requires attention. Combined, over 4,660 participants enrolled.

VIRTUAL LAB

Work was recently completed on the University's first virtual learning environment. The virtual crash lab allows students from around the world to have access to a commercial aircraft accident scene. Within this environment, students will be able to examine the scene, document evidence, and even interview survivors. This lab will enhance the learning environment for several of our safety courses. We will use this experience as we explore additional virtual environments that could ultimately change what we believe is possible with distributed asynchronous learning.
REAL WORLD DESIGN CHALLENGE

The Real World Design Challenge (RWDC) is a national high school Science, Technology, Engineering, and Math (STEM) design competition focused on introducing students to concepts, topics, and methods associated with engineering disciplines and real world challenges. The focus for the next five years has been identified as unmanned systems and precision agriculture. We at ERAU-Worldwide have been tasked with developing both the State and National challenges for RWDC, using a multi-disciplinary team of contributors from across the University.

UAS SHORT COURSES

The first professional development course focused on UAS was successfully launched at Las Vegas, NV in February. This two-day, continuing education unit (CEU) course was created specifically for professionals and specialists seeking to expand their understanding of the application, operation, and support of unmanned aircraft systems, specifically in regards to the considerations, regulations, policies, business opportunities, and challenges of the industry. This course is developed and taught by Embry-Riddle Aeronautical University - Worldwide faculty with UAS operations and research experience. Since the Las Vegas launch, the short course has had successful deliveries in San Diego, Seattle, Singapore, and Houston.

PROJECTS CURRENTLY BEING PURSUED:

ROBOTICS VIRTUAL LABORATORY

The COA along with its development partner Pinnacle Solutions is developing the next virtual learning environment; The Robotics Lab. This virtual environment will use Unmanned Aircraft Systems as the primary platform to design, test, and evaluate components, designs, and operational tactics. The environment will consist of a test bench, assembly area, and three separate flight environments.

SMALL UAS CHALLENGE

UAS enthusiasts had a chance to demonstrate their aircraft and skills during a Sept. 12-14 Small UAS Challenge in Reno, NV and again Nov. 2-3 at the Wings over Houston airshow in Houston TX. Sponsored by Embry-Riddle Aeronautical University – Worldwide COA, the free competition featured an obstacle course, dead lift and time trial. Eligible aircraft, which can be no larger than 36 inches and 10 pounds, required a vertical takeoff and landing. Participation was free and included complimentary general admission tickets to the National Championship Air Races at the Reno event.

ACCIDENT INVESTIGATION MOOC

The COA is currently designing the next MOOC, Aircraft Accident Investigation. This MOOC will feature the expertise within the College as well as highlight the capabilities of how technology enhances classroom by leveraging the existing virtual crash lab.

As you can see, our team has been working hard this year and we have tremendous opportunities still ahead. During 2015, we will continue our focus on quality and evaluation of our structure and processes seeking additional efficiencies. I'm incredibly proud of the amazing accomplishments of this talented team; I look forward to another productive year...Merry Christmas and Happy New Year!
The South Burlington High School seven student team, Next Level, won first place in the Real World Design Challenge national competition, November 15th, in Washington, DC. The Challenge this year was to design a UAS (Unmanned Aerial System), to be used for precision agriculture. The specific goal was to reduce specific crop losses caused by the European corn borer, targeting a 16,000 acre (25 sq. miles) Iowa cornfield.

Dr. Brent Terwilliger served as Challenge development lead, judging coordinator, and UAS technical advisor. Dr. John Watret (Chancellor) and William Hampton (VP) both served on the Blue Ribbon Panel of Judges. Also judging the presentation review was Dr. Robert “Buck” Joslin (ERAU adjunct, FAA, and ERAU PhD grad). Dr. Ken Witcher and Mr. Felix de Brito were also in attendance. The event was held Saturday 15 Nov. at the National 4-H Youth Conference Center in Chevy Chase, MD.

