



Distribution Schedule

Due Date	Distribution
Wed. Jan 30	Mon. Feb 4
Wed. Feb 27	Mon. Mar 4
Wed. Mar 27	Tue. April 2

SAAC Skyward will be distributed to campus and airport facilities.

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

Upcoming Events

January 1	New Year's Day
January 8	Spring Semester Begins
January 17	Last day to add a class
January 21	MLK Day - no class
February 2	Groundhog Day
February 17	Presidents Day no class
March 11-15	Spring Break
March 29 - April 1	No class

Aviation 221 Accelerated Course

The Aviation Department created an accelerated 8-week section of Avit. 221 for the Spring semester.

Class Specifics:

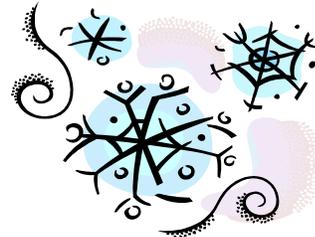
- Class will run from March 3, 2013 through May 10, 2013
- Class will meet on Monday, Wednesday and Friday from 1:00-2:50pm
- Students will still be expected to complete their flight training for Avit. 221 in the Spring semester.
- Students must have the schedule availability for a flight lab that meets 5 to 6 times a week.
- Class will be limited to the first 30 students

Class Registration:

- Registration into the class can only be accomplished by meeting with Elizabeth Bjerke or Bob Laux in person.
- Students MUST be done with the Avit. 102 stage 28 prior to registration.
- Students MUST have above a 2.50 GPA

If you are interested in registering for this class, and/or have more questions, please contact me either via phone (777-3922), email (ebjerke@aero.und.edu) or in person (Odegard Hall room 205).

Elizabeth Bjerke, Ph.D.
Associate Chair, Department of Aviation
Associate Professor
University of North Dakota
(701)777-3922



FAA Knowledge Test Practice

 *Answers are on the next page*



Private:

Altimeter setting is the value to which the barometric pressure scale of the altimeter is set so the altimeter indicates

- A) true altitude at field elevation.
- B) absolute altitude at field elevation.
- C) calibrated altitude at field elevation.

Instrument:

What is the first fundamental skill in attitude instrument flying?

- A) Aircraft control.
- B) Instrument interpretation.
- C) Instrument cross check.

Commercial:

In small airplanes, normal recovery from spins may become difficult if the

- A) CG is too far rearward, and rotation is around the longitudinal axis.
- B) CG is too far rearward, and rotation is around the CG
- C) spin is entered before the stall is fully developed.

Safety **HOT** Topic

It's 4:45 pm on a clear, cold winter day. The wind is out of the north at 5 kt, and the temperature is around 5° F and dropping. As the sun rapidly sets in the southwest, you contemplate your situation. Fifteen minutes ago you were doing ground reference maneuvers in a C172, but then the engine quit from what would later be determined as frozen moisture in the fuel line. You managed to get down with just some bruises, thanks to the airbag in your restraint harness, but the aircraft is on its back in about 6 inches of snow 20 miles southwest of Grand Forks. Even though it seemed like slow motion, things happened fast and you didn't have time to get on the radio, just barely completing the emergency checklist and finding a place to land. Hanging upside down in your seatbelt and a bit disoriented, you struggled to get out of the aircraft. Even opening the door took some thought because that was upside down as well.

Now that you are out and have accounted for all your fingers and toes, you realize they are getting cold, and your boots, gloves, cap and winter coat are somewhere in the aircraft. Getting back in is a struggle. Everything you touch – snow, the aircraft skin, the door handle – is painfully cold, but you manage to open the door and, after

some searching, find your winter gear lying on the ceiling. You also see the aircraft dispatch book and a strange thought crosses your mind – should you fill in the hour meter time and write up a discrepancy? Now, all you have to do is wait until someone finds you, which shouldn't take long thanks to the emergency locator transmitter. It isn't until you take a good look at the aircraft that you realize the ELT antenna is buried in the snow and probably broken off. You decide to use your cell phone to let the SOF know you are down but okay. Unfortunately, this area is weak on cell phone towers, and you get no reception. Suddenly you aren't as confident, and maybe a little worried. This part of the country is not well traveled, it is getting dark, and despite your winter clothing you are becoming chilled. You could be out here for a while. What will you do? What WILL you do?

