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From: Commandant of the Marine Corps
To: Distribution List

Subj: GROUP 1 UNMANNED AIRCRAFT SYSTEMS (UAS) TRAINING AND READINESS (T&R) MANUAL (SHORT TITLE: GROUP 1 UAS T&R MANUAL)

Ref: (a) NAVMC 3500.14C

Encl: (1) Group 1 UAS T&R Manual

1. Purpose. In accordance with the reference, publish standards and regulations regarding the training of Group 1 UAS operators, enclosure (1).

2. Scope. Highlights of major training and readiness planning considerations included in this new Group 1 UAS T&R Manual are as follows:

a. Establishes unit assessment and individual evaluation programs.

b. Incorporates reporting and documentation requirements and procedures.

c. Establishes Small Unmanned Aircraft Systems (SUAS) billets and defines roles and responsibilities for each.

d. Establishes training requirements for attaining, maintaining, and regaining currency and designations.

3. Information. Recommended changes to this Manual are invited, and may be submitted via the syllabus sponsor and the appropriate chain of command to: Commanding General (CG), Training and Education Command (TECOM), Marine Air Ground Task Force Training and Education (MAGTF T&E) Standards Division, Aviation Training Division (ATD) using standard Naval correspondence or the Automated Message Handling System plain language address: CG TECOM ATD.

4. Command. This Manual is applicable to the Marine Corps Total Force.

5. Certification. Reviewed and approved this date.

Raymond C. Fox

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By direction

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CHAPTER 1
GROUP 1 UNMANNED AIRCRAFT SYSTEMS (UAS)

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CHAPTER 1

GROUP 1 UNMANNED AIRCRAFT SYSTEMS (UAS) TRAINING AND READINESS

100. INTRODUCTION.

1. Training Marines to perform as a cohesive unit in combat lies at the heart of the T&R program. Unit readiness and individual readiness are directly related; individual proficiency serves as the building block for unit combat readiness. The Training and Readiness (T&R) Program is the Corps' primary tool for planning, conducting and evaluating training, and assessing readiness. This syllabus is mandated for all personnel assigned to operate, instruct, evaluate, or manage small unmanned aircraft systems.

2. This T&R Manual contains the minimum individual training standards required for a Marine to initially attain and maintain currency in Group 1 Unmanned Aircraft Systems (UAS) operations. It is a fundamental planning tool for commanders to construct and execute an effective training plan that builds and maintains unmanned aircraft systems personnel readiness to support the unit mission.

3. CJCSI 3255.01, Joint Unmanned Aircraft Systems Minimum Training Standards (JUMTS), defines UAS groups, with small unmanned aircraft systems classified as Group 1 UAS. Per CJSCI 3255.01, a Group 1 UAS weighs 20 pounds or less. It normally operates Visual Flight Rules (VFR) in Class E, G, and Restricted or Uncontrolled airspace below 1200' above ground level (AGL) at speeds of 100 knots or less.

> **Note: For the purpose of this T&R Manual, from here forward Group 1 UAS will be referred to as Small Unmanned Aircraft System (SUAS).**

101. T&R SUPPORTING DOCUMENTS. Unless otherwise noted, supporting and required documents referred to in this T&R Manual can be found at the respective SharePoint websites as noted below:

1. **Marine Corps Forces.** Supporting documentation for the implementation of this T&R Manual to support SUAS training is contained on the Training and Education Command (TECOM) / Aviation Training Division (ATD) SharePoint, https://www.intranet.tecom.usmc.mil/hq/branches/atb1/agt%20pages/uas.aspx; CAC enabled. Once at the website, scroll down and select "documents," then "Category: Group-1 UAS." A list of documents will appear, select the desired document(s).

2. **Marine Corps Forces Special Operations Command (MARSOC).** Instructions for application of and amplification for the execution of this T&R Manual to support MARSOC SUAS training are contained in the MARSOC Order 3500.1. Supporting documentation for the implementation of this T&R Manual to support SUAS training is contained on the MARSOC SharePoint, https://ips.usmc.mil/sites/marsoc/default.aspx. MARSOC SUAS personnel may

contact the MARSOC SUAS-Program Manager (SUAS-PM) for assistance in accessing this site.

