SAAC SKYWARD

Volume 2 Issue III
November 2013

UND AEROSPACE
UNIVERSITY OF NORTH DAKOTA

In This Issue

Upcoming Events

Veteran's Day	Nov. 11
Last day to drop	Nov. 15
Fall Safety Seminar	Nov. 19
Thanksgiving Recess	Nov. 28-29
Aerospace Hot Topics	Dec. 3
Finals Week	Dec. 16-20

CTI Best Practices Conference

By Prof. *Craig Carlson*

On September 24, 2013, the University of North Dakota, John D. Odegard School of Aerospace Sciences hosted the 7th annual Federal Aviation Administration Air Traffic Collegiate Training Initiative (CTI) Best Practices Conference. This marked the first time this conference was hosted by a University and not by the Federal Aviation Administration.

A significant change for this year's conference was an increase in the number of academic presentations. Dr. Rick Van Eck, Associate Professor at the University of North Dakota, gave a presentation on Video Gaming and Air Traffic Control Training. Dr. Donna Wilt, Associate Dean of the College of Aeronautics at Florida Institute of Technology, presented research on an ATC Scenario Based Physiological Training Program for Commercial Aviation. Terra Jorgenson, Assistant Professor at the University of North Dakota, presented her thesis on Delays in Hiring CTI Graduates, and Dr. William B. Coyne, Associate Professor at Embry Riddle Aeronautical University, gave a presentation on his role as CTI representative at the Airline Pilots Association (ALPA) annual meeting held in Washington DC.

David Cink, Grand Forks Tower Manager, gave a presentation on Terminal Facility Expectations for CTI graduates. Since he interviews many CTI graduates he wanted to pass along the following advice for students: dress for the interview, it's your career and your future; show the interviewer that you can think on your feet - be prepared, sell yourself, but don't be arrogant; speak proper language, no text or street slang; and remember this is not a check box exercise, you can be turned down at the interview stage and not be hired.

While preparing for his presentation, Mr. Cink asked his fellow facility managers from the upper Midwest for input on some of the reasons why trainees fail at their respective facilities. The first thing mentioned was attitude. They believed many people who fail training have the attitude that they have already made it; that they are just filling in blanks and their career is guaranteed with the hiring. They are often not motivated to train and would rather play video games on their breaks instead of correcting their mistakes and studying. He also stated that many trainees feel entitled to behave like they're already certified. They often make excuses for their mistakes and try to blame others.

Two University of North Dakota graduates, Scott Homan and Greg Krone, gave a presentation outlining their experiences as CTI grads who had progressed through the FAA system to become certified controllers. They both echoed David Cink's presentation by stressing that attitude is everything. They presented these keys to success: if you have a poor attitude you will probably fail; you need to be self-motivated and take responsibility for yourself and your training; and you need to show everyone at your facility that you are willing to learn.

Continued on Page 3

Research | Helipad Lighting

By *Prof. Gary Ullrich*

UND Aerospace has been leading the way researching new, efficient, and safe lighting configurations for helipad lighting.

The goal of the research is to find the minimum number of lights required at these helipads to still meet the two-mile visibility requirement. Through a series of nine lighting configurations and more than 1200 data points, conclusions were determined as to number, configuration, and setup of lights were determined and are contained herein.

Helicopters from the University of North Dakota flew a large series of night-time approaches to the helipad located near the Altru hospital in Grand Forks, collecting data which was then put through statistical analysis, allowing for logical conclusions to be made.

We had additional goals to continue experimentation with lighting configurations, exploring the various options and configurations to achieve the minimum distance of two miles for recognition while minimizing cost to the consumer.

A new test-bed helipad was constructed in Coalinga, California at the Coalinga Regional Medical Center (CRMC). This is an area of very little lighting, or what the FAA personnel refer to as the "black hole" approach to determine differences in recognition between the Grand Forks location (urban environment), and the nearly total lack of ambient lighting in the California location.

These flights were flown with two different helicopter companies in the Fresno area, with four different helicopter crews, including one flight with one pilot that was involved with the test flights in Grand Forks. This pilot helped to even the field, so-to-speak, with the exact criteria for official recognition.

The helipad research has yielded promising results that has received positive comments along with the attention from several countries in the international community.