Additionally, the following ERAU faculty provided technical review of the Engineering Notebook Submissions:

**Full time COA Faculty:** Dr. Ian McAndrew, Dr. Adeel Khalid, Linda Weiland, Frederick “Ted” Thompson, Dr. Keith Earnshaw, Paul Nelepovitz, Joe Saxton

**Adjunct Faculty:** Dr. Andrew Shepherd, Benjamin Sears, Melissa Huffman, Dr. Timothy Holt, Michael Uenking, Fan-nie M. Hood-Kaveny, Shannakay Watson, Mark Andrews, Paul Ramirez

**Fulltime COB Faculty:** Dr. James Marion, Dr. Constatine "Dino" Koursasis, Paul Lange

**Daytona Beach Campus Full time Faculty:** Dr. John Robbins

For more information: [http://sbhs.sf.sbschools.net/](http://sbhs.sf.sbschools.net/)

See the presentation: [https://www.youtube.com/watch?v=fmXayaMEM64](https://www.youtube.com/watch?v=fmXayaMEM64)

Winning student team members included: Sai Andra, Daniel Chang, Clark Deng, Derek Gagnon, Alec Gelfenbein, Thomas Urbanak, & Daniel Yi.
The Houston Challenge

by David Thirtyacre, Asst. Professor, Aeronautics

The ERAU Worldwide College of Aeronautics conducted its second Small Unmanned Aerospace System (sUAS) competition at the Wings Over Houston Airshow November 1-2, 2014. The challenge, consisting of three events, showcased ERAU’s leadership in unmanned systems education and drew a large crowd for both the competition and demonstrations. The two day event was the first time the challenge incorporated the use of simulators and university-owned sUAS; allowing individuals the opportunity to fly a sUAS inside the “Drone Zone.”

The Houston Challenge was a challenge in itself considering the Drone Zone was constructed from scratch, on an empty tarmac. Everything from the netted enclosure, to the obstacles and simulation stations were built on site the week prior to the competition. The WorldWide team consisting of Scott Burgess, Tim Holt, Jeff Jorgensen, Brent Terwilliger, David Thirtyacre, and Kandi Windham joined forces to host the event. The Drone Zone, when combined with Matt Chapman’s aerobatic flying demonstration, was a strong testament of ERAU’s leadership in the aerospace industry.

Participants in the challenge were allowed five minutes inside the ERAU Drone Zone to complete each of the events consisting of weight lifting, an obstacle course and a speed circuit.

Justin Oakes was the clear early favorite with his home-built sUAS incorporating a first person view camera and goggles. He took home the obstacle course trophy and was the overall champion for the Houston Challenge. He also performed demonstrations with the larger DroneWorks sUAS to the applause of the crowd.

The sUAS simulation stations and the ERAU Virtual Crash Lab were a popular attraction on the flightline. After some brief academics, interested individuals entered the display area and donned the Oculus goggles to explore the Virtual Crash Lab or picked up a Futaba RC controller to fly the simulated sUAS. With proven flying skills on the simulator and direct supervision, individuals were allowed to fly an ERAU sUAS inside the Drone Zone.

With the success of the past two challenges, ERAU-WW has created an “Unmanned Flight Operations” department in the College of Aeronautics. Next year the department plans to team with marketing and develop a mobile platform to tour the country including sUAS challenges and demonstrations. For more information contact David Thirtyacre at thirtyad@erau.edu.
Latitude Awards—Dr. Brent Terwilliger, Dr. Todd Smith & the CoA all Winners:

The Latitude Awards – which honor the best and brightest ideas, practices, and accomplishments of Worldwide faculty and staff – was announced at the Worldwide Conference on Sept. 24, 2014.

And the Winners are…:

**Faculty Member of the Year: Dr. Brent Terwilliger**

**Outstanding Accomplishments in Research: Dr. Todd Smith**

**Models of Innovation: College of Aeronautics**
Honors & Awards

Dr. McAndrew Honored:
The chair of the Department of Graduate Studies in the College of Aeronautics, Dr. Ian McAndrew, was recently named a Fellow of the Royal Aeronautical Society, the world's only professional body dedicated to the aerospace community. Fellows belong to the highest grade of society membership and are recognized for their outstanding contributions to the aeronautics profession.