3. **Syllabus Sponsor.**

a. A syllabus sponsor is a unit that coordinates T&R changes on behalf of the applicable community in coordination with CG TECOM ATD. Syllabus sponsor shall maintain close liaison with the respective community counterparts. CG TECOM ATD has assigned syllabus sponsorship for this T&R Manual to MARSOC, see NAVMC 3500.14C, chapter 5. The syllabus sponsor may be contacted via email at MARSOC.UAS@usmc.mil.

b. The syllabus sponsor in coordination with TECOM/ATD will ensure the websites noted above are maintained.

102. EXPLANATION OF SPECIFIC TERMS. The concept of word usage and intended meaning that has been adhered to in preparing this T&R Manual is as follows:

1. "Shall" has been used only when application of a procedure is mandatory.

2. "Should" has been used only when application of a procedure is recommended.

3. "May" and "need not" have been used only when application of a procedure is optional.

103. SAFETY. Conducting SUAS operations in a safe manner is the responsibility of all personnel from operators through unit commanding officers. Conducting operations in a safe manner ensures the preservation of a critical war fighting capability through the prevention of SUAS related mishaps, injuries or fatalities. Unit commanding officers shall ensure the unit establishes SUAS safety procedures that address preventive and emergency procedures. SUAS personnel shall be aware of the unique operational challenges and shall adhere to all safety requirements.

104. OPERATIONAL RISK MANAGEMENT (ORM).
(MCO 3500.27B, OPNAVINST 3710.7 Ch 14.7.1)

1. The fundamental goal of risk management is to enhance operational capabilities and mission accomplishment. Identification and assessment of hazards and their associated risks, implementing controls, and supervising operations are all critical steps to safely execute any SUAS mission. Commanders shall integrate ORM fundamentals into the planning and execution process of SUAS operations to the maximum extent practicable. The risk management process begins at mission planning and continues until the SUAS mission is complete. The process is applied with the goal of eliminating hazards where possible and reducing residual risks to acceptable levels.

2. **Air Vehicle Recovery.** While not disposable, SUAS air vehicles are designed to be expendable in support of operations. If an air vehicle is lost during training every reasonable effort shall be made to recover it. If an unmanned air vehicle is lost during combat operations a recovery may be attempted if it is tactically prudent and the environment is permissive

without undue risk to personnel. Specific requirements for recovering downed unmanned air vehicles may be addressed by theater or higher headquarters directives. A loss of an unmanned air vehicle during training or combat shall be properly documented according to command policy.

105. **OPERATIONAL AWARENESS.** External factors like weather, emergency situations, changing environments, etc., are unpredictable by nature and require proper mission planning, detailed mission briefings, and adherence to checklists, procedures and established standards will minimize their impact on SUAS operations and personnel. Unlike manned systems, SUASs are unable to provide operators with sufficient peripheral visual, auditory, and tactical cueing. This sensory deprivation requires the SUAS operator to exercise greater vigilance and maintain a high level of situational awareness.

106. **LOSS OF LINK (LOL).** If a LOL condition occurs and cannot be re-established according to SUAS Emergency Procedures (EP), contact the controlling agency as soon as possible per Naval Air Training and Operating Procedures Standardization (NATOPS), OPNAVINST 3710.7U, chapter 14.5.

107. **REPORTING REQUIREMENTS.**

1. Reporting and recording of incidents, deviations and violations of flying regulations and mishap information shall be made using the SUAS Incident/Mishap Report Form. See paragraph 101 of this chapter for the location of a SUAS Incident/Mishap Report Form with example. To facilitate mishap reporting, all SUAS flights should be recorded using the ground control station's recording capability. This recording is used to review any incidents or mishaps that may occur. Although there is no requirement to maintain recordings, they can be used as training aids.

2. Unit commanders shall maintain a monthly summary of SUAS flight operations and monthly SUAS rosters to record training activities per OPNAVINST 3710.7U, chapter 14.10. Submit the Monthly SUAS Status Report via chain of command to the applicable Marine Expeditionary Force (MEF)/MARSOC/Marine Forces Reserve (MARFORRES) G-3 who will consolidate these reports and forward them to the NAVAIR/PMA-263 Group 1 UAS organizational mailbox at pma263_groupluas@navy.mil. See paragraph 101 of this chapter for the location of the Monthly SUAS Status Report template.