Safety Hot Topic | SMS and You: Part 4

By *Frank Argenziano*

So far we have described the first three safety management system components: Safety Policy, Safety Risk Management and Safety Assurance. The remaining component that we will discuss is Safety Culture and Promotion. This is my favorite because I see it as an expression of a solid, effective SMS program.

Take a look at Section 4: Safety Culture and Promotion, of your SMS Manual. The first paragraph starts out; *"A safety effort cannot succeed by mandate only or strict implementation of policy. Where individual attitudes are concerned, organizational cultures set by top management establishes the tone that enhances the performance and efficiency of the entire SMS".* What this says is that policy in itself won't work unless there is a strong culture of safety within the organization. That culture consists of –*"values, beliefs, mission, goals, and sense of responsibility held by the organization's members".* Top management, in our case the Dean of UND Aerospace, sets the expectations for that culture, and expects that his management team, their supervisory staff, and so on down the chain will ensure that the culture of safety is maintained. Another way of putting this is "doing what we say we do."

The second paragraph talks about additional safety sub-cultures that make up the UND safety culture, of which there are five: Reporting, Just, Flexible, Learning, and Informed. Each of these has a specific roll within the UND safety culture. We will discuss them in detail in later editions of SAAC Skyward, but for now a brief summary will suffice.

Reporting safety culture: If you don't know what is wrong with your organization, you can't fix it. The people that use the organization's services every day are the ones that see the problems. They need to report those problems with confidence that they won't get in trouble for reporting them.

Just safety culture: We are human consequently we make mistakes. If we report our mistakes we know that we will not be punished for it. By the same token we understand that we will be held accountable for acts of gross negligence or willful disregard.

Flexible safety culture: In high tempo operations decisions sometimes have to be made without the ability to discuss with higher authority. With proper training and experience we understand that, in the interest of safety, individuals may deviate from normal procedures.

Learning safety culture: If we learn something from the reporting culture, but don't make the necessary changes and put it to use, that information is of no safety value to the individual, or the organization.

Informed safety culture: By the same token if we learn something and make the appropriate changes in how we do business, but we don't keep everyone in the organization informed, we will continue to experience the same safety issues.
These 5 sub-cultures and how well we apply them will determine how good our safety culture will be.

What about safety promotion? We promote safety and safe behavior by providing appropriate training to everyone in the organization, by consistently making our organizational safety expectations known, by performing audits and reviews to ensure "we are doing what we say we do", and by recognizing those who contribute to the safety of the organization.

That is Safety Culture & Promotion in a nutshell.

If you have any safety related questions or concerns about flight operations please contact:

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If you would like to make a confidential safety report or learn more about safety at UND Aerospace, visit:
http://safety.aero.und.edu/

ATC Best Practices Conference, Continued…

Jim Doskow, Acting Deputy Manager from the FAA's Air Traffic Division, reported on training at the FAA Academy in Oklahoma City. Initial Tower training at the academy is 37 days and has a 95% pass rate. Terminal Radar Training (RTF) is 22 days and is pass-pass. The reason RTF training has no failures is because students don't usually start their careers in a terminal radar facility. Normally, a new hire will go to a tower or center to start training. Many new hires will go to an "UP-DOWN" facility like Fargo that has both tower and terminal radar. In these cases the new hire will initially go to the academy for tower training, then report to the assigned facility for on-the-job training (OJT). After completing tower certification, the trainee will go back to the academy for RTF, then return to the facility to complete radar training.

En Route training at the academy is 63 days and has a pass rate of 75%. Historically, En Route training had a pass rate similar to initial Tower training, however, at the request of the En Route facilities to become more of a "screen" and eliminate training failures earlier in the training process, the academy revamped its training program. Instead of 63 days of training coming down to whether or not the trainee passed the Performance Verification (PV) at the end, the new system is cumulatively graded. With this new system there are many graded and weighted items throughout the curriculum. At the end of training the trainee needs a cumulative score of 70% to pass. The academy is currently in the process of revamping Tower training to a cumulative grading system like the En Route program.

Mr. Doskow also stated that the FAA Academy has been told to prepare to train 1176 controllers from January through September, 2014. Of the 1176, there will be 558 for initial En Route training and 502 will be for initial Tower training, with 114 transfers, and 116 for RTF.