Patti Clark - New Editor for IJ Aviation Management:
Dr. Patti J. Clark, Program Chair BS Aviation Maintenance, has been appointed to take over the International Journal of Aviation Management. Dr. Clark is from the College of Aeronautics at Embry-Riddle Aeronautical University Worldwide in the USA.

Dual Enrollment Director, Dr. Tim Holt, Earns Ph.D.:
Tim Holt, the Director of Dual Enrollment Programs in the College of Aeronautics, is now Dr. Holt after recently being awarded his Ph.D. in Educational Leadership from Northcentral University.

#1 ranking for ERAU for online degree offerings:
Collegechoice.net has posted ERAU the #1 ranking on their site.

http://news.erau.edu/top-news/embry-riddle-worldwide-earns-no-1-ranking-for-online-education

http://www.collegechoice.net/rankings/best-online-colleges/

Industry Advisory Board tour the Thunderbird Facility in Las Vegas, NV—Oct. 2014
A year or so ago, I wrote about my experiences preparing and teaching my first online courses. I had been getting ready for both EagleVision and online classes, but the EagleVision one was cancelled for low enrollments.

Since that time I have taught three times online, and I am currently teaching my first EagleVision class, an EVH one. All remaining classes I am scheduled to teach this academic year will be online. My last time in a classroom was more than a year ago.

I had thought that my classroom teaching would be supplemented by online and the occasional EagleVision class. Now, I’m not so sure.

Statistics that continue to evolve from our Campus Operations and the Worldwide team indicate that online learning is capturing an ever larger share of the total class hours taught in Worldwide. Data from the WW Dashboard in ERNIE shows student registrations for online courses were 64 percent of total registrations for all of the 2013-2014 academic year; it is almost 73 percent for the August term of the 2014-2015 academic year.

According to the folks who handle the new centralized scheduling function, the number of classes that are scheduled in a traditional classroom is also dropping. EagleVision percentages are not changing as dramatically as those for online and classroom teaching modalities.

Why is this happening? Don’t students still value the direct, face-to-face interaction with their classmates and instructors? Will I ever stand up in a classroom again, telling stories about my career in NASA to make some points about the systems engineering topic I am teaching? Do we not have enough faculty members to keep on teaching classes in a building like we always have?

Some things I have been noticing over the past several years may help shed some light on all the questions I just asked. Around 10 years ago, with online in essentially the form it is today (Blackboard-based), the then-new technology scared a lot of students, for various reasons.

Although there were many good instructors who knew how to utilize the technology effectively — in a non-threatening-to-the-students manner — there were also a number who made the experience a poor one for their students by not paying as much attention to the class (“I just need to check in a couple of times a week.”) or who did not have the skills to promote rich and meaningful interactions through the online medium.

Also, while the technology was certainly better than the old distance-learning process of the Extended Campus (now known as Worldwide) mailing videocassettes of lectures to students and receiving tests in the mail to grade, it still presented challenges: We didn’t have the IT help capability the University offers today. If you didn’t have the correctly configured PC, you were in trouble. And woe be to the student who tried to take an online course using a Mac!
Finally, some courses required more special attention to student engagement and assessment than others, notably mathematics and science courses, where an online instructor could not see the looks of befuddlement in a student’s eyes when presented with totally new mathematical or scientific concepts. Understandably, many students who unsuccessfully tried an online version of a math or physics course swore off online education for those subjects and sought out the traditional classroom-based versions of the courses.

For example, I recall having 25-26 students in MATH 211 (Statistics with Aviation Applications) classes eight to 10 years ago. Several were taking the course for a second time because they had not done well the first time(s) around online; others were there because they did not want to even try the online experience. And, EagleVision was not a widespread option as it is today. It certainly looked like I would be able to continue teaching in a room with students in seats for a long time!