3. Upon completion of the initial qualification training (IQT) for RQ-11B, provide the unit administration section with a copy of the course completion certificate and request course code "XJL" be entered in the individual service record. Once the code is entered, the individual Basic Training Record (BTR) will reflect the course completion code. This only applies to RQ-11B.

108. **MEDICAL STATUS AND REQUIREMENTS.** Aeromedical requirements for SUAS Operators (SUAS-Os) are delineated in OPNAVINST 3710.7U, paragraph 14.8. In addition, SUAS-Os shall have Class I standards for visual acuity, color vision and depth perception as defined per the MANMED (Article 15-85).

109. JOINT UNMANNED AIRCRAFT SYSTEMS MINIMUM TRAINING STANDARDS (JUMTS) (CJCSI 3255.01). The purpose of JUMTS is to identify the minimum knowledge required for unmanned aircraft system operators to support joint force commander (JFC) objectives.

1. **Basic UAS Qualification Level I (BUQ-I).** There are four levels of BUQ training. SUAS-Os are required only to achieve BUQ-I. BUQ-I was developed to give the SUAS-O the required aviation and SUAS knowledge-based skills to fly Visual Flight Rules (VFR) in Class E and G, and restricted/combat airspace <1200' above ground level (AGL).

2. **Joint Mission Qualification A (JMQ-A).** There are three JMQ levels. SUAS-Os are required only to achieve JMQ-A. JMQ-A provides general knowledge of the SUAS mission. This is critical to ensure SUAS-Os understand their role in accomplishing a larger joint military objective.

3. This T&R Manual complies with BUQ-I and JMQ-A requirements.

110. NATO STANDARDIZED AGREEMENT (STANAG) 4670. The STANAG 4670, dated 28 April 2009, is a ratified NATO Standardization Agreement that provides recommended guidance for the training of designated unmanned aerial vehicle operators. The aim of this agreement is to establish a broad set of training guidelines and to define the skills required of UAS operators. This T&R Manual complies with STANAG 4670 requirements.

111. AIRSPACE AND FREQUENCY COORDINATION.

1. SUAS personnel and planners shall utilize local procedures to coordinate and deconflict the use of airspace. SUAS operations are normally conducted in Special Use Airspace (SUA) (Warning and Restricted areas) but can also be conducted in the National Airspace under a Certificate of Authorization (COA) or Class G notification.

2. It is the responsibility of planners and SUAS-Os to coordinate the use of frequencies required to conduct SUAS operations. Frequency approval occurs at the local level and requires submission through the unit S-6/G-6. There may be long lead times to coordinate and finalize a frequency plan, therefore, it is recommended frequency requests be submitted in sufficient time to receive approval prior to SUAS operations. Refer to the applicable technical manual for the frequency range of a specific SUAS.

3. SUAS operations shall remain within the boundaries of the scheduled airspace and maintain radio contact with the controlling agency (i.e., Range Control). If operations spill out of the assigned airspace or a Loss of Link (LOL) condition occurs and the air vehicle does not return to the designated return home point, contact the controlling agency immediately. If a mission deviates from the planned schedule, notify with the airspace controlling agency.

4. Personnel engaged in the operation of a SUAS shall comply with Federal Aviation Regulations (FAR), International Civil Aviation Organization (ICAO) regulations, Host country regulations, laws and rules, military regulations, DOD Flight Information Publications (e.g., General Planning Guides, Area Planning Guides), published airspace control policy, and SUAS manuals, checklists and standard operating procedures, as applicable.

112. COMPUTER RESOURCES SUPPORT. The laptop computer in the Reconnaissance, Surveillance, and Target Acquisition (RSTA) kit issued as part of the system is an unclassified Commercial Off-The-Shelf (COTS) item. The Ground Control Station (GCS) software on the laptop is proprietary and licensed for use by the Government. These computers are designed as stand-alone systems. No additional software shall be loaded onto the RSTA laptop. Connection to a network or addition of software to the RSTA computer can render the SUAS functionality in FalconView inoperable and will down the system. No software maintenance is authorized by Marine Corps organizations. Original Equipment Manufacturer (OEM) is the Software Support Activity (SSA) for small unmanned aircraft systems. Communications - Electronic Command (CECOM) is responsible for maintaining the software. The U.S. Army Program Office manages the Post Deployment Software Support (PDSS) for all USMC and MARSOC RSTA laptops. If the laptop or software (i.e., Falcon View) becomes inoperable, refer to the applicable Supply Instruction (SI) on the Logistics Command (LOGCOM) Publications website: https://mcsd4.ala.usmc.mil/MCSD/SL/.