Terry Craft, Manager of External Training Initiatives for the FAA, gave an update on the Collegiate Training Initiative (CTI) program. He presented an outline of the changes to the hiring system that would apply to anyone who has not taken the ATSAT test. There are currently about 3,000 graduates from the CTI schools waiting to be hired. Of these, 800 have Temporary Offer Letters (TOL) and those 800 TOL's will be honored.

Under the current system a student is assigned a facility before arriving at the FAA academy. From that point on there is no way for the FAA to change that student's destination. For example, a student is assigned Atlanta Center but while he/she is at the academy, the FAA has need for people at Chicago Center. Since the student was assigned to Atlanta there is no way for the FAA to reroute him/her to Chicago. Another common problem seen by academy instructors is people going through the system that are assigned facilities in which they have little or no chance to certify due to complexity and/or traffic. Then months or years later, when that trainee fails at that facility the FAA must spend more money to send him/her back to the academy to train for a lower level facility. Sometimes the reverse is true. Students may be assigned a very slow facility but the instructors can see they have the aptitude for a much higher level facility. In all of these cases, under the current system, there is nothing anyone can do but let these people go to their assigned facilities.

Instead of the current system, where a CTI graduate would choose two states in which to work, the applicant would apply FAA wide, and be assigned initially to the academy at Oklahoma City. Once at the academy everyone would go through an initial testing process to determine suitable placement; i.e. Tower or En Route training. This training would be cumulatively scored. At the end of the training the students would be ranked according to their final grades with the first pick of available facilities going to the student with the highest score, the next pick going to the second highest score and so on. The changes to the system will allow the FAA to be able to hire on a more "real time" basis.

Mr. Craft also mentioned that there will probably be a General Public (off-the-street) announcement for ATC positions. Since the FAA has always listed the Air Traffic Control Specialist job as an entry level job there is no way for them to deny people with no experience or background the opportunity to apply. The FAA will award preferences for different experience such as a CTI graduate or a veteran. It has not been decided exactly how the FAA will give preference, but CTI graduates, based on their experience, would be given hiring opportunities before "off-the-street applicants."

Modernizing AIMS for Electronic Flight Bags

By *Kyle Koukol*

When it comes to adapting to new changes in technology aviation has always been on the slow side. However, that changed when Apple released its signature iPad. When the iPad was introduced in April of 2010, aviation was taken by storm. Shortly after the tablet computer's release ForeFlight was provided to the general public, and the way we did preflight planning and in-flight operations were changed forever. Pilots were offered every piece of information they could ever ask for at the tip of their fingers; it became virtually effortless. The Electronic Flight Bag (EFB) had been created.

Due to the need for young pilots to develop the fundamentals of flying before becoming over-reliant on technology, The University of North Dakota has been searching for the right balance between technology and pilotage to bring into their world class training program. UND decided to allow the iPad and similar devices to be used for training beginning in the fall of 2012, and thus far has proven to be incredibly successful. During this time, the administration started to realize the need for a mobile-based AIMS interface.

Enter the challenge of building an app for the Android and iOS market. Considering cost and who would ultimately be paying (the students), the administration decided to build a web-based interface of AIMS that will be capable of being used on iOS, Android, and Windows based operating systems – really any device that can access the internet.

What will this web-based interface contain? According to the AIMS developers, users can expect a form of scheduling that allows the user to view schedules, flight account balances, current flight restrictions, and access links to phone numbers and important documents. Current flight restrictions are also available online at sof.aero.und.edu.

After the beta testing is complete with airport officials and instructors, the AIMS website will be released to the rest of the student population, hopefully by the end of the fall semester.

In the future the students can reasonably expect to see an even more in depth EFB utility from this new website, including weight and balance and automatically generated performance numbers.

Despite the lengthy development process, the University is now fully stepping into a technology enabled world of the EFB.

UND and the Infoshare Conference

By *Prof. Brandon Wild*

This past September, Professor Jim Higgins, John Walberg, and I attended the FAA's Aviation Safety Infoshare conference in Atlanta, GA, commonly referred to as Infoshare. This conference is held twice each year, and is a way for aircraft operators to share safety data with one another. This safety data is from either an operator's Flight Operational Quality Assurance (FOQA) program or Aviation Safety Action Program (ASAP). These programs are the two biggest voluntary safety programs in the aviation industry today. FOQA analyzes recorded data from the airplane, while ASAP involves an employee (usually a flight crew member) filing a report on an issue they have had or seen. Infoshare is a conference that is designed for operators who have one or both of these programs to learn from what other operators are discovering through analysis of their data. Infoshare had its beginnings back in the 1990s with an FAA sponsored FOQA demonstration project (known as Demoproj) with the first US FOQA participants; United, Continental, Alaska, and USAir. The stipulation for attending the Infoshare conference is that an aircraft operator must be participating in either a FOQA or ASAP program, or both.

