

CSU Spur UAV Summer Program Instructor Internship

Denver, Denver County

Intern:

Henning Krüger

Mentors:

Adam Smith - Drone Center Associate Director

Nick Chambers - Aviation Pathway Lead, PSD Career Tech Center

Christopher Robertson - Drone Center Director

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Program Introduction

The CSU Spur UAV Summer Program is hosted every summer by the CSU Drone Center in collaboration with the Spur campus, and provides a truly one-of-a-kind opportunity for Denver-region high school students and teachers to attend any of **three separate, week-long workshop sessions**, each with a capacity of 18 students, in which they receive cost-free, hands-on training and instruction focused on drone flight training, preparing participants for the **FAA Part 107 Commercial UAS Pilot Certificate**, and exploring the fundamentals of crewed aviation and associated career pathways.

In addition to providing instruction to participants by experienced professionals at the forefront of the aviation industry, the Spur UAV Summer Program also extends the opportunity for **one CSU student intern to become a part of the instructor team**, living and working on and between the Spur and Foothills campuses for the summer, and getting first-hand insight into what it takes to plan for and host a life-changing program like this, while also ensuring its seamless execution.

As an intern, and in addition to being able to teach and insert my own lived experiences and personality to **mold my own teaching style**, one of my main responsibilities throughout this program was to assist my lead instructors and mentors with class preparation, which included coordinating with students, families, and stakeholders; managing workshop logistics and transportation; maintaining communication with Denver-based educators and program partners, and so much more.

Internship Goals

The primary goals, scope, and objectives of the Spur Drone (UAV) Summer Instructor Internship are centered around creating a meaningful educational experience for both me as the intern and the program participants, while also supporting the broader mission of the CSU Drone Center and Spur programs. A key goal is to provide the intern with **hands-on**

Innovation. From the ground up

experience in STEM education, emphasizing practical teaching, mentorship, and program coordination skills in the fields of support activities such as **workshop preparation, stakeholder communication, and logistical planning**. The internship's dual focus on technical expertise and program administration also aims at creating a comprehensive professional development experience while advancing the mission of promoting access to aviation education and workforce development to underserved areas.

How Does This Further My Education?

As a graduating senior in Restoration Ecology, who is also currently exploring graduate school assistantships as a next step in my educational career, where I can hopefully help research more holistic approaches to the challenges we face today in the **agriculture and adjacent land-management industries**, I could not have asked for a more comprehensive internship to immerse and educate myself in the world that is all-things aviation, nor could I have asked for more experienced colleagues to inspire and show me exactly how I can use UAVs to become an asset to any future research projects in my chosen fields.

Outside of the actual time dedicated to preparing for and hosting classroom workshops at Spur, I also had plenty of professional-development opportunities, such as attending a **Mapping with Drones course** at the Drone Center, assisting a PhD candidate with her fire-particle detection **research**, helping to instruct a drone class for **first responders**, helping to film a **promotional video** of the Oval for financial donors, and visiting Blevins Middle School for a **tabling event and presentation**, which altogether has only further educated me on the many and varied continued future uses for UAVs as an industry by itself, as well as a welcome addition to other industries, especially in the academic world. By far one of the most valuable lessons this internship has taught me, is how to deliver instruction under the pressures of **personal and financial liability, as well as time-restraints**, in addition to the real-world hard-skills of hours as a UAV pilot-in-command and the more practical side of their operations and maintenance too.

Learning Outcomes

Through hands-on experience, I learned to pilot a variety of **state-of-the-art drones**, gaining confidence and technical expertise in UAV operations, and also connections within the aviation community that will most certainly open doors to numerous opportunities in the ever-growing UAS industry. Additionally, this program also provided me with a comprehensive understanding and **working knowledge of the aviation industry** and its history, including in-depth insight into potential aerospace career pathways.

Through the professional and lived experiences and stories of my colleagues and mentors, as well as those of participating students, I also learned tons about the potential applications of UAVs in **law enforcement, wildlife-conflict management, search-and-rescue, high school education, crop surveying and even its role in modern-day national security**. Beyond technical skills, this internship also fostered critical soft skills such as communication and program coordination, and this holistic exposure to a combination of skills and experiences has helped me emerge well-equipped for success in whichever field I choose to pursue next. It truly is the ideal role for those passionate about all things STEM and drone technology, as well as those who find fulfillment in handing over a tactile skill to the next generation, **with which they can change their own lives and hopefully those of many more**.

What's Next?

Through this internship I have also been able to secure continued employment with the Drone Center as a student for my last semester at CSU, after which I will hopefully be able to use these skills **during grad school and even beyond**.

I would like to sincerely thank everyone involved in making these internships and the priceless experiences they offer possible, and especially to my two mentors **Adam and Nick** for teaching me that if you can find a job that you love, then you truly will never have to work a day in your life.

