codrone EDU

Introduction to CoDrone EDU

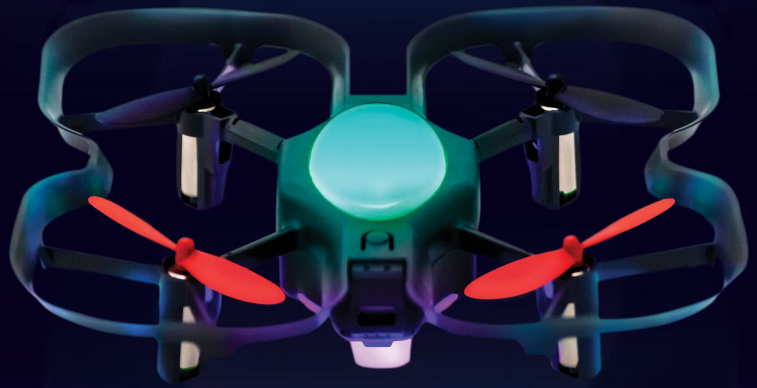
Including: Getting Started with Programming

Tuesday, October 22nd - 6:30pm CT

1 CoDrone EDU Overview

ROBOLINK

codrone EDU



Approved for the AERIAL DRONE COMPETITION

REC FOUNDATION

ROBOLINK

Package Contents

- User Guide
- CoDrone EDU
- Smart Controller
- 2 x drone batteries
- 1 x battery dual-charger
- 1 x Micro USB data cable
- 8 x color cards
- 4 x extra propellers
- 1 x propeller remover
- Set of labels for drone/controller
- Screwdriver
- 1 x Spare Controller Bolt

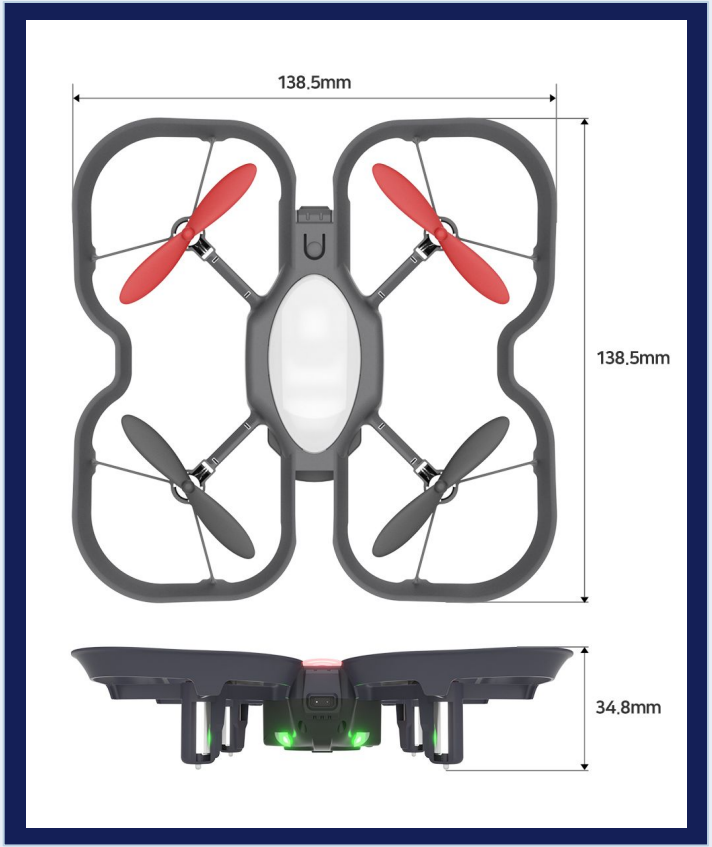
** Extra batteries, propellers, and motors are available on our website!

Package Contents (JROTC ed.)