As we all know, however, distant learning instruction has been changing – improving – over the past decade. Renewed focus on the technology and pedagogy of asynchronous online instruction enabled ERAU Worldwide to step up to the very latest in this methodology, and Worldwide began to deliver online instruction that students actually began to prefer because of its flexibility and ability to go where they were.

For thousands of our military students deployed to conflicts in the Middle East, while there were some traditional classroom courses offered, online instruction became the best way to continue their Embry-Riddle education. The asynchronous mode made it easier for students who were seven to 10 time zones away from the U.S. to keep up with their work with U.S.-based professors.

As our military students quickly learned the benefits of a more robust online learning experience, so too did students in many other walks of life in the United States. The flexibility of 24/7 access to their courses became very attractive, as did the freedom from having to travel to a classroom once or twice a week – no matter how short the travel. Add to these benefits the reality that online courses seemed less likely to be cancelled because of low enrollments than classroom offerings; students could more easily continue on the path to their degree.

Even the launch of EagleVision Classroom to help combat the low-enrollment-at-a-single-location problem didn’t slow the migration of many students to the ever-improving online courses, which were becoming more and more available. EagleVision Home has helped with the travel-to-class problem, as well as combating low enrollment situations at single locations. EV-H is not slowing the migration of students to the fully online degree programs.

We in Worldwide know how to deliver quality online education in virtually all subjects, including mathematics and physics. Interaction and engagement among students and faculty in a course is much more robust than it was a few short years ago. Is it any wonder that the same MATH 211 where I had 25 students at a time in 2004 had less than a dozen last year?
Adjunct Instructors may Qualify for Reclassification to Adjunct Assistant Professor

by Lessly Robison, Assistant Professor of Aeronautics

In late 2012, the ERAU-W Faculty Senate approved the recommendation of the Promotion, Tenure, and Grievance Committee that active, terminally degreed ERAU-W adjunct faculty holding the title “Instructor” and teaching in the field of their terminal degree, be reclassified as “Adjunct Assistant Professor.” This initiative was subsequently signed by Chancellor John Watret and placed in Part IV of the Embry-Riddle Aeronautical University Faculty Handbook.

If your rank is Adjunct Instructor and you hold a Master of Aeronautical Science (MAS) degree, or other terminal degree, you may qualify.

The process begins with your submitting an Adjunct Faculty Request for Reclassification form. The form is located in ERNIE, Faculty Services tab, Forms and Instructions. Click on the link to the form, complete the information down to the signature and date lines. Either electronically sign and date, or physically sign and date with dark black ink and scan to a .pdf file, then forward the form to the College of Aeronautics.

For further information or assistance contact Shannon Stenberg at stenbers@erau.edu
In 2015, the College of Aeronautics is proposing a new Bachelor of Science in Safety Management (BSSM) degree program to provide students with knowledge and skills to allow them to operate as competent leaders, managers, and practitioners within the field of safety management. Students will develop not only technical know-how and expertise, but also a practical and analytical approach to problem-solving that will allow them to address a range of industry-related safety challenges. Indeed, this new program is not only aviation-oriented but its vocation is to be more general and to reach a wider range of prospective students.

In this day and age, safety management is a great opportunity to any industry and it is remarkable to know that transportation (aviation included) represents only 2% of industries in which safety professionals work. Business and industry other than aviation employ the vast majority of safety professionals. Insurance companies employ 22%, manufacturing and production industries employ 19%, petrochemical and consulting industries employ 15%, and construction industries employ 5% of all safety professionals.

Moreover, this new degree is not here haphazardly but it reflects a need and an awareness. A recent ERAU survey revealed that 65% of respondents (268) were either “Very interested” (34%) or “Interested” (31%) in a Bachelor in Safety:
This need for safety is not only an internal interest to ERAU but continues to grow in spite of a shrinking U.S. manufacturing base and even in bad economic times. Moreover, international standards protect workers everywhere and U.S.-based safety professionals oversee safety at facilities outside the U.S. Lastly, there is no reason to believe that the need for more safety professionals will diminish in the near future.

Concretely, what is this new Bachelor of Science in Safety Management?