Now is not the time to panic. You see some farm lights a mile away (or is it 4 miles?) and wonder if you should start walking. What is the rule? **STAY WITH THE AIRCRAFT!!** Although you now realize what you are wearing does not constitute “real” cold weather clothing, you do have options. The first is the winter cover you pulled off the aircraft during your preflight. While it may smell of oil and grease, it will help retain body heat if you wrap it around yourself. While you are get-

ting it out of the baggage compartment, you also retrieve the aircraft survival kit. It is in the clear, sealed plastic bag. Inside you find some useful items – hand warmers, which you want to make use of immediately; several large orange plastic bags, which can be used as a shelter, a barrier between you and the ground, a bag to crawl into to protect yourself against the elements, or as a visual marker; a first aid kit in the event you injure yourself; and finally, a signal mirror to get someone's attention once daylight arrives.

Don't waste time. You have a good idea of your situation, and you may not be rescued until tomorrow morning, at the earliest. Your first concern is to conserve body heat. Pick a spot by the aircraft that is protected from the wind. Layer your protective clothing, starting with your coat, boots, cap, and gloves. Wrap the winter cover around yourself, and use the orange plastic bags as an outer shell. You have already activated a couple of hand warmers, but don't use them all at one time. Each one should last up to 7 hours, and you may need them for a while. Now, settle down, conserve your energy, and wait. You're going to be ok.

Frank P. Argenziano
Assistant Director of Aviation Safety & Security

Next semester, Dr. Bruce Smith and Prof. Kent Lovelace will be on a sabbatical, meaning that they will not be around administratively. In Dr. Smith's place will be Dr. Paul Lindseth as acting Dean for JDOSAS, and Elizabeth Bjerke will be acting chair of the Aviation Department for Prof. Lovelace.

Answers to Test Questions:

1) A 2) C 3) B

November Winners



Flight Instructor of the Month Anthony Giacomelli

“Anthony manages his time very well, and by doing so he is always efficient with scheduling flights, cross countries and having time to meet with me when I had questions prior to stage checks. Earlier this week during a flight in the Seminole, we encountered an engine failure which resulted in declaring an emergency. Throughout the emergency Anthony and I stayed calm, professional, and managed to land the aircraft safely. Anthony showed professionalism, trust, and fantastic CRM, and made the emergency a positive learning experience for the both of us. With his true passion for teaching, his ability to stay organized and available for students and his professionalism at all times.”



Student of the Month Deven Romain

“I am nominating Deven Romain for student of the month in November due to his work ethic and drive to complete 102 on time and in an efficient manner. Deven was able to complete the entire 102 course in 12 weeks. Deven is the 1st student to finish 102 this semester which resulted in full flight points for stage check pass rate and progress, meaning the quality and quantity of training was well above average. Deven never lost motivation, even after being weathered for a week while trying to conduct his solo XC. This was just another hurdle that he was able to get over to exceed his goal of completing by the end of the semester while maintaining a 3.3 activity per week rate over those 12 weeks.”

Lessons from the King

An airplane's center of gravity limits ensure the arms to the flight controls are sufficient to provide stability and controllability. Normally minimum acceptable stability determines an airplane's aft CG limit and minimum acceptable controllability determines the forward limit. With a forward CG the wing must generate more lift to compensate for the tail's additional down force, which is needed to balance the moments. The additional lift comes from an increased AOA. An increased AOA means increased drag which translates to lower flight speed or the need for increased power.