- User Guide
- CoDrone EDU (JROTC ed.)
- Smart Controller (JROTC ed.)
- 3 x drone batteries
- 1 x battery dual-charger
- 1 x USB-C cable
- 8 x color cards (* Calibration required)
- 4 x extra propellers (blue and red)
- 1 x propeller remover
- Set of labels for drone/controller
- Screwdriver
- 1 x Spare Controller Bolt

** Extra batteries, propellers, and motors are available on our website!

CoDrone EDU Specifications



Weight	54.8 grams
Max. payload	5 grams
Drone battery	3.7V 530mAh
Flight time	7-8 minutes
Charge time	60 minutes
Maximum velocity	2.5m/s (9km/h)
Communication Protocol	Radio Frequency 2.4GHz
Range	Up to 50 meters

ROBOLINK

Accelerometer

For sensing acceleration

Gyroscope

For sensing rotation

Barometer

For sensing height and pressure

Front range

For sensing obstacles ahead

Bottom range

For sensing distance to the ground

Color

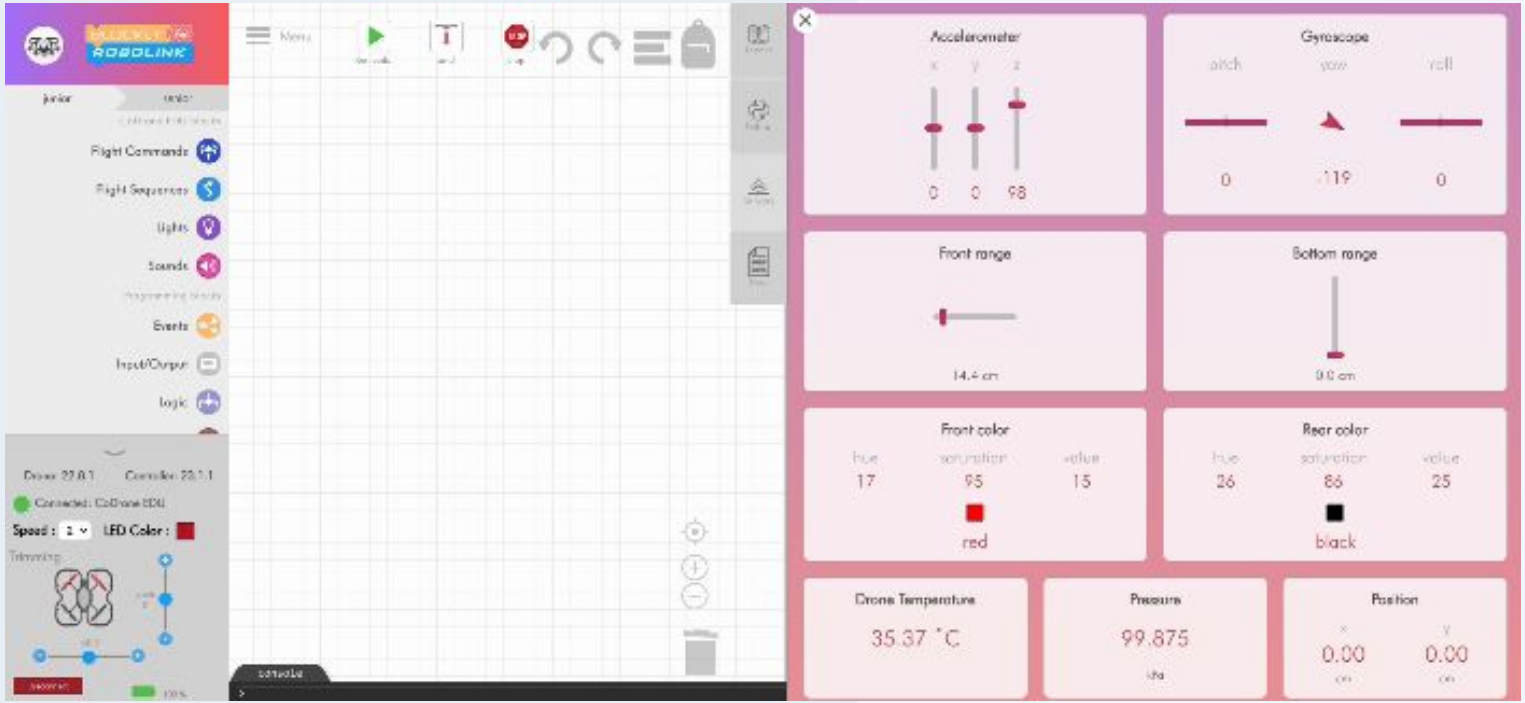
For sensing surface colors

Optical flow

For sensing relative position

Sensor Dashboard

See live sensor feedback directly from the browser!



