

Coding with Parrot Mini Drones

Terminal Objective 2.3: Fly the mini drone in a square pattern using yaw controls.

Performance Objective 2.3: Using an iPad or Android tablet with the free flight mini app, fly the minidrone in a square pattern using yaw controls in (CW) and (CCW) directions.

Enabling Objectives:

1. Identify yaw as it relates to mini drone
2. Demonstrate how yaw controls rotating left or right

Materials and Supplies:

- Ipad with iOS 8.0 or later or Android tablet with 4.0 or later
- Download and install free flight mini app on tablet (found in app store)
- Safety glasses for all participants
- Parrot Mini Drone: Cargo or Mamba
- USB charging device
- Flight Challenge 2.3 (for reference)
- Rope or other means of creating a square space
- *Performance Assessment 2.3: Square Challenge, Yaw* (copy for each student)

Learning Activities:

1. Video: ROAV mini 2.3 v1
2. Practice flying square pattern only using forward, reverse, left and right movements

Formative Assessment:

1. Practice flying mini drone controlling yaw
2. Safely perform square pattern maneuver in boundaries. (Refer to *Square challenge*)

Summative Assessment:

1. Evaluate students using *Performance Assessment 2.3: Square Challenge, Yaw*

Supplemental teacher resources:

- Flight controles for free flight 3 mini app
<https://community.parrot.com/t5/Mambo-Knowledge-Base/Using-the-Parrot-Mambo-wit-h-a-smartphone/ta-p/145927>
- Optional flypad accesory
<https://community.parrot.com/t5/Mambo-Knowledge-Base/Parrot-Flypad/ta-p/145932>

Square Challenge 2.3

To set up this challenge you will need rope or some way to establish a square. For this example we will use rope and barriers to create the square area.

Steps:

1. Establish designated fly and safe zones in an open area
2. Rope off a square area using barrier stands.(figure 1)
3. Have operating student place minidrone in the fly zone
4. Move to the safe zone
5. Have student practice flying in the square pattern using yaw controls. (figure 2)
6. Evaluate students using *Performance Assessment 2.3: Square Challenge, Yaw*

Figure 2.1

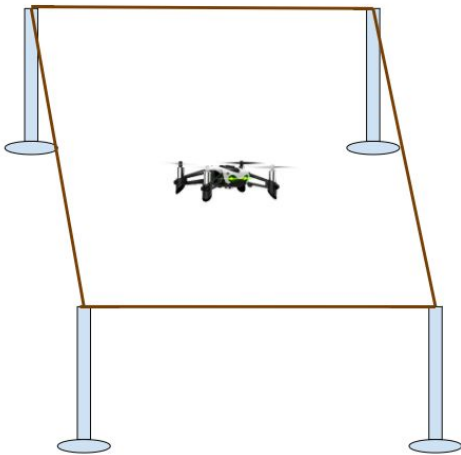
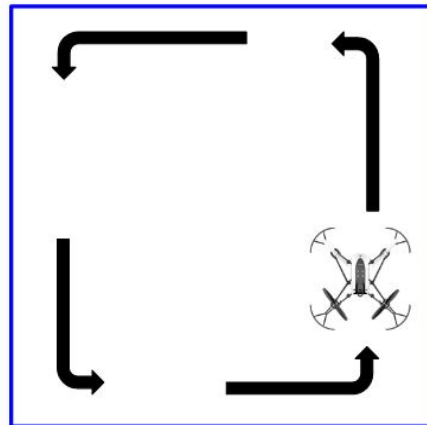


Figure 2.2



Performance Assessment 2.3: Square Challenge, Yaw

Name: _____ Date _____

Terminal Objective 2.3: Fly the minidrone in a square pattern using yaw controls

Performance Objective 2.3: Using an iPad or Android tablet with the free flight mini app, fly the minidrone in a square pattern using yaw controls in clockwise and counterclockwise directions.

Assessment

Skill Check	Pass	Retry
Followed safe practices	<input type="radio"/>	<input type="radio"/>
Demonstrated proper power up and power down procedures	<input type="radio"/>	<input type="radio"/>
Flew the mini drone in a square pattern using yaw controls, CW	<input type="radio"/>	<input type="radio"/>
Flew the mini drone in a square pattern using yaw controls, CCW	<input type="radio"/>	<input type="radio"/>

Note: To pass this objective, all skill check items must receive a pass.

Assessed by: _____ Date: _____

Outline Video 2.3: Yaw

- I. Terms
 - A. Yaw

- II. Objectives
 - A. Fly the minidrone in a square pattern using yaw control.

- III. Yaw refers to the movement of the nose rotating left or right
 - A. Controlling the yaw will rotate the minidrone right or left.

- IV. Square pattern using yaw controls (Animation)