The end effect of a forward CG means:

- 1) Stall speed increases 2) Performance decreases 3) Stability increases

The further aft the CG is, the shorter the wing and tail moment arms become. Performance improves with an aft CG because the airplane needs less tail tail-down force to counter the wing's nose down moment.

The end result of an aft CG is:

- 1) Lower stall speed – Lower AOA 2) Improved performance – less drag 3) Reduction in airplane stability

Ignoring the CG location can be hazardous to your health !

Two Flight Training Activities per Week

The flight lab is three days a week. Students are expected to treat their flight lab the same as a class or a part time job. If you are scheduled to work four times a week, odds are you go to work four times a week. If you have a class that is three days a week, odds are you go to that class three days a week. The flight lab should be no different as three days a week.

An incomplete grade is earned, not assumed. The flight training courses at UND are unique because it is a combination of academics and flight training. They work together. To earn an incomplete, a satisfactory effort must be made towards both academics and flight training. The main question is; how do you measure that effort?

In the 2011/2012 academic year, only 34% of UND aviation students received a grade at the end of the semester. Unsatisfactory grades are included in that 34%. Therefore, less than 34% of all UND aviation students were able to complete their course work in one semester.

There are a few reasons why this is happening. Many are being addressed, but the most visible is the incomplete policy. One of the primary reasons why students are not able to complete their flight training course in one semester is because the flight lab is not being utilized properly for the full length of the semester. Every semester has 49 opportunities for a flight training activity. To earn an incomplete in the fall 2012 semester, students were required to have 30 flight training activities. 30 of 49 was used to measure satisfactory effort for an incomplete grade.

Weather has been cited as a leading issue. This is true. Aviation is subject to the weather. Therefore, we need to adjust to it. Historically, the weather in November and December has not been that good. This reinforces the need to utilize the full semester not just the last few weeks. The weather in November and December 2013 will more than likely not be the best. Are we all planning ahead for that?

The overall goal of this policy is to have the flight lab utilized properly. Students that attempt to use their flight lab 3 days a week for the full 17 week semester should have no issue meeting this requirement.

As always, if you have any questions pertaining to the activity requirement please see your appropriate Course Manager.

101/102/112 – Brian Willis [701-777-7834](tel:701-777-7834)

221 & 414 – Paula Carlson [701-777-7851](tel:701-777-7851)

222 – Chad Martin [701-777-7966](tel:701-777-7966)

323 & 325 – Jeff Palmer [701-777-7854](tel:701-777-7854)

415 – John Rudolph [701-777-7940](tel:701-777-7940)

Keep up the great work and FLY SAFE!

Internship Spotlight

Weather Modification

North Dakota farmers have historically faced above-average crop losses due to hail and drought. These challenges have contributed to reduced crop yields and farm incomes. This led to the search for ways to manage these conditions, which could consequently improve the average farmer's way of life. One promising new technology was the emerging science of weather modification. The first cloud seeding activities on record in North Dakota occurred in 1951, performed by farmers using ground based generators. This was the beginning of what is today's North Dakota Cloud Modification Project (NDCMP). In 1961, the founders of Weather Modification, Inc. (WMI) began using aircraft for the program to suppress hail. This past year marked the 54th consecutive season of some form of seeding in Ward County. In the mid 1970's, there were as many as 17 counties in North Dakota participating in the cloud seeding program. The number has decreased due to various factors over the years, and currently there are 6 active counties in target areas that cover 10,425 square miles (or, almost 6.7 million acres) – nearly 15% of the state's area.

UND students have a unique ability to participate in the NDCMP as pilot-interns. To become a pilot-intern you must have your multi-engine commercial instrument rating before the project begins and have completed the Weather Mod classes through the Atmospheric Sciences department. Starting in the Fall 2013, students will only have to take Applied Weather Mod (Atsc 252), which is offered in the Spring semester to meet the class requirement for the internship. Pilot interns go to WMI in Fargo, ND to complete their High Altitude and High Performance endorsements in a King Air, allowing the intern to log some great multi-time and actual instrument time. This internship is based in the Western part of North Dakota flying a fleet of Piper Seneca II, Cessna 340s, and a Turbo Prop Cheyenne II. The internship lasts typically for 92 days. Interns do get paid \$11 per hour for their time.