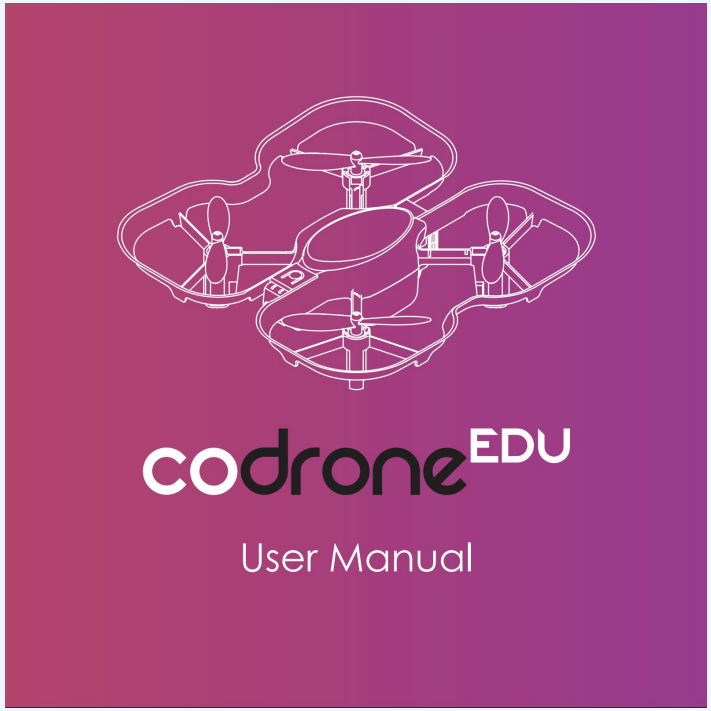
Available in both **Blockly and Python!**

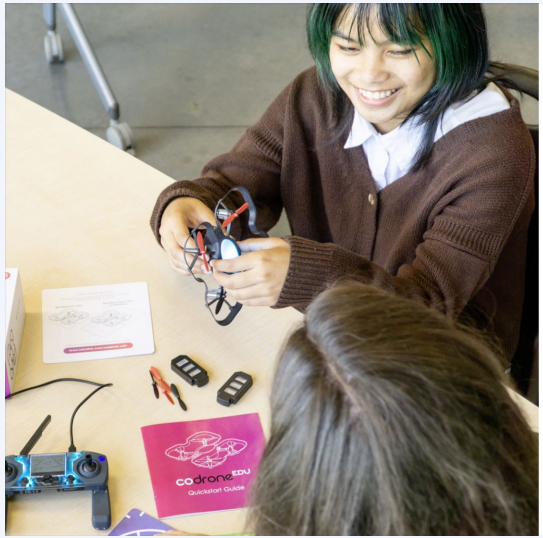
ROBOLINK

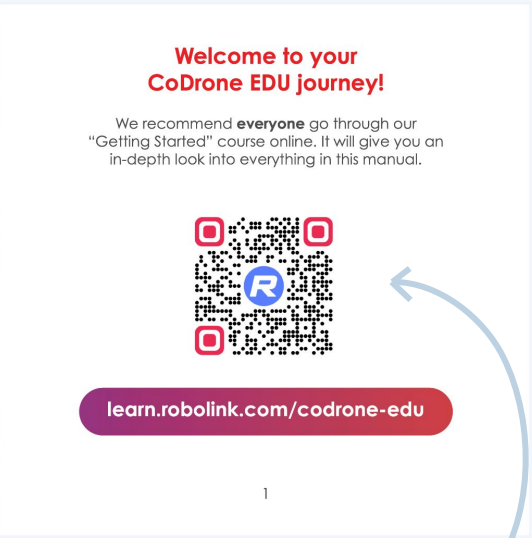
2 Where to Start

ROBOLINK

User Manual







We recommend keeping the manual as a quick reference, but information on our Basecamp will be the most up-to-date information.