113. SYSTEM MANNING REQUIREMENTS. SUASs shall be manned as noted in Table 1-1. In certain circumstances when a commander deems it necessary, systems may be manned with one designated SUAS-O and one Untrained Assistant (as defined by applicable SUAS Technical Manual) during operations but never during event training or evaluations unless the T&R Manual specifically directs the use of an Untrained Assistant.

Table 1-1. Minimum Manning Requirements.

SUAS Type	System Min Manning
WASP*	2
RQ-11B	2
* The WASP SUAS may be manned with one SUAS-O if the system is appropriately configured to do so.	

114. SUAS MISSION CAPABLE STATUS. The SUAS must be full or partial mission capable per Table 1-2 for training. For Table 1-2, the following definitions apply:

1. **Full Mission Capable (FMC).** All baseline components are present and functional. Entire System is FMC if the quantity in the subsystem column in Table 1-2 is all present and functional. A FMC example is a RQ-11B with 3 functional fuselages, 1 functional GCS, 3 functional EO payloads, and 3 functional IR payloads.

2. **Partial Mission Capable (PMC).** Some baseline components are either missing or not functional, but system is capable of completing a full mission profile. Entire System is PMC if the quantity of each subsystem column in Table 1-2 is less than FMC, but greater than or equal to the PMC column. A PMC example is a WASP with 1 functional fuselage, 1 functional ground control station (GCS), 2 functional electro optical (EO) payloads and 1 functional infrared (IR) payload.

3. **Non-Mission Capable (NMC).** Critical baseline components are missing or non-functional, rendering the system incapable of completing a full mission profile. Entire System is NMC if functional quantity of each subsystem is less than the PMC column. A NMC example is a RQ-11B with 3 functional fuselages, 1 functional GCS, 3 functional IR payloads, but no functional EO payloads.

Table 1-2. Mission Capable Requirements.

RQ-11B					
Subsystem	**Asset Name**	**Baseline QTY**	**FMC Qty**	**PMC Qty**	**NMC**
AV	Fuselage	3	3	1	0
GCS	GCS and RSTA Laptop	1	1	1	0
Payload	Electro-Optical (EO) Day	3	3	1	0
Payload	Infrared (IR), Forward Looking	1	1	0	0
Payload	IR, Side Looking	2	1	0	0

WASP III					
Sub System	**Asset Name**	**Baseline QTY**	**FMC Qty**	**PMC Qty**	**NMC**
AV	Fuselage	4	4	1	0
GCS	GCS and RSTA Laptop	1	1	1	0
Payload	EO PTZ	3	3	1	0
Payload	IR, Turret	3	3	1	0

115. SIMULATOR TRAINING.

1. Simulators allow operators the opportunity to perform most SUAS tasks without conducting live flights. Simulators are useful for practicing procedures and tactics. Simulation technology provides an effective training capability while reducing resource requirements and costs. Certified simulators embedded in the operating system of a SUAS shall be used to conduct training and maintain currency per this T&R Manual to the maximum extent possible, excluding SUAS Evaluation flights.

2. Evaluation flights shall be conducted as live flights only. All flights (live or simulator) shall be logged in the SUAS Flight Log per paragraph 118.3 of this chapter.

116. SUAS TRAINING PROGRAM ROLES AND RESPONSIBILITIES

1. **NATOPS Model Manager** – TECOM/ATD is assigned as the NATOPS Model Manager until such time as an operational unit can be designated. A NATOPS Model Manager administers the NATOPS program for SUAS and is responsible for the

currency of all assigned NATOPS publications and SUAS crews; OPNAVINST 3710.7 defines roles and responsibilities.