At UND, we have a FOQA program that currently is analyzing data from our fleet of C172 aircraft. We also have a full-time FOQA analyst, John Walberg, working in our program. Because of our FOQA program, UND is the first university to be invited to attend an Infoshare conference. In fact, during the first Infoshare we attended, last spring in Denver, CO, we were also asked to give a presentation about our FOQA program. As 95% of the attendees are airlines, they were very intrigued that a university has a FOQA program. Personally, I enjoyed being in on the first Infoshare presentation by a university, as I participated in some of the very first Demoproj meetings while with United Airlines.

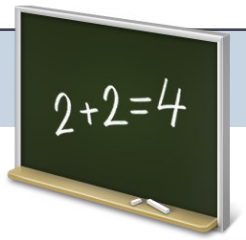
At the conference in Atlanta, we did not give a presentation, but instead spent the time learning about other operator's FOQA programs and issues that they are having. Because of the confidential nature of the data that these programs discover, all participants agree to not disclose what is talked about during the conference, and there is no media coverage of the event. Even with these rules, notes can be taken and lessons can be learned, they just cannot be attributed to a particular operator.

Speaking with other conference attendees during breaks, or over dinner in the evening, there were a lot of questions for us as to how a FOQA program at a university works. Everyone we spoke with about UND already had a high regard for our aviation training program, but were even more impressed that we are willing to invest the time and resources into a proactive safety program like FOQA.

UND has already been invited to the next Infoshare conference, taking place in Seattle, WA in the spring. We will be presenting an update on our FOQA program, and hope to also share some safety findings with the other attendees. If you would like to hear more about Infoshare, or to learn more about how our FOQA program operates, please come and see me or Professor Higgins.

Arithmetic in Aviation

By *Christi Ecrivian*



In last month's issue of the Skyward there was a miscalculation concerning the age of Air Balloon flight: 1783 was 230 years ago and not 220 as I had inaccurately reported. It's true – I verified this information with multiple calculators. But the problem wasn't simply that I had made a calculation error when writing the article. I also failed to realize the error existed until after the article was published when it was discovered by an observant reader. After the initial embarrassment of my mistake, I decided the slip-up was trivial and that no harm was done. But then I began to ask myself "how important is attention to basic math skills in the aviation industry?" Of course, everyone makes simple mistakes like this on a regular basis (I know I do), but could these "simple mistakes" cause complex or even dangerous problems? I decided to do some poking around and found some interesting research concerning this very issue.

The Australian Transport Safety Bureau (ATSB) published a report in 2011 documenting 31 instances in Australia and globally where the erroneous calculation or entry of performance data resulted in an aircraft incident. The consequences of these errors ranged from negligible effects all the way to tail strikes, rejected takeoffs, and runway overruns.

In 1991 a cargo flight that was to be operated between New York, NY and Brussels, Belgium crashed on takeoff because the takeoff performance was miscalculated. The flight engineer calculated V-speeds and horizontal stabilizer trim settings with a takeoff weight that was 242,000lbs instead of the actual takeoff weight of 342,000lbs. As a result, the captain could not get the aircraft to rotate and takeoff at the V-speed calculated and in an attempt to reject the takeoff, overran the runway. The aircraft crashed into the instrument landing system equipment, while also having its engines and gear sheared off. Fortunately, the three crew and two passengers were able to escape before the aircraft was destroyed by fire.

A more recent instance of erroneous calculations was in 2008, when a Boeing 767 encountered a tail strike because the Zero Fuel Weight (ZFW) was used instead of the actual Takeoff Weight (TOW). During pre-flight planning, the first officer entered the ZFW into the computer takeoff program, which calculated significantly lower V-speeds for the takeoff roll than what was required. During the takeoff roll, the captain delayed the V1 call by 10-15 knots as he believed the slow acceleration on takeoff was because the aircraft was heavier than calculated. As the aircraft rotated, an annunciator indicated that the tail-skid plate had struck the ground. The captain applied full power and soon after the stall indication (stick shaker) briefly activated as the aircraft continued its climb.