Getting Started

learn.robolink.com/product/codrone-edu/

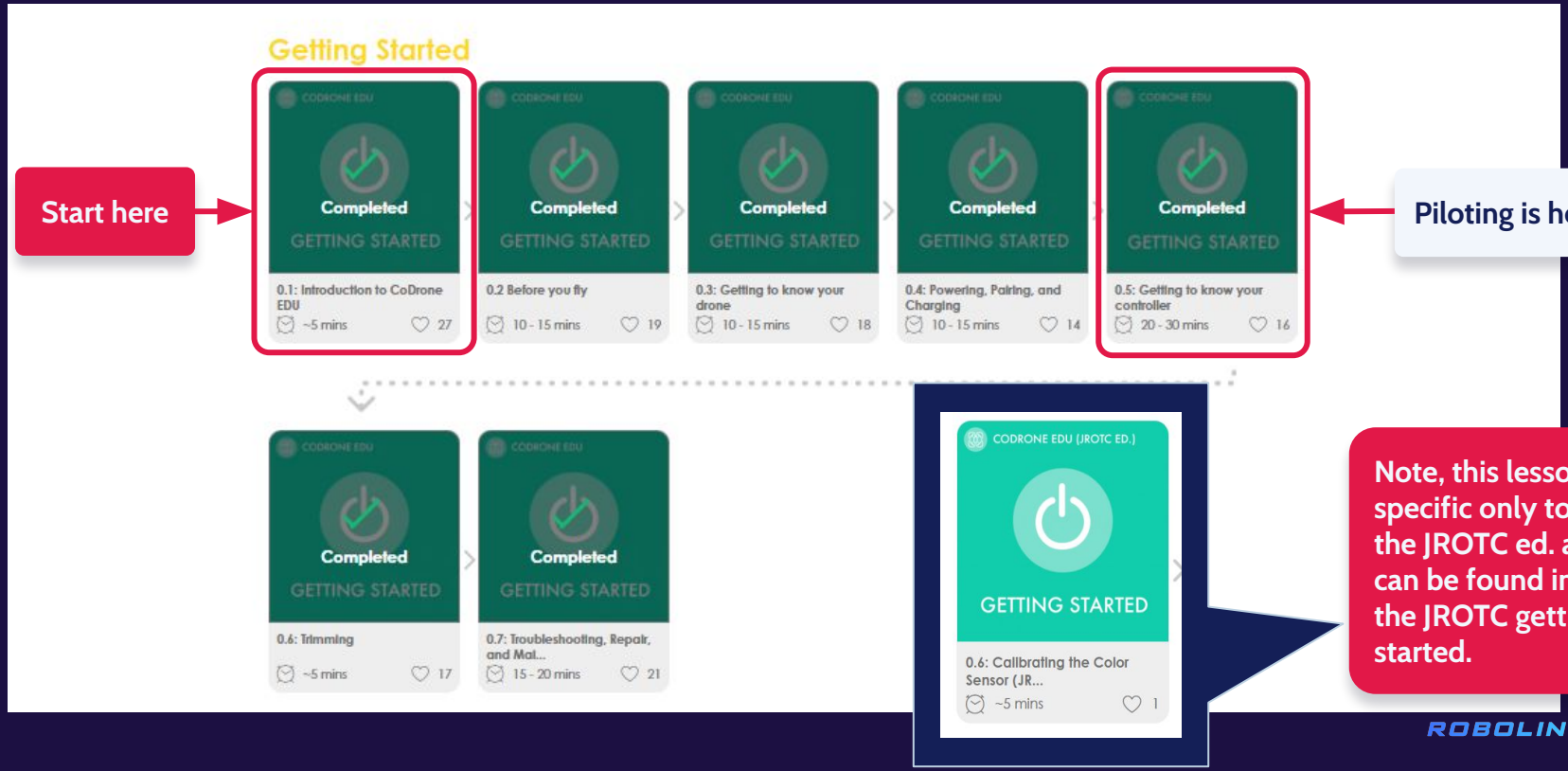
- Lesson plans
- Videos
- FAQ
- Function documentation

Every coach, teacher, and student should start here.