2. **SUAS Program.** Commanders are responsible for establishing and maintaining a SUAS Training Program that includes integral and essential personnel to facilitate the functional and operational aspects of this training program. Unit personnel assigned to serve in the billets listed below shall be designated in writing, see paragraph 207 of this T&R Manual for designation requirements.

a. **SUAS-Program Manager (SUAS-PM) Requirements for Units without SUAS.** Units that do not have SUASs on their Table of Equipment (T/E) but who are assigned subordinate units that have these SUASs are required to have a staff noncommissioned officer (SNCO) or officer designated as the Unit SUAS-PM; the individual should be assigned for a minimum of 12 months. Responsibilities shall include:

(1) SUAS-PM at the MEF/MARSOC/MARFORRES headquarters shall coordinate with PMA-263 Group 1 IPT or approved training activities (i.e., formal school) to schedule specific SUAS Initial Qualification Training (IQT) to fulfill SUAS-O training requirements in this T&R Manual.

(2) Oversee the administration of the overall SUAS Program and ensure all subordinate commands' SUAS training programs are standardized.

(3) Assist subordinate commands in the administration of their unit programs to ensure all deploying unit SUAS operators, instructors, and evaluators (SUAS-O/I/Es) are properly trained, current and designated.

(4) Conduct a SUAS annual assessment visit to each subordinate unit to determine effectiveness of programs, compliance with governing directives, and efficiency of resource expenditures. Brief the unit commanding officer of the assessment results and provide recommendations as needed. See paragraph 101 of this chapter for the location of the SUAS Training Program Assessment Checklist.

(5) Ensure incidents, deviations and violations of flying regulations and mishap information are reported OPNAVINST 3710.7_, chapter 3.11 and command directives using the SUAS Incident/Mishap Report. Review the reports as needed, see paragraph 101 for the location of the SUAS Incident/Mishap Report Form.

(6) In coordination with subordinate units and the SUAS syllabus sponsor, develop standard operating procedures (SOP) to support the unit's local area SUAS activities. Review lessons learned and like documents and submit recommended changes to the SOP as needed.

(7) The SUAS-PM should be assigned for a minimum of 12 months.

b. **SUAS-Program Manager (SUAS-PM) Requirements for Units with SUAS.** Units that have SUASs on their T/E shall designate a staff noncommissioned officer (SNCO) or officer as the Unit SUAS-PM, the individual should be a SUAS-O. Responsibilities shall include:

(1) Administer the unit SUAS Training Program, to include Individual Training Records (ITRs), Marine Corps Training Information Management System (MCTIMS), flight logs, and other required documentation.

(2) Monitor and track currency training and designation of all unit SUAS-O/I/Es.

(3) Ensure the unit is identifying SUAS pre-deployment training requirements and integrating them during mission planning.

(4) Assist the unit Commanding Officer in preparing the monthly SUAS Status Report for submission.

(5) Maintain a prioritized list of unit personnel requiring SUAS-O IQT, with availability dates, and request training from the training activity. Consider shortfalls identified during operations or training exercises.

(6) Notify SUAS-O/I/Es of their training status to include lapse in currency and refresh training requirements and schedule them for training. Ensure they are allotted adequate training time, especially prior to deployments.

(7) Identify SUAS personnel who are failing to maintain designation standards and make recommendations concerning revocation to the unit commanding officer. Administratively process any SUAS-O/I/E for revocation, when directed by the unit commanding officer.

(8) Support the collection and reporting of operational lessons learned and submit recommended changes to the unit SOP as needed.

c. **Unit SUAS-Evaluator (SUAS-E).** Units that have SUASs on their T/E shall designate at least one sergeant or above as a SUAS-E. SUAS-E should be highly experienced as a SUAS-I. Responsibilities shall include:

(1) Manage the unit SUAS Evaluation program and serve as the technical advisor on all levels of SUAS standardization within the command.

(2) Conduct SUAS-O/I/Es evaluations on the SUAS(s) in which designated to evaluate.

(3) Train and evaluate unit SUAS-O/I/Es.

(4) Recommend SUAS-I candidates for IUT based on superior operator knowledge, experience and maturity.

(5) Maintain own individual currency and evaluation requirements for SUAS billets in which designated. Notify the Unit SUAS-PM if refresh or recertification training is required. SUAS evaluations may be conducted by an SUAS-E from another command.

(6) Assist the Unit SUAS-PM as needed.

d. **SUAS-Instructor (SUAS-I).** Units that have SUAS systems on their Table of Equipment (T/E) shall designate at least one corporal or above as a

SUAS-I. The SUAS-I should be highly experienced as a SUAS-O. Responsibilities shall include:

(1) Train SUAS-Os on currency and mission qualification training (MQT) events for SUAS(s) in which designated to instruct.