The ATSB concluded its report stating that "these types of events occur irrespective of the airline or aircraft type, and that they can happen to anyone; no-one is immune." The ATSB provided some possible solutions for avoiding these kinds of errors, such as cross-checking procedures for crews to use with each other, automated aircraft systems that check data entered, and proper crew planning so that experienced crews are flying the aircraft. The origins of these errors are many, but the research conducted by the ATSB shows the need for solutions that will address both the detection of these errors and the mitigation of the effects these errors cause.

The report discussed in the article is titled "Takeoff performance calculation and entry errors: A global perspective" and can be found online at www.atsb.gov.au.

Alumni | After Graduation…

By *Matthew Kalouner*

The road to a major airline is not always an easy one, but it is a fun one as long as you stay positive. I started down my road when I got my private pilot certificate on Boeing Field in Seattle, WA at age 16. I knew I was hooked on flying and after touring UND; I knew it was the school for me.

> …the important thing for you to do now is enjoy your time at UND, learn from your instructors, and continue to better yourself as a person, and as a pilot.

My time in North Dakota was filled with activities. Aside from the normal college "stuff," that I look back on so fondly now, I was on SAAC, SAMA, joined a fraternity, gave tours for the school, and flight instructed. I also completed two internships that both led to jobs after graduation.

One of those internships was a bridge program with Atlantic Coast Airlines (ACA). I was working for the Chief Pilot in Chicago, about to start new-hire training, when the horrific events of September 11th put everything on hold. Airlines were furloughing, classes were cancelled, and the economy started to sputter.

Events outside of my control had knocked me off the "fast track" to the regional airlines and I found myself back in Seattle flight instructing. After gaining 1000 hours of total time and 100 hours of multi time, the regional airlines were starting to hire again even as the major airlines were still furloughing. And so I started my airline career in CRJ ground school.

The challenges of going from the right seat of a Seminole to the right seat of a CRJ in 2002 were many. About 20% of my new-hire class at ACA did not pass. Today, UND Aerospace has adapted its program to better prepare you for moving directly into jet aircraft after graduation. But in 2001, the UND CRJ course did not exist and so passing airline CRJ training was no small feat. It taught me a valuable lesson that after you passed the interview, you still had to pass training.

Flying a jet out of Chicago for a top notch regional airline was a fantastic start to my career. But then United Airlines went bankrupt and Atlantic Coast Airlines lost 85% of its contracts to fly for its mainline partner. Suddenly, I found myself working for a company that had to adapt to survive and it renamed itself Independence Air. The company began operating as a stand-alone low cost airline. It was an exciting place to work until the furlough notices went out to every single first officer.

The 800 of us who were furloughed were lucky in 2005 that there were quite a few job opportunities available to us. So, three years after starting my airline career, I was once again sitting in CRJ ground school. After a couple of years, I took the first upgrade my seniority could hold which meant transitioning to the EMB-120 turboprop in Salt Lake City. The only problem was I had never flown a turboprop.

Alaska Airlines 737-400 in Juneau, AK

Although this was not as difficult a transition as Seminole to CRJ, I was combining a change from First Officer to Captain with flying a brand new aircraft. Once again, I buried my nose in the books and earned my type rating and my fourth stripe.

Shortly after I started building Turbine PIC time, major airlines stopped hiring and the economy headed for rock bottom. In addition, the mandatory retirement age was raised from 60 to 65. Every single professional pilot was put into a holding pattern for 5 years as our careers stagnated. But just because you are experiencing a setback doesn't mean that there aren't opportunities available to better yourself.

I was lucky to still be employed and hang onto my captain seat, and I applied to join the training department at SkyWest. After an extensive interview and training process, I became a Line Check Airman responsible for conducting Line Checks and Initial Operating Experience with new pilots. It was a lot of fun and taught me a lot about the airplane and my piloting abilities. It is true that you never really know a subject until you try to teach it.

Finally, after September 11th, bankruptcies, furloughs, economic collapse, and a higher retirement age, the major airlines started to hire again. While at UND, I had completed an internship with Alaska Airlines and that helped to get me an interview in the first round of invites. Ten years after graduating and I was hired at a major airline!

