

V4UAVchallenge

disciples' description

7–9 October 2026 | working paper v4.0

1. Disciplines

During the tournament, students will compete in the following disciplines:

- ❖ **Line** - A competitor starts at point (s), flies straight ahead to point (b) to round the pole, then returns to the starting point to land.
- ❖ **Circle** - Starts at point (s), makes a 540° circle around the central pole (e), and returns to (s). The competitor receives a 20s penalty if the UAV exits the square (a)-(d) during the 540 ° circle.
- ❖ **Perpendicular line** - Starts at point (s), flies past point (b) along the outer side of the square (a)-(d), then turns around point (c) in the same manner and returns to point (b). Circles (b) also along the outer side of (a)-(d) and flies to (s) to land. The competitor receives a 20s penalty each time the UAV circles the pole from the wrong side.
- ❖ **Envelope** - Starts at (s), passes (b) along the outer side, and goes through the gate at (e). Then goes to (c), crosses the (b)-(c) line, passes (c), goes to (d), rounds it and then goes through the (e) gate. Finally, gets back to (s).
- ❖ **Slalom** - Starts at (s) and goes through the gates. The competitor receives a 20s penalty each time the UAV misses the gate.

Each crossing of the insurmountable boundary line is penalised by 1m. Deliberately deviating from the discipline course to gain a time advantage (despite incurring penalties) is prohibited and may result in disqualification. If the pole is marked with a surveying rod, passing it must be done at a level not exceeding its height; otherwise, a 10s penalty applies.

2. Detailed regulations and schedule

The teams consist of 3 students. The teams compete in sections and disciplines. Each section has disciplines that may be similar to those in other sections but differ in UAV mode or speed. The team's flight order is drawn at the beginning of each section.

Initially, the playing field is divided into four areas, with four teams operating in each. Each team member flies in turn, and their flight times are summed. The next team flies when the last member of the previous team lands in the area (s).

Competitors will use UAV drones in different modes and at different speeds. First, during the section called **First Contact**, the Normal mode will be used with 3 speeds available: Slow/Mid/Fast. The Slow mode is comparable to a human walking pace, so it is not recommended. The mode will be used in the 4 disciplines (**Line**, **Circle**, **Perpendicular line** and **Envelope**).

Then the **Sport introduction** section begins. UAV mode is switched to **Sport**, with Slow or Mid speed. Note that Sport mode Slow is faster than Normal mode Fast. In that section, students compete in the same disciplines as in the **First Contact**.

During the **First Contact** and **Sport introduction**, observers are encouraged to use FPV goggles to prepare for the subsequent sections.

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A short **break** (approximately half an hour; snacks and drinks will be available) is scheduled for midday during the tournament. During this time, the field will be reconfigured and divided into two sections. In one section, the competition will continue in FPV mode, while in the other, it will proceed under the previous conditions but using new drones (DJI Mini 2/3/4). Because of differences between the models, only results achieved using BETA drones will count toward the final classification.

The new sections: **FPV normal / DJI slow** and **FPV sport / DJI** consist of one discipline, which is called **Slalom**. Team participants are ordered by individual achievements and start flying with other (similar) team members simultaneously, with a small delay between them (1-2 m).

If time allows, referees may allow a flight in any section discipline a second time.

Alongside the team tournament, each participant might take an individual challenge on the running track.

Day 2 (8.10.26)

The estimated time of each section (activity).

1	First contact		
Start:	09:00	End:	10:30
Mode:	Normal	Speed:	Slow/Mid/Fast
No.	Discipline	Indiv. time [m]	Team time [m]
1	Line	1	3
2	Circle	1	3
3	Perpendicular line	1.5	4.5
4	Envelope	2.5	7.5
	Total:	6	18
		Time:	0:21

2	Sport introduction		
Start:	10:30	End:	12:00
Mode:	Sport	Speed:	Slow/Mid
No.	Discipline	Indiv. time [m]	Team time [m]
1	Line	1	3
2	Circle	1	3
3	Transverse line	1.5	4.5
4	Envelope	2.5	7.5
	Total:	6	18
		Time:	0:21

3	Break		
Start:	12:00	End:	12:30

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Reconfiguration of the area. Division into 2 parts – for FPV and DJI flights.

4	FPV normal / DJI slow		
Start:	12:30	End:	14:25
Mode:	Normal	Speed:	Mid/Fast
No.	Discipline	Indiv. time [m]	Team time [m]
5	Slalom	5	15
	Total:	5	15
		Time:	0:18

5	FPV sport / DJI		
Start:	14:25	End:	15:26
Mode:	Sport	Speed:	Slow/Mid
No.	Discipline	Indiv. time [m]	Team time [m]
5	Slalom	5	15
	Total:	5	15
		Time:	0:18

3. Figures

The figure on the right shows the areas for the disciplines: **Line**, **Circle**, **Perpendicular line**, and **Envelope**. Dimensions are in meters. The b and c poles are surveying rods. Point (e) is a gate. The **warning line** is for the team's orientation only. There is no penalty for crossing it.

The next page shows the figures with the discipline's schema:

- ❖ Line – top right;
- ❖ Circle – top left;
- ❖ Perpendicular line – bottom left;
- ❖ Envelope – bottom right.