(2) Conduct refresh training for SUAS-Os who have gone out of currency.

Note: SUAS-Is/Es/PMs are prohibited from conducting IQT for the purpose of certifying personnel as first time SUAS-Os. Only formally trained IQT instructors (known as IQT-Is) are certified and approved to instruct IQT courses (normally at a formal learning activity or approved MTT) for the purpose of certifying SUAS-Os for the first time or recertifying SUAS-Os who have gone out of currency for greater than 721 days.

(3) Perform the duties of a SUAS-O, as needed.

(4) Maintain own individual currency and evaluation requirements to maintain SUAS-O and SUAS-I designations. Notify the Unit SUAS-PM if refresh or recertification training is required.

(5) Assist the Unit SUAS-PM as needed.

e. **SUAS-Operator (SUAS-O).** A SUAS-O is a current and designated individual who is responsible for operating the SUASs in which trained. Responsibilities shall include:

(1) Ensure airspace and frequency usage is approved prior to operating a SUAS.

(2) Report incidents, mishaps, and SUAS losses to the Unit SUAS-PM immediately upon occurrence using the SUAS Incident/Mishap Report.

(3) Provide the Unit SUAS-PM with a copy of the BUQ-I and applicable IQT course completion certificates.

(4) Maintain SUASs and operator logbooks and provide copies to Unit SUAS-PM on a monthly basis.

(5) Maintain own individual currency and evaluation requirements to maintain SUAS-O designation(s). Notify the Unit SUAS-PM if refresh or recertification training is required.

117. TRAINING TERMS AND POLICY. The policies and terms provided below apply specifically to this document and are provided for clarification to eliminate ambiguity.

1. **Initial Qualification Training (IQT).**

a. The purpose of IQT is to train individuals on entry level operations of the SUAS. Marine Corps IQT requirements are listed as 1000 numbered events, paragraph 203 of this T&R Manual. IQT is conducted by approved formal course instructors using a TECOM or USSOCOM approved POI. These instructors, known as IQT instructors (IQT-Is), shall complete a formal

instructor course, meet certification requirements of the formal learning activity, and be very experienced and knowledgeable in SUAS operations, principles of instruction and flight training. SUAS-I are not to be confused with IQT-Is.

b. **IQT Scheduling Procedures.** IQT consists of 10-training day courses that focus primarily on the basic operation of a small unmanned aircraft system. Currently SUAS IQT for USMC and MARSOC personnel is being provided by PMA-263 via contracted mobile training teams (MTTs). Each MTT is comprised of three IQT-Is with a student-to-instructor ratio of 4:1 with a maximum class capacity of 12 students. PMA-263 contracted training is approved for IQT provided it is **conducted without modifications** and meets the requirements of this T&R Manual. MARSOC personnel may also attend resident IQT provided by an AFSOC IQT course at the, Joint Formal Training Unit (JFTU), OLF Choctaw, FL. Units needing to initially certify SUAS-Os are required to coordinate training by submitting requests via their chain of command to their MEF/MARSOC/MARFORRES point(s) of contact. These points of contacts (POCs) will identify a host unit and schedule training with the PMA-263 Group 1 IPT or training activity that in turn will coordinate training at the host unit location. Host units shall obtain the resources required to conduct training, to include operating frequencies, training range/airspace, and classroom. The training activity shall provide the training equipment and course materials. The host unit and training activity personnel will work together to ensure training in conduct in its entirety. An information sheet that contains a list of SUAS training scheduling POCs, scheduling instructions, and roles and responsibilities of PMA-263, MEFs, MARSOC, MARFORRES, instructors and the hosting unit, is available at the TECOM/ATD website, https://www.intranet.tecom.usmc.mil/hq/branches/atb1/agt%20pages/uas.aspx. Scroll down and select "Documents", then select "Category: Group-1 UAS", and find desired document from the list that appears.

2. **Mission Qualification Training (MQT).** MQT is focused on supporting unit mission requirements using a SUAS. The purpose of MQT is to train SUAS-Os in the employment of assigned SUASs using relevant Tactics, Techniques, and Procedures (TTPs). These TTPs are not taught or emphasized during IQT. All MQT events shall be completed before a SUAS-O is considered full mission ready. MQT requirements are delineated in paragraph 204 of this T&R Manual.