I have been at Alaska Airlines for two years now and the variety of flying, from Hawaii to Trans-Cons to Southeast Alaska, is a lot of fun. It is easy to look back at your career once you have reached your goal and remember the good times you had along the way, but the real challenge is to enjoy the journey as it is happening. I often got frustrated when I was "waiting" for the next step, but those setbacks actually presented me with opportunities.

So for those of you who are already getting caught up in the race of making it to your destination, relax. The numbers are all pointing to a pilot shortage and the important thing for you to do now is enjoy your time at UND, learn from your instructors, and continue to better yourself as a person, and as a pilot. If you do that, you will no doubt be able to reach your goals even if there is some turbulence along the way.

Add a Space Studies minor to your Aviation degree!

A minor in Space Studies is available to introduce students to the complexities of research, development and operations of a wide array of space ventures. The multi-disciplinary nature of space activity immediately becomes evident, allowing the student to correlate the space experience with high-tech areas in a major field of study.

Political, legal and scientific aspects are dealt with and key technologies are introduced. Students majoring in aviation have found the space studies minor to be a unique and exciting opportunity offered at UND.

Visit the Space Studies Department for more info - Clifford Hall, 5th floor, or call 777-2480. Check us out at www.space.edu

FAA Safety Team Presentation, Dec. 4th at 6pm

The FAAST (Federal Aviation Administration Safety Team) is an organization within the FAA that comprises of members who make a conscious effort to promote aviation safety and become part of the shift in safety culture. Team members are not limited to the FAA but other organizations, businesses and associations that support the FAASTeam at a national level and who have vested interest in aviation safety.

UND Aerospace has FAAST representatives who conduct safety briefing once a month. December's briefing will be presented by a group students majoring in Flight Education.

TOPIC: Winter-Weather You Are Ready Or Not!

DATE: 4th, December at 6PM in the Atmospherium

For more information regarding the FAA Safety time, go to:
www.faasafety.gov

Internship Spotlight | Boise Airport

By *Amanda Pearson*

Since choosing Aviation Management as my major at UND, I've been torn between whether I want to pursue a flying career, or work in airport management. I absolutely love flying but personally, I also wanted to see what working in Operations at an airport would be like. Last spring, I decided to search for an internship at an airport. Sure enough, I received an email from Kim Higgs that there was an internship opportunity at the Boise Airport in Idaho. I thought, why not? I applied online, had a phone interview two weeks later, and then received the call that I was selected!

Amanda Pearson at Boise Airport

I was the Boise Airport's first and only Operations intern. They allowed me to build the internship based on my career interests and let me choose where I worked each day. I spent the first few weeks learning how to work in Operations and completed all of the training that any new employee would complete. I was able to participate in Part 139 training, FEMA National Incident Management System courses, Wildlife Hazard Management and firearm safety (yes, they gave me a shotgun!), winter operations, and several other training opportunities. I enjoyed being treated as part of the Operations team and received first-hand experience working alongside them during incidents and routine inspections.

I learned more and more about the airport industry every day. I even had my very own office, with a view! There is a lot more to the operation of an airport than just management and specialists. When I wasn't working in Operations, I went and shadowed different departments including Airport Administration, Airline Management, Airline Dispatch, Airfield Maintenance, and Aircraft Rescue and Firefighting. The Boise Airport is in joint-use with the Air National Guard so I was able to tour their side of the airport and fly the A-10 Thunderbolt II simulator! My favorite part about the experience was all of the people that I met and hearing the stories on how they got to where they are today.

The management team at the Boise Airport helped me envision myself developing a career in airport management. It really changed my perspective on the different aspects of the airport industry. Internship experiences are essential in discovering what you really want to do, and where you want to go after graduation. You learn so much more gaining that first-hand experience and the connections you build will benefit you throughout your career. The Boise Airport Director, Rebecca Hupp, expressed that the aviation world is a very small one. The impressions that you make right now *will* affect you later down the road, so make them count!

For more information about Internships

visit
www.aviation.und.edu
and click on the "Current Students" link on the left and select "Internships and Co-Ops."

You may also stop by Student Services on the second floor of Odegard Hall for further questions.