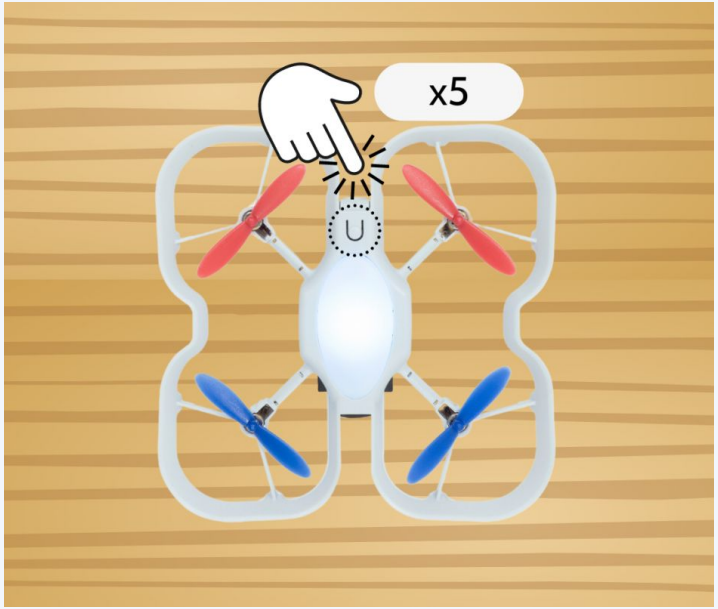
ROBOLINK

Getting Started Course

learn.robolink.com/product/codrone-edu/



Color Calibration for CoDrone EDU (JROTC ed.)



Note: Calibration is a separate process from adding a color data set in Blockly.

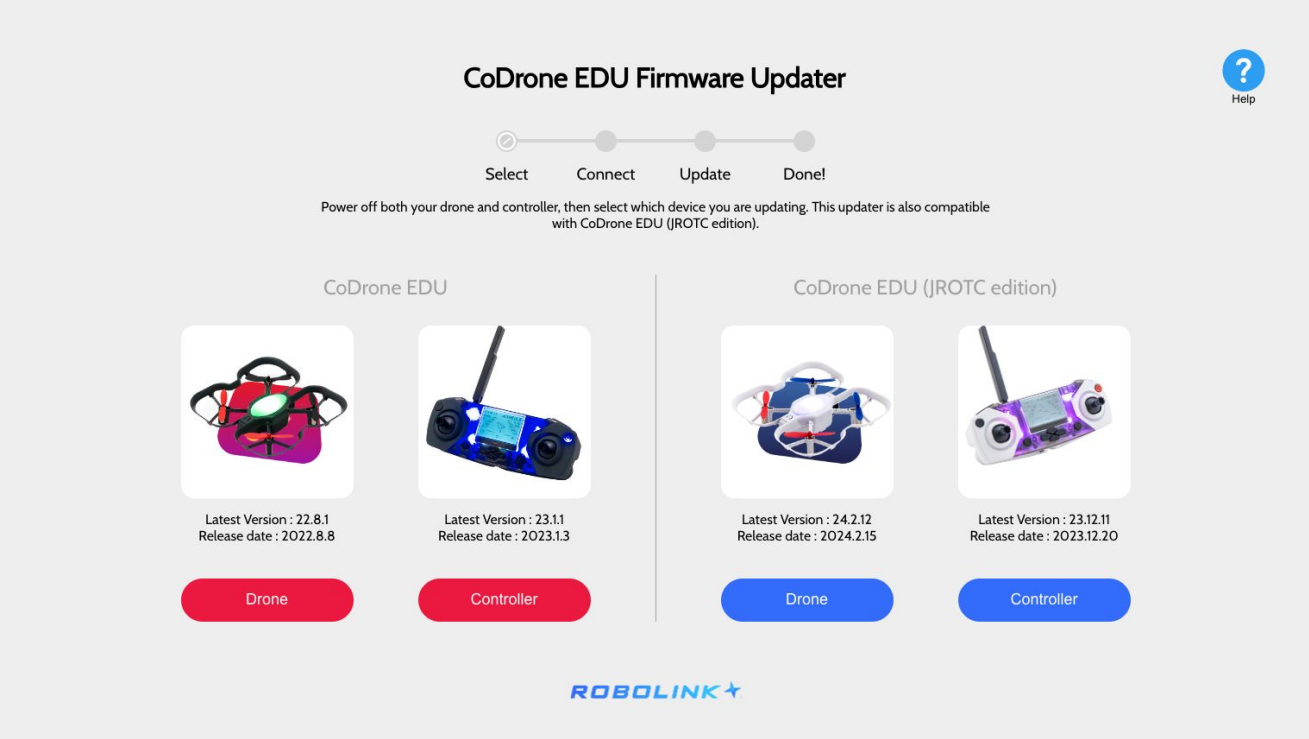
Steps for success

1. Complete the Getting Started course on Basecamp (including checking for **updates**!)
2. Complete pre-flight checks. Cleaning propellers is a must!
3. Follow all safety and flight rules outlined in the manual and Basecamp
4. Watch all videos in our CoDrone EDU playlist
5. Treat hardware with care and store it properly.