Flight training at UND and many large flight operations have pilots avoid the dangers of thunderstorms by just evading and re-routing their path around actual storm. As a pilot-intern, you will learn and experience the proper way to fly in close proximity to mesoscale convective systems, because the two modes that are used to deliver the seeding material into the storm are by: releasing the material directly in the updraft by flying through the top of the growing turrets; or by releasing material in the updrafts/inflow near the base of the storms.

As a former pilot-intern of NDCMP and the current Co-Captain on the Atmospheric Sciences research Citation II at UND, I highly recommend this internship for the great experience, addition of multi-time, and the knowledge of severe weather flying. If you have any questions feel free to contact me. My office is in the hangar next to the 5 story building.

Stats were taken from the NDCMP Operations Manual and <http://www.swc.state.nd.us>

Jonathan Sepulveda, *Flight Instructor*
701-777-7852 jsepulveda@aero.und.edu

Need any extra classes?

Last day to add a class is Thursday, January 17

New Elective classes offered Spring 2013:

Aviation 310 — Public Safety Aviation

- Professor Al Frazier
- Tuesday and Thursday, 8:00-9:15am

Aviation 399 — Safety Management Systems

- Professor Gary Ullrich
- Tuesday and Thursday, 9:30-10:45am



The purpose of SAAC is twofold:

1. To act as a line of communication between the student body and the administration at the aerospace college
2. To inform students about issues at UND Aerospace

Spring 2013 SAAC Officers:

President– Christopher Brauckman

Vice President– Aaron Olson

Secretary– Dalfred John

Treasurer– Miles Laffitte

Public Relations– Amanda Pearson

Technology Chair– Nick Rocci

Student Outreach– Brent Eastes

Events Coordinator– Christian Smith

Get Involved!



Alpha Eta Rho is a Professional Aviation Fraternity, but don't let that scare you. We are not your stereotypical fraternity. We don't have big parties, we don't have go out drinking and we don't have initiations or hazing. Alpha Eta Rho is strictly a professional fraternity here to begin you networking as an aviation enthusiast. The only requirement for this fraternity is to be interested and excited to learn more about aviation.

As a fraternity we are connected to the National Chapter which has been in existence since the 1920s. With roots dating so far back, Alpha Eta Rho is nationally recognized in the aviation community. Being part of this national chapter can open doors to many conferences and job opportunities that may not have been previously available.

We are looking forward to this upcoming spring semester as it will be a very busy one. Just a few of the events we put on include the Parents Weekend and scholarship banquet, a yearly ice skating event at the Ralph main ice, and other outings. In addition to these events, we have monthly business meetings on Sunday nights. Join us for some good, safe fun with other aviation friends!

Any questions and additional information please email Paul Hering at paul.hering@my.und.edu

Visit us at
saac.aero.und.edu

**ALL Students are
invited to our weekly
meetings**

Sundays at 4pm
in Streibel Hall



From the Editor

Welcome back students and faculty!

The Student Aviation Advisory Council likes students to be kept informed on what SAAC is up to and what is going on at UND Aerospace. This newsletter will be distributed on the first Monday of each month, with items due the prior Wednesday. This is a newsletter created by students, for students.

Need help with an issue? Stop by our office, Odegard Room 101, and chat with us. We'd love to hear your ideas as well. Our council came together to bridge the gap of communication between students, faculty, and the airport administration.

SAAC conducts meetings every Sunday at 4pm in Striebel Hall. All students are welcome to take part in our discussions and voice their opinions on various issues. We have a lot of projects that we are working on this semester and we want you included. We hope to see you at some of our events!

Amanda Pearson
Public Relations