September CFI and Student of The Month

Instructor: Richard Wills

I believe my instructor, Richard Wills (RWIL), should be the instructor of the month for September. On the surface, Rich has allowed and helped me to be at the forefront of my AVIT 414 ground school. Rich has made himself incredibly flexible (while still catering to ALL his other students). We have averaged over four activities per week. The math is simple, Rich is literally exceeding the standard he is being held to by a factor of two! Rich is a cut above the rest in many areas that cannot be measured. Rich has been the most enjoyable instructor I have flown with. Throughout the course of my practice flight instruction, Rich has utilized a large array of tools to make lessons clear to me.

Student: Ryan Nickell

I would like to nominate Ryan Nickell for student of the month. In the month of September Ryan worked very hard at staying ahead of template and at one point we were 4 lessons ahead of schedule. This has a lot to do with Ryan studying every night and coming prepared for each of our lessons. I've never met a 102 student that reads as much as he does. This increases his ability to ask good questions. He is able to correlate his knowledge from the books to what he learns in the air. When I ask him to do something he does it without any further prompting. Finally before we even started 102, Ryan took the time to prepare for the course by attending every orientation provided. This put him far ahead of his peers from lesson 1 on. He knew what to expect in 102 and was prepared by having his TSA clearance already started before we met for the first time. I know that if he keeps doing what he's doing he'll be done with 102 ahead of template.

WANT TO CONTINUE WITH A M.S. IN SPACE STUDIES?

Space Studies offers a Master of Science degree requiring a minimum of 33 credit hours. This interdisciplinary program studies the implication of humankind's entry into space: the scientific, political, legal, and social impacts, on a national and international level, that are associated with the evolutionary development of a new extraterrestrial frontier. Also emphasized are the environmental and resource management possibilities afforded by the new information from Earth remote sensing satellites. The Space Studies program at UND will give motivated students a working knowledge of the overall picture so they can become the planners, managers, researchers, troubleshooters, negotiators, and communicators of space.

The Master of Science in Space Studies is designed to prepare the student for positions in both the commercial and government sectors of the rapidly growing field of space exploration, development and settlement. Careers in the space community encompass all backgrounds, not just a few technical areas. Federal and state government agencies, aerospace companies, entrepreneurial firms, educational institutions, and the media all need people with good managerial and communication skills and a working knowledge of the full scope of space activities.

For more information about Space Studies call us at 777-2480 or visit us at Clifford Hall, 5th floor. Check us out at: www.space.edu.

From the Editor

I trust that we have all made it through mid-terms and are enjoying our few moments of peace before finals ensue in December. I'm excited to note that the Skyward is publishing it's first 8 page edition this month (hopefully it's worth the extra ink and tree)!

As we continue publishing the Skyward this semester, I would like to invite anybody in the Aerospace School to contribute articles for publication. Whether you are an undergraduate or graduate student (from all majors in aerospace), faculty member or CFI/Associate, we would love to make your contributions part of the Skyward monthly publication.

SAAC Skyward aims to help accomplish the two purposes of SAAC's existence: to act as line of communication between students and the administration and to inform students about issues at UND aerospace. Your contributions and input concerning this publication will help further these two goals.