- 11 Program Outcomes (4 BSSM specific Program Outcomes);
- An accreditation (ABET) volition;
- 122 credit hours and a large number of courses that are already offered in the ERAU-Worldwide campus as well as through Daytona Beach and Prescott campuses;
  - General Education: 36 credit hours;
  - Specific program support: 26 credit hours;
  - Safety Management: 42 credit hours;
  - Four specializations: 18 credit hours each
    - Occupational Safety Management;
    - Aviation Safety Management;
    - Construction Safety Management;
    - Emergency Management.

The proposed new Bachelor of Science in Safety Management is an opportunity for many prospective students who desire to obtain a degree from the world’s largest and most prestigious aeronautical university, and they will earn the opportunity to make the world a safer place.
Faculty Tips

Office 2013 Professional Suite Upgrade for your ERAU computer.

Office 2013 includes OneDrive and Lync, two exciting new apps for storage and communications.

1. If you are using shortcuts to access Outlook or other office programs, you will need to recreate the shortcuts
   Click Start, point to Programs, and then right-click the program you want to create the shortcut to.
   Click send to > Desktop.
   All Office 2010 icons should have been removed. If not, right click in the shortcut and click delete.

2. Open Outlook. This will start the update for Outlook. Your inbox will be empty until all of your messages are downloaded again. This may take several minutes depending on the size of your inbox.

3. Check your Outlook Junk email settings. By default, the Junk E-mail Filter protection level is set to Low Filtering. You can make the filter more aggressive so it catches more junk messages. The higher you set the protection level, the greater the risk of some legitimate messages being identified as junk and moved to the Junk E-mail folder. If you choose High filtering, check your junk folder frequently for legitimate email until you are comfortable with the setting.
   Click Home > Junk > Junk E-mail Options.
   Choose the level of protection you want.
   Click “Disable links and other functionality in phishing messages”
   Click “Warn me about suspicious domain names in e-mail addresses”

4. Check your other Outlook settings. You will need to reset any conditional formatting like using colors for specific emails. Check your signature, type font and any other customizations you have.

5. Review the attached Quick Start guide for Outlook. It will help you with number 4.

6. Go to lynda.com in ERNIE to review the Office 2013 tutorials or review the Microsoft Office 2013 Quick Start Guides.


Linc is Here!

Linc, a Microsoft product, replaces Skype and AIM for all of your instant messaging, video calling, and virtual meeting needs.
Training for Lync is available here:


Integrates with Outlook
Real time presence information from your Outlook Calendar
Share your Desktop and create polls
Collaborate using Whiteboard tools
Quickly and easily upload PowerPoint, Word, & Excel for presentation

Thanks to Brian Zipse for providing this information.
## Calendar Events

**Christmas Holiday**
Dec. 25th through Jan. 4th

**COA Leadership meeting**
Jan. 5th - Jan. 8th

**COA All Faculty EV meeting**
Jan. 15th, 6 pm PT, 9 pm ET

**COA All Faculty EV meeting**
Jan. 16th, 9 am PT, 12 noon ET

**COA All Faculty EV meeting**
Jan. 16th, 10 am PT, 1 pm ET

**Martin Luther King Holiday**
Jan. 19th

**UAS Workshop—Berlin, Germany**
Jan. 22nd - 23rd

**Senate Meeting EV**
January 27th at 10 am PT, 1 pm ET

**UAS Workshop—Las Vegas, NV**
Jan. 29th - 30th

**Presidents Day Holiday**
Feb. 16th

**HAI HELI-EXPO**
March 3rd - 6th

**CoA College Meeting - Hilton Beach Resort Daytona Beach**
March 17th—March 19th
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WW Service Center>Submit a request in the service center>Topic of Request>College of Aeronautics

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Send us your photos, stories, events, so we can feature your successes in the next COA newsletter. We welcome any comments, corrections or suggestions.
Please send them to stenbers@erau.edu

Canvas Training—Faculty sign up
http://www.trumba.com/calendars/canvas-training-for-worldwide-faculty