   Help article: How to take care of your motors

Stay up-to-date

Update your firmware directly from the browser 🎉 You can also check for the latest firmware release here!



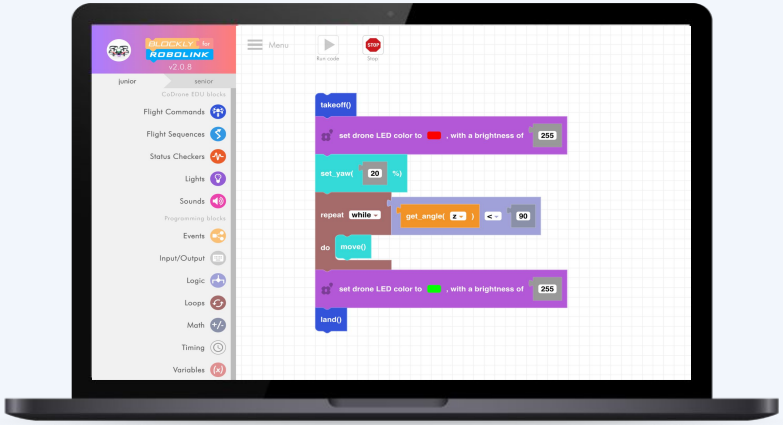
Link: https://codrone.robolink.com/edu/updater/

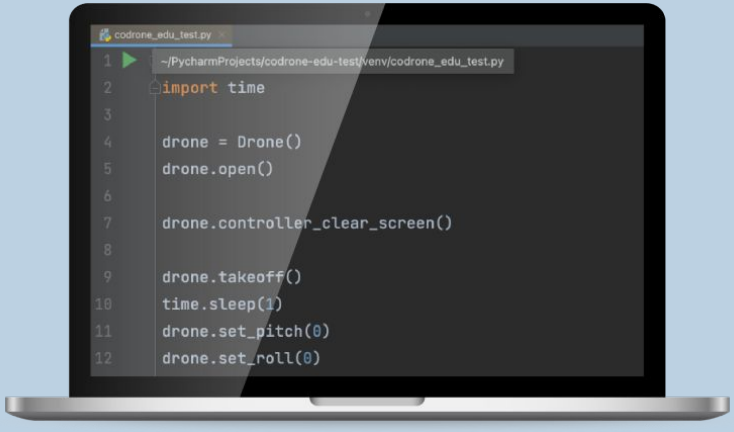
ROBOLINK

3 Programming

ROBOLINK

Languages





BLOCKLY for ROBOLINK

- **Mac, Windows, Chromebook**
- Visual programming
- Elementary/middle school or first-time coders
- No installation required, runs in web browser

