STAR DRONES FLIGHT ACADEMY

Commercial Remote Pilot Certification & Field Competency Syllabus

Dual Track: FAA Part 107 (ACS-10B) & CAA Remote Pilot License (RePL) I Oman

COURSE DURATION	ACCREDITATION	EXAM THRESHOLD	FLIGHT CHECKRIDE
3 Days (24 Hrs)	**FAA & CAA Track**	**75% Written Pass**	**Manual ATTI Mode**
Ground + Flight Field Lab	Part 107 / RePL Aligned	60-Question Knowledge Test	1-on-1 GPS-Off Evaluation

1. EXECUTIVE PROGRAM OVERVIEW & BRAND PROFILE

The Star Drones Flight Academy Commercial Pilot Certification Program is a 24-hour dual-track professional course preparing enterprise operators for commercial UAS flight missions in Oman and internationally. Fully compliant with Civil Aviation Authority (CAA) regulations and FAA Part 107 ACS-10B standards, training spans ground school theory and practical manual (ATTI) airwork.

Star Drones Research & Labs (SDRL) I Muscat Innovation Complex, Sultanate of Oman
Established in 2022, Star Drones specializes in UAV engineering, AI payload systems, and indigenous drone manufacturing (including the Tariq drone). As an authorized training entity, SDRL delivers certified commercial pilot instruction across Oman.

2. THREE-DAY COMMERCIAL FLIGHT PIPELINE

DAY 1 — Ground School, Airspace Law & Meteorology — *08:00 - 16:00 (8 Hrs)*

- **Airspace Regulations & CAA Rules:** FAA Part 107 & CAA operational limits, 400ft AGL ceiling, Cat 1-4 Operations Over People, Remote ID, aerodrome 5km exclusion zones.
- **Sectional Charts & Airspace Classes:** Reading VFR sectional charts, Class A/B/C/D/E/G airspace boundaries, NOTAMs, TFRs, and LAANC clearance workflows.
- **Aviation Weather & Meteorology:** Decoding METAR/TAF reports, atmospheric stability, density altitude calculations, wind shear, and convective currents.
- **Simulator Lab (ATTI Mode):** Emergency flight simulator drills focusing on GPS-off orientation, manual drift compensation, and throttle control.

DAY 2 — UAS Systems, Human Factors & Basic Flight Lab — *08:00 - 16:00 (8 Hrs)*

- **UAS Maintenance & Electrical SOPs:** Quadcopter architecture, LiPo battery chemistry, thermal runaway prevention, C2 telemetry, weight & balance CG envelopes.
- **Human Factors & ADM Frameworks:** Aeronautical Decision-Making (ADM), 5 Hazardous Attitudes, IMSAFE health checklist, PAVE risk management, CRM sterile cockpit.
- **Field Operations & Flight Line Drills:** Pre-flight site safety assessment, 30m perimeter setup, calibrated compass calibration, manual takeoff/landing in GPS mode.
- **Basic ATTI Airwork Drills:** Transitioning to ATTI mode: 5m precision hover hold, square pattern (10m x 10m), nose-forward yaw orientation drills.

DAY 3 — Emergency Scenarios, Knowledge Exam & Flight Assessment — *08:00 - 16:00 (8 Hrs)*

- **Emergency & Lost Link Recovery:** Command & Control (C2) loss SOPs, fail-safe RTH altitude programming, flyaway mitigation, manned traffic deconfliction.
- **Written Knowledge Examination:** 60-question proctored exam covering FAA/CAA regulations, weather charts, and operational safety (75% passing grade).
- **Practical ATTI Flight Checkride:** 1-on-1 practical flight examination without GPS stabilization: precision maneuvers, emergency response, and spot landing.
- **Debriefing & Wings Issuance:** Flight logbook endorsement, practical checkride evaluation sign-off, and Star Drones Commercial Pilot Certificate award.

3. PRACTICAL FLIGHT TEST EVALUATION STANDARDS (ATTI MODE)

The practical flight assessment is conducted with GPS and position-hold flight assistance disabled (Manual ATTI Mode). Candidates are evaluated on precision stick control, orientation awareness, and immediate emergency intervention.

Task #	Evaluation Module	Required Airwork & Flight Maneuvers	Tolerances & Scoring
Task 1	**Site Integrity & Pre-Flight**	Execute verbalized 24-point pre-flight checklist, inspect props/motors, establish 30m safety zone, calibrate compass.	*Pass / Fail* *Zero Checklist Omissions*
Task 2	**Precision Hover & Orientation**	Maintain 5m altitude hover for 30s in ATTI mode; execute 360-degree flat yaw turns in 90-degree increments.	*Altitude: +/- 0.5m* *Position: +/- 1.0m*
Task 3	**Box & Figure-8 Trajectories**	Fly a 10m x 10m square pattern with nose facing direction of travel, followed by coordinated continuous figure-8s.	*Altitude: +/- 1.0m* *Smooth Rate of Turn*
Task 4	**Nose-In Hover & Orbit**	Perform 10-second nose-in (reversed control) hover, followed by 360-degree point-of-interest orbit around marker.	*Constant Radius* *No Uncontrolled Drift*
Task 5	**Emergency Lost C2 & Landing**	Simulate lost link protocol, execute manual flyaway recovery, perform precision touchdown on 1m landing pad.	*Landing: Within 1.0m* *Immediate Emergency Action*

4. TRAINEE FIELD PACK & ENROLLMENT PREREQUISITES

Included Student Trainee Field Pack:

[x] Star Drones Official Laminated Field SOP Binder
[x] Aviation VFR Sectional Plotter & Nautical Scale
[x] Serialized Commercial Pilot Flight Logbook
[x] High-Visibility Flight Line Safety Vest & Crew Badge
[x] Heavy-Duty Foldable Landing Pad Marker (75cm)

Enrollment Prerequisites & Registration:

-> Minimum Age: 18 Years at time of registration
-> Government ID / Civil Status Card or Passport copy
-> Basic English comprehension (Aviation phraseology)
-> Valid CAA Medical Self-Declaration or equivalent
-> Registration Portal: www.stardrones.om/academy

ACADEMY DIRECTOR SIGNATURE & SEAL:

Star Drones Flight Academy - Muscat, Oman

CHIEF FLIGHT INSTRUCTOR ENDORSEMENT:

CAA / ICAO Commercial Remote Pilot Examiner