Sincerely,
Troy Merritt
Public Relations

Items for SAAC Skyward may be e-mailed to Troy Merritt at SAACSkyward@gmail.com

Visit us at:
saac.aero.und.edu

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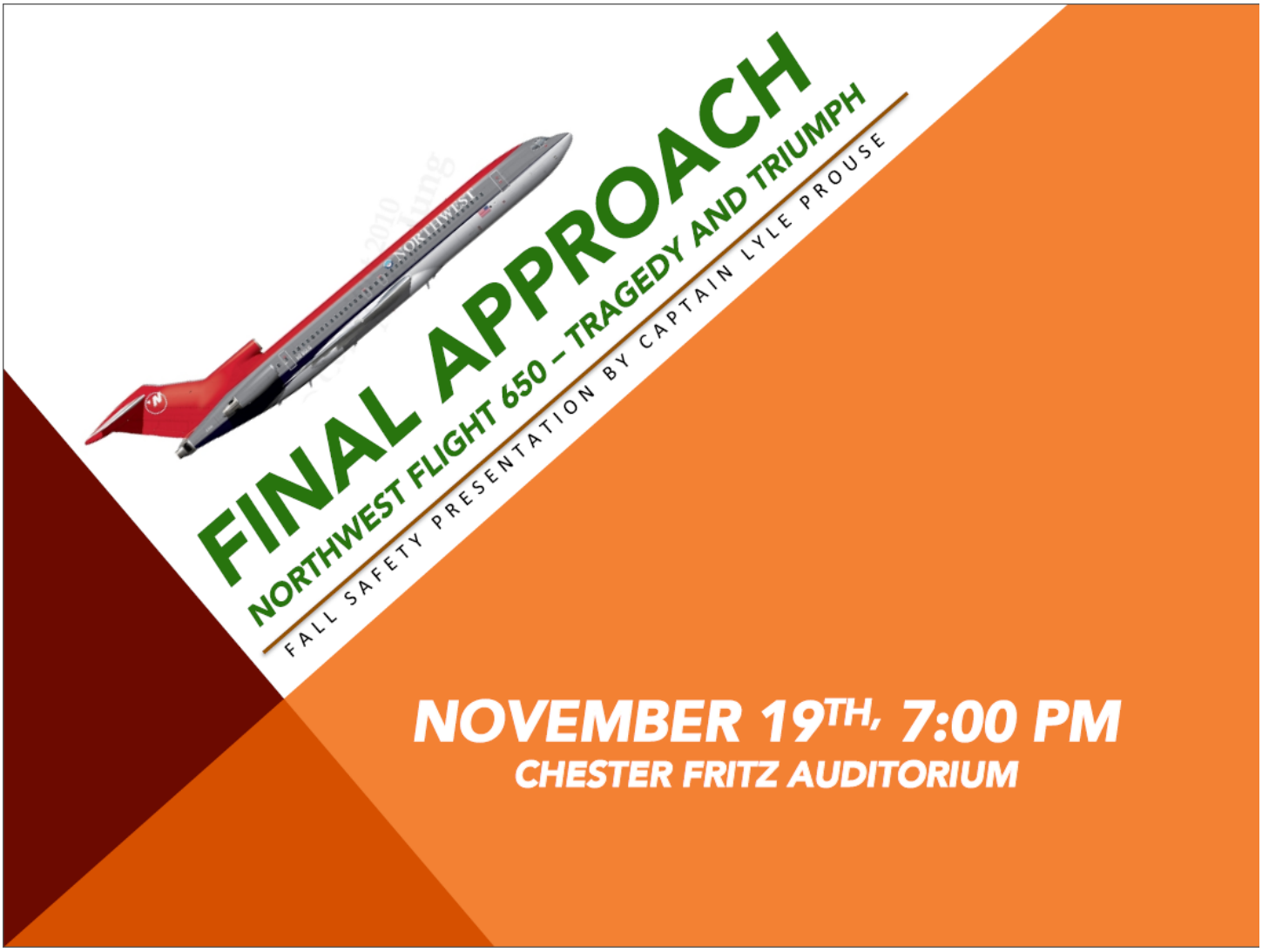

March 7th, 1990 is a day remembered by Captain Lyle Prouse as the last day of one life and the beginning of another. The next day Captain Prouse would become the first pilot to be arrested for flying intoxicated. On December 5th, 1990 Captain Prouse walked into federal prison stripped of his FAA pilot certificates, medical certificates, and airline career. Captain Prouse's story doesn't end there – after spending 16 months in Federal prison he got sober. Against all odds he returned to Northwest Airlines and retired as a 747 captain.

November 19th will be Captain Prouse's second visit to the University of North Dakota. As a second year student I attended his presentation, and to this day I remember it vividly. Captain Prouse speaks about deeply personal events; his battle with alcoholism, intense national humiliation, and his perseverance to overcome near impossible obstacles. His story is highly motivating and inspiring.

Join us on November 19th at 7:00 PM (doors open at 6:00 PM) in the Chester Fritz Auditorium to hear Captain Prouse's story.

WHAT:
Final Approach – Northwest Flight 650, Tragedy and Triumph – Presentation by Captain Lyle Prouse

WHEN:
November 19th, 7:00 PM (doors open at 6:00 pm)

WHERE:
Chester Fritz Auditorium – University of North Dakota Main Campus

WHO:
Presentation is open to the general public.

If you have questions please contact:

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