College of Engineering, Design and Computing
UNIVERSITY OF COLORADO **DENVER**

Engineering + Innovation Camps at CU Denver
Drone Design + Programming
FAQs

What is Drone Design + Programming Camp?

Drone Design + Programming Camp is a 5-day summer camp offered by the College of Engineering, Design and Computing that introduces participants to drone robotics. Students will take home the programmable Arduino sensor kit that they used to control their drone at camp's end.

Where is Drone Design + Programming Camp?

All aspects of the Drone Design + Programming Camp will take place at the CU Denver Auraria Campus, primarily in the North Classroom building, located at 1200 Larimer Street, Denver, CO 80204.

How can I register for Drone Design + Programming Camp?

Drone Design + Programming Camp registration information can be found on the College of Engineering, Design and Computing Summer Camps website (engineering.ucdenver.edu/summercamps). Registration opens in February and remains open until June 1, or when the camp is at capacity, whichever comes first. Registration and payment is all done electronically and is linked from the website.

What can I expect for the five days of Drone Design + Programming Camp?

Drone Design + Programming camp students will create drones that respond to real-time sensory input. Students will begin with basic programming and electronic circuit concepts needed to interact with the drone's sensors and actuators. Students spend the week learning how these sensors control the drone's flight, testing their coding algorithms in simulation, and then letting their code take flight. Students will learn how to fly the drone in both manual and pre-programmed modes where drones respond to real-time sensory input for altitude control, hovering, pattern flying, and flip and roll maneuvers. Students will take home a programmable Arduino sensor kit at camp's end. Here is a sample itinerary.

What is the profile of students who would enjoy Drone Design + Programming Camp?

Drone Design + Programming Camp is a program designed to expose high schoolers to drones, electronics and programming. Students do no need to have any previous drone, electronics, or programming experience. A good candidate for Drone Design + Programming Camp is a student who is interested in drones, computers, or technology in general. Participants don't have to want to be engineers – as long as a student shows up eager to learn, experience new things, and have fun, they are a great Drone Design + Programming Camp candidate.

What is the average age/intended audience of Drone Design + Programming campers?

Drone Design + Programming Camp is designed for all high school students, including students who have completed 8th grade by the start of the camp.

What skills will students gain by attending Drone Design + Programming Camp?

Students will learn to program in Arduino C++ and Python programming language, construct simple electronic circuits, perform data visualization, conduct physical computing, and fly drones in manual and pre-programmed modes.

What is the cost of Drone Design + Programming Camp?

Drone Design + Programming Camp registration is $900. A $450 deposit is required to secure a spot in camp, and the remainder of the camp cost is due by June 1.

Are there scholarships available?

Yes, there are a limited number of need-based scholarships available. Scholarship applicants must:

- write an essay on why they believe they should receive a scholarship for Drone Design + Programming Camp
- have a teacher/counselor write a recommendation letter on their behalf and submit directly from the recommender to the College of Engineering, Design and Computing via email (engineeringcamps@ucdenver.edu). All letters must be submitted directly from the recommender; any letters sent in by a student or parent/guardian will be disregarded. The scholarship deadline is May 1, and all applicants will hear back no later than May 8.

Is lunch provided?

No, all students will eat lunch at the Tivoli Student Union; available food options are listed here. Students may also bring their lunch. We will provide snacks throughout the day and will strive to have options for everyone. However, we may not be able to accommodate a student with severe food allergies. Students are also welcome to bring their own snacks.

NOTE: Students with peanut allergies are required to carry an EpiPen with them at all times.

What should I wear?

Please plan to wear close-toed comfortable walking shoes every day of camp.

What do I need to bring?

All activity materials will be provided including computers, software, hardware, and prototyping supplies. Please bring a notebook and writing utensil for notes and activities. Water and beverages will not be allowed inside computer laboratories, but will be allowed in the hallway so feel free to bring a water bottle.

Do I have to attend every day?

Yes - though camp staff understand there are sometimes extenuating circumstances. We group students to work on a design project throughout camp, so it can be detrimental for the teams if students do not show up each day.

All camp scholarship recipients must be able to attend all of camp as a condition of the award. More information on scholarships can be found on the Drone Design + Programming camp website.

What if I realize last-minute I am unable to attend?

The deadline to cancel is May 1 in order to receive a refund. And cancellations after this point will not receive a refund.

Is transportation or lodging provided?

No. You are responsible for your own transportation and lodging. Pick-up and drop-off each day will be at the North Classroom building.

Is there parking available?

Yes. The Drone Design + Programming Camp will be held in the North Classroom building, located near the Tivoli parking garage, with visitor parking available. There are several other lots on the Auraria Campus for visitors as well – see parking map here. However, it is important to note that there is no free parking on campus.

What public transportation is available near the CU Denver Downtown Campus?

There are two RTD Light Rail stops on the Auraria campus within approximately ½ mile of the CU Denver North Classroom building where we will hold the Drone Design + Programming Camp. The Auraria West Station stop is serviced by the RTD Light Rail "E", "C" and "W" line. The Colfax at Auraria Station stop is serviced by the RTD Light Rail "H", "F" and "D" lines. Walking is safe and easy, with a sidewalks leading from the RTD stations up to the North Classroom building. Other options to get to campus are ride sharing services (Lyft and Uber), and cabs.

I can't commute from home each day. Where should I stay?

Our recommended hotel is the Springhill Suites Denver Downtown.

Still have questions? Contact the College of Engineering, Design and Computing at engineeringcamps@ucdenver.edu or 303-315-7170.