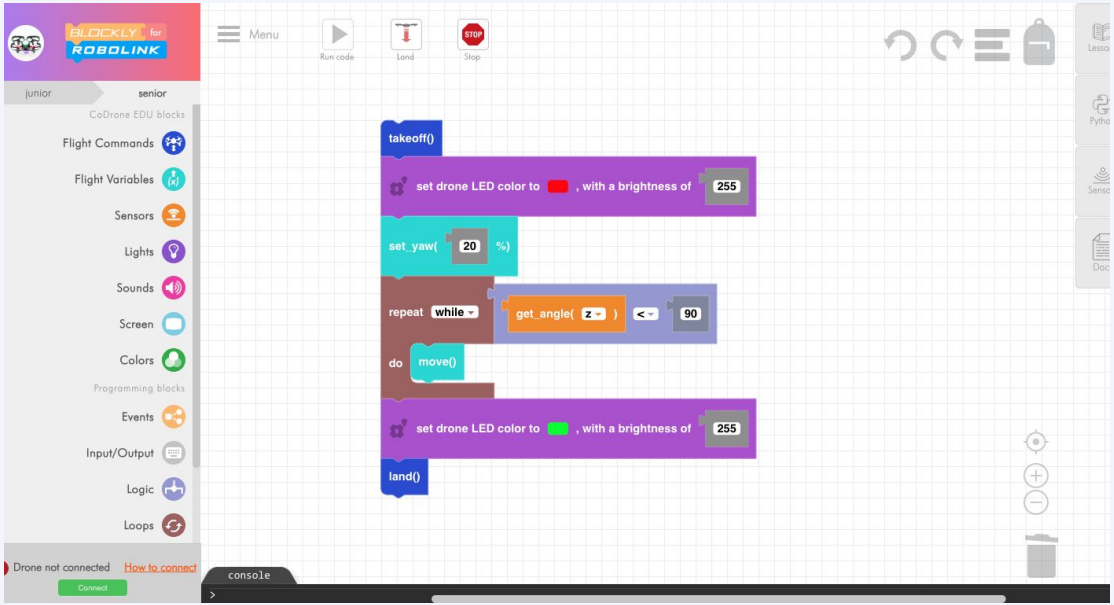
python™

- **Mac, Windows, Chromebook**
- Text-based language
- Suitable for 6th grade and above
- PyCharm installation required **or** run in the browser (no installation)

Blockly for Robolink

Drag-and-drop programming platform.

- Runs in the browser (Chrome recommended)
- No installation required
- Start learning on Basecamp Lesson | Getting Started with Blockly for Robolink
- Focus on core drone and programming concepts instead of text-based syntax

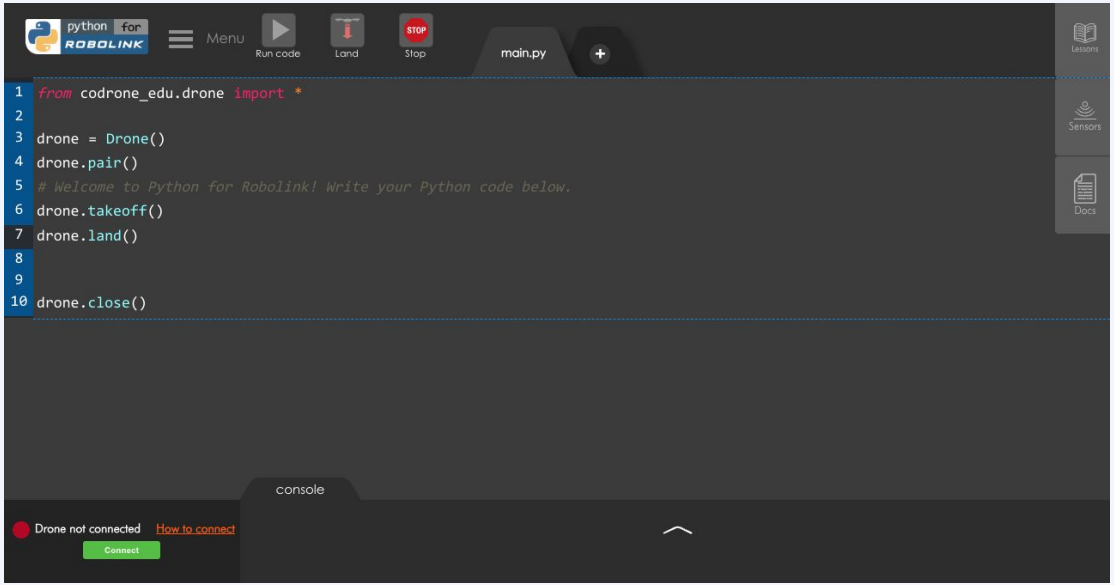


Link: https://codrone.robolink.com/edu/python/

Python for Robolink

Go beyond Blockly and teach students text-based coding for CoDrone EDU!