3. **Prerequisite.** Prerequisites are requirements that shall be completed prior to commencing training in the event or designation for which specified.

4. **Initial.** An event is considered to be "Initial" if the individual has never completed the event before. Events in this T&R Manual coded as "I" are considered Initial and must be completed to be eligible for designation in the applicable SUAS. For example, a student shall complete all I-coded events for a specific SUAS as delineated in Core Skill Introduction Training in order to become certified in the specific SUAS and eligible for designation.

5. **Multiple Event Logging.** There may be opportunities for SUAS crew members to accomplish the requirements for more than one T&R coded event during a single training evolution. Units are encouraged to take advantage of opportunities that allow for multiple event completion. Multiple event logging is permitted if the requirement and performance standard for each event are accomplished, to include the minimum required flight time for each event.

6. **Designation.**

a. A designation is unit specific and remains in effect for the duration of an individual's tenure in a command unless removed for cause. SUAS-O/I/E designations are suspended until the unit commanding officer of the receiving unit designates the individual in writing. See paragraph 101 for location of the SUAS Designation Letter template

b. Commanders shall issue a designation in writing. A commander may elect to accept an individual's designation from a previous command, but shall do so in writing.

c. When an individual completes IQT that individual is considered a proficient SUAS-O certified to operate the system in which trained. However, that individual may not serve as a SUAS-O in a unit until designated in writing by the unit commanding officer.

d. Designations covered by this T&R Manual include SUAS-O/I/E and Unit SUAS-PM. SUAS personnel are designated based on appropriate level of training and currency per this T&R Manual.

7. **Individual Evaluations.** SUAS Evaluations are required for all SUAS-O/I/Es.

a. A SUAS-O/I/E shall undergo a SUAS Evaluation:

(1) Annually, not to exceed 12 months from date of designation or the last SUAS Evaluation, whichever is most recent.

(2) SUAS-O/I/E fails to maintain currency within 365 days per Table 1-3.

(3) When re-designating an SUAS-O/I/E after the designation was revoked per paragraph 117.10. Individuals with a revoked designation may regain that designation upon successfully completing a SUAS Evaluation and being recommended by the SUAS-E. The unit commanding officer may approve the recommendation in writing.

b. The SUAS Evaluation Guide provides the standardized direction and guidance on how to conduct a SUAS Evaluation. Only a SUAS-E may conduct these evaluations. See paragraph 101 of this chapter for location of the SUAS Evaluation Guide and SUAS Evaluation Form.

c. **Evaluation Exams.** The Emergency Procedures (EP) study guides and quizzes, SUAS Evaluation study guides, and written exams shall be maintained for standardization by the syllabus sponsor. See paragraph 101 of this chapter for location of the EP quizzes and study guides. SUAS Evaluation written examinations are controlled by the syllabus sponsor who shall distribute them directly to the MEF SUAS-PMs. Units that require SUAS Evaluation Exams must contact their MEF SUAS-PM.

d. **Evaluation Process.**

(1) The Unit SUAS-PM and SUAS personnel have joint responsibility to ensure evaluations are conducted as required. As a rule of thumb, planning

for an evaluation should begin 60 days from the projected evaluation date. The 60 day window will provide adequate time to obtain required range and airspace, frequencies and equipment, and to schedule required personnel (SUAS-E, Range OIC, Range Safety Officer, etc.).

(2) The Unit SUAS-PM will work with the unit operations/training section and SUAS-E to coordinate support for the evaluation.

(3) The SUAS-E should contact the evaluee NLT 24 hours prior to the event. It is recommended that the evaluee be provided a copy of the SUAS Evaluation Guide. The SUAS Evaluation Guide provides a detailed agenda for the day of the evaluation which is composed of two closed book assessments - a SUAS written exam and an emergency procedures (EP) quiz; a mission brief, an evaluation live flight; and a formal Debrief. The SUAS-E shall select any one of the MQT events with a scenario to conduct an evaluation.

(4) The evaluee must achieve a minimum grade of 80% on the closed book exam and 100% on the EP quiz before progressing to the flight portion.

(5) At the completion of the evaluation, the SUAS-E shall complete an evaluation form and route it, along with the completed written exam and EP quiz to the SUAS-PM. If the evaluation was for a designation (e.g. SUAS-I, SUