

EEC128/MEC134 Feedback Control
Tello Drone Lab and Project Background Information
(Sept. 23, 2020. v. 1.01)

1. Personal Safety First:
 - a. All lab and project experiments are to be done indoors.
 - b. Wear safety glasses when flying drone.
 - c. Do not try to grab the Tello drone in flight with bare hands.
 - d. Keep children, pets, and others away from the experiment.
 - e. Assume controllers can go unstable leading to unexpected or dangerous behavior.
 - f. The Tello Drone is not a toy- personal injury can result from contact with spinning blades. Keep prop guards on. Do not touch propellers when powered on.
 - g. Choose an **indoor** area without ceiling obstacles, and away from fragile objects (china etc.)
 - h. Follow safety guidelines as listed on the Ryze Robotics Website: in particular, sections Propulsion System and Flight Batteries
[dl-cdn.rzyzerobotics.com/downloads/Tello/20180211/Tello+Disclaimer+and+Safety+Guidelines+\(EN\)+v1.0.pdf](https://dl-cdn.rzyzerobotics.com/downloads/Tello/20180211/Tello+Disclaimer+and+Safety+Guidelines+(EN)+v1.0.pdf)
 - i. Make sure operation area is well-lit (flight control relies on visual feedback)
 - j. Power down drone when not in use (it can overheat in less than 1 minute)
 - k. Use only approved LiPo battery charger. Do not charge unattended.
 - l. If you live in University property, please be aware of UCB campus drone policy: [https://campuspol.berkeley.edu/policies/drone\(campus\).pdf](https://campuspol.berkeley.edu/policies/drone(campus).pdf)

2. Lab 5 and project can be done in groups of up to 3 students. In principle, one Tello per group is sufficient. However, it would be more rewarding for every group member to have a Tello for redundancy and working in parallel.

3. Obtaining Tello Drone:
 - a. Order Tello Drone from a source such as Amazon and have it sent to your home:
https://www.amazon.com/Tello-CP-PT-00000252-01-Quadcopter-Drone/dp/B07BDHJJTH/ref=sr_1_1?dchild=1&keywords=tello+drone&qid=1600888566&sr=8-1
\$99 with free shipping
(Outside US, another option is
<https://store.dji.com/product/tello?vid=38421>)
 - b. Lab 5 is the week of 10/19. It is recommended that you order soon to allow time for possible shipping disruptions, or possible defective product.

- c. If you want to be reimbursed at end of semester, save original box and packaging, and receipt. Ship Tello drone to: ESG, Cory Hall, 94720
- d. Drone must be complete. If it is broken, send all the pieces.
- e. There is no reimbursement for lost drones (do not fly outside).
- f. The EECS department can handle those students who are under financial hardships on a case by case basis. Please send an email to accounting@eecs.berkeley.edu explaining your special circumstances that prevents you from making your own purchases. EECS will take appropriate action to make sure that our students are not impacted negatively.