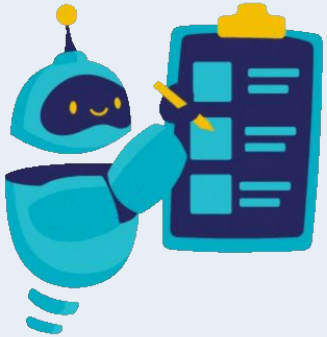
- Expands access to Python with CoDrone EDU to Chromebook users 🎉
- Runs in the browser (Chrome recommended)
- Start learning on Basecamp Lesson | Getting Started with Python for Robolink
- Adding new color data sets (for autonomous skills missions) is **not** available yet (use Blockly or PyCharm)



Link: https://codrone.robolink.com/edu/python/

Device Compatibility

If you are using a laptop from your school or organization, please check with IT that you have access to:



- Serial communication over USB ports
- Robolink sites are whitelisted
- Optional: Ability to download and install Python/Pycharm

Not compatible with iPads, Tablets, or Cell Phones

Compatible with Chromebooks, Macs, and PCs

ROBOLINK

4 Demo

ROBOLINK

5 Resources

ROBOLINK

Resources

User Manual
Find getting started info and troubleshooting guides
User Manual

Basecamp
Free, online lessons for Blockly and Python with resources for teachers
https://learn.robolink.com/

Web Updater
Update your drone and controller using a web browser
https://codrone.robolink.com/edu/updater/

Blockly
Program using block-based programming
https://codrone.robolink.com/edu/blockly/

Python for Robolink
A web-based solution for programming in Python
https://codrone.robolink.com/edu/python/

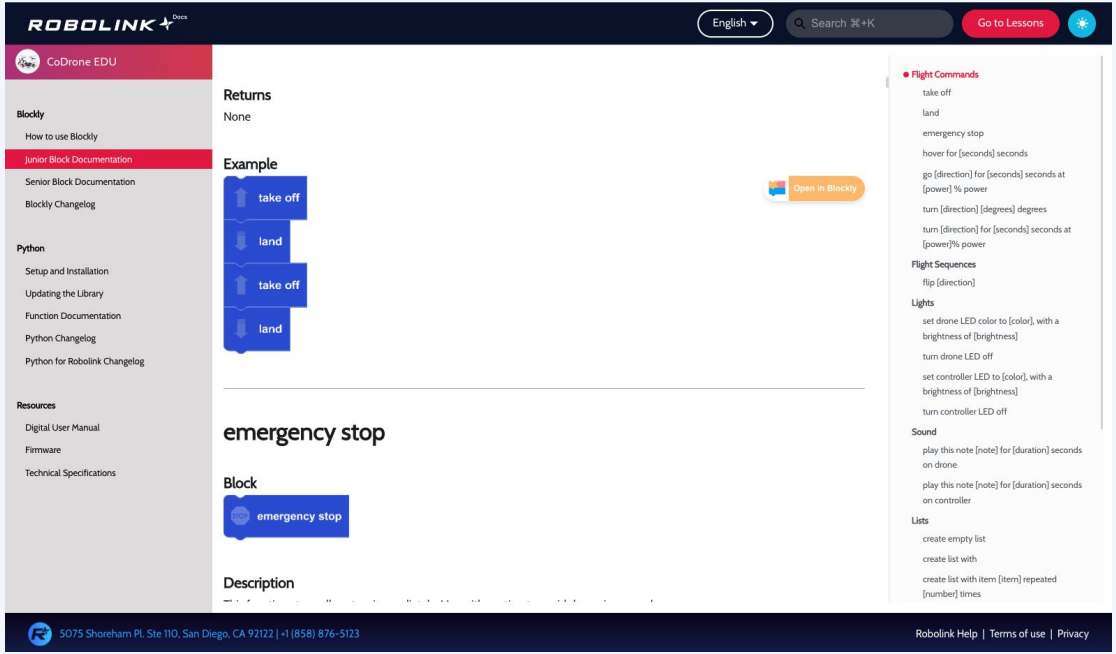
Documentation
Functions guide for Python and Blockly
https://docs.robolink.com/

Robolink FAQs
Visit https://help.robolink.com/

Need technical support?
Email us at support@robolink.com

Documentation site

- Find resources on “How to use Blockly” or “How to use *Python for Robolink*”
- See function documentation on both Blockly and Python
- View version changelogs and release notes
- Find the user manuals, firmware information, and technical specifications
- **Open examples directly from the documentation site!**



Link: https://docs.robolink.com

5 Questions

ROBOLINK