



Photo: Paul Wesp

# New TCO Changes

**Faiza Ashraf, Vice President**

Students are still experiencing challenges adjusting with the recent changes in the Training Course Outline (TCO) for Instrument Rating and Commercial SEL courses. While you are facing challenges, it also brings some benefits. In the new Commercial TCO you can keep building hours even when you are done with your flight course for the semester. The courses are designed in a way where you would ideally have 55 hours at the end of each flight course, i.e. 55 hours in AVIT 221, 55 hours in AVIT 222, and 55 hours in AVIT 323/324. Now does this mean you cannot move on to the next course if you don't get 55 hours in one of the semesters? The answer is no. As long as you meet the course requirements you can register for the next course. However, if you don't get enough hours in one semester, these hours will keep

## IN THIS ISSUE:

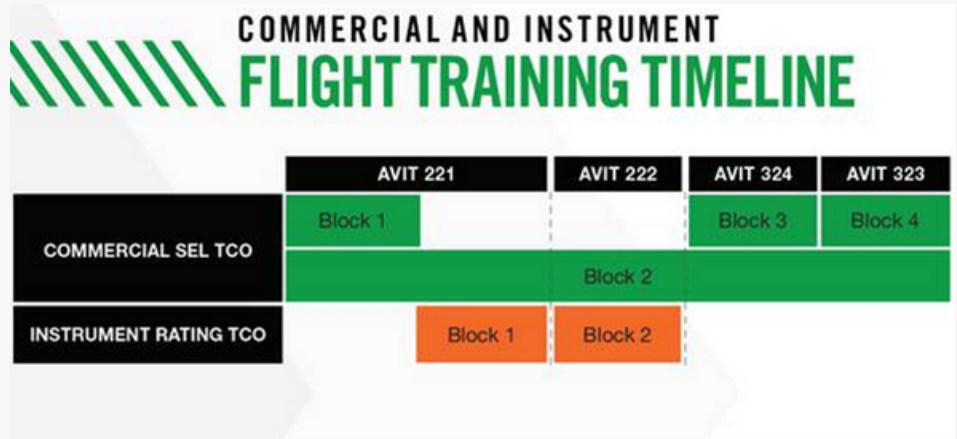
1. New TCO Changes
2. TCO changes, AtSci research
3. AtSci student research
4. Faculty Spotlight
5. New member, Scholarship Central, new shuttle route, contact SAAC

building up and ultimately you will not be able to take the final stage check for AVIT 323 until you meet all these hour requirements. So even if you are done with your flight course, keep flying! You can get solo hours or you can fly with your instructor. Get as much flight time as possible while you can. Realistically, it can be hard to get 55 hours in each semester due to various reasons, including weather, school, workload, etc. Don't be disheartened if you cannot get all the hours required in three semesters because they are expected to take about three and a half semesters to meet all the hour requirements. Hence, if you are taking longer, don't feel like you are falling behind.

## TCO Changes Cont.

Key Points:

1. Refer to the chart, build hours for Block 2 from the Commercial TCO even when you are done with your flight course.
2. Ideally you should have 55 hours each semester.



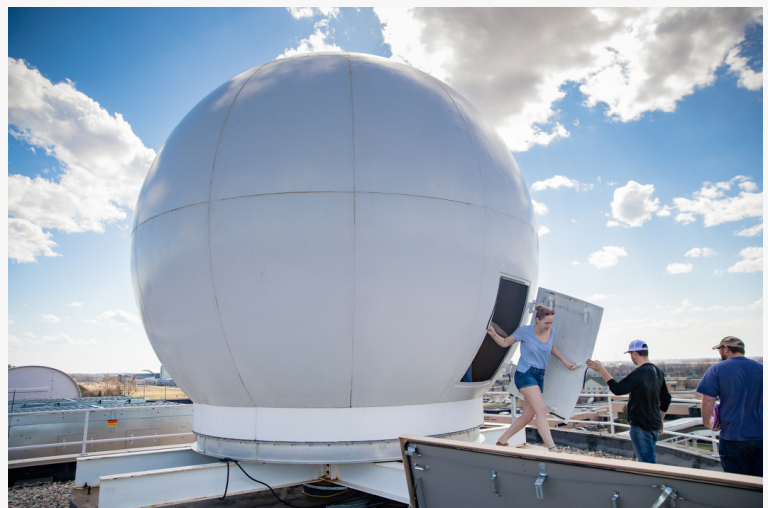
3. Instrument rating (40+ hours) + Commercial Pilot SEL (120 hours) = Total 160+ Hours by the end of AVIT 323.

# AtSci Student Research

Cassidy Holth, Director of Student Outreach

What if you could 3D print your own weather station from home? This is what Atmospheric Science major David Singewald is researching and hoping to make available to the public. David, a senior at UND, is working on improving 3D printed weather housings to compete with professional grade weather stations. David 3D printed his own weather station which is currently set up on the roof of Clifford Hall. To determine how accurate the 3D printed station is, David said "... the data collected between the 10th and 17th of every month is saved. From the saved data, we analyze every 10 minutes' worth and statistically calculate the relative error and standard deviation to see how much or how little the sensors differ from one another and from the professional grade instruments."

This project could have a significant impact for meteorology. Weather stations can be 3D printed for a fraction of the cost of professional grade instruments. By increasing the number of weather stations, we increase the amount of weather data available.



## AtSci Student Research cont.

Essentially, this would increase the accuracy of weather forecasts. 3D printed weather stations could also lead to design improvements, leading to more accurate data in both the 3D printed and professional grade stations.

David started this project because he enjoys building weather instrumentation, from designing parts and constructing the instruments as well as programming and analyzing the data. David says his favorite part about this project is the data analysis, "Although the design and construction were fun and challenging, seeing the data plotted is not only interesting but also rewarding, especially when significant weather events occur during the data collection period."

This project is serving as David's senior capstone project where he will go more in depth on how the instruments were constructed as well as present the statistical data.



**“Having more weather stations available in a smaller and uniform grid would allow meteorologists to improve numerical weather prediction by having more data points to initialize weather models, which would result in more reliable weather forecasts.”**

He has not done this entirely by himself. David would like to credit his professors (Fred Remer, Dr. Aaron Kennedy, Dr. Dave Delene) and graduate student Devin Bissell for their help and support throughout the project.

The journey has been rewarding, but it has not been easy. David said, "The main thing I have learned about research projects is that they almost never go exactly as planned." Human error, instrument failures, and computer crashes are all familiar obstacles. David wants to remind us that "...it is part of the process, and it is important to know that some sensors and instruments may not be as reliable as originally expected."

## Faculty Spotlight:

## Tanner Yackley

### Who are you?

I am 29 years old and am originally from Grand Forks. I have moved 14 times in my lifetime but living up here is one of my favorite locations! I graduated high school from Moorhead High and spend 7 years in that area (which is the longest I've ever stayed anywhere).

### How did you get involved in aviation?

I was in the Air Force for 8 years.

### What has your education and career experience been?

I obtained my Bachelors and Masters of Science in Aeronautics from Embry Riddle. I worked as a Sensor Operator on the MQ-9 Reaper for 10 years. I flew 4 years of combat missions, taught at the Air Force schoolhouse for 3 years and worked for General Atomics as an Evaluator for 3 years. Over that time, I amassed over 3400 hours.

### Favorite aircraft to fly/operate?

The Mighty MQ-9 Reaper!



### What are some of your hobbies?

I enjoy being outdoors. Fishing, hunting, and hiking are some of my favorite hobbies. I also enjoy cheering on the Vikings on Sundays! Lastly, spending time at the lake or my family's hunting land are two of my favorite places to be.

### What do you teach at UND?

AVIT 126 – Intro to UAS  
AVIT 438 – UAS Operations  
AVIT 450 – Counter UAS Applications

### Anything else you'd like to share with students?

I have been teaching since I was 15 years old at a Boy Scout camp. It is my passion and I absolutely love it. Watching that light bulb moment happen with a student is one of the most rewarding feelings.

## New SAAC member

This past week, current SAAC members had the pleasure of reviewing, interviewing, and choosing a new council member! After a marathon 2-days of interviews, we are pleased to announce the newest member of UND's Student Aerospace Advisory Council: Aidan Lally!

## Scholarship Central

UND Scholarship Central is open for students to apply and is due March 1st, 2022. Students should complete UND's General Scholarship Application and then complete the Aviation Department's Supplemental Scholarship Application. To be considered for aviation department scholarships this supplemental application must be completed and submitted.



## New Shuttle Stop

Based on student feedback, SAAC worked with UND flight operations to enhance the airport shuttle service. With the winter season upon us, there are safety concerns with students being exposed to extreme temperatures when accessing the shuttle at Ryan Hall. A new stop at Wilkerson has been added for the weekends.

- Van #1 Will start at Ryan Hall at 0615 with route – Ryan Hall to Wilkerson Hall to Airport to Ryan Hall. It will cycle through the route every 30 minutes until Flight Operations closes.
- Van # 2 will start at Ryan Hall at 0730 with route – Ryan Hall to Wilkerson Hall to Airport to Ryan Hall. It will cycle through the route every 30 minutes until 1900.

On weekdays, please use the campus shuttle or skyways to access the shuttle at Ryan Hall.

### Contact SAAC:

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Suggestion Box:

Odegard 101

Meetings:

Sundays at 4:00PM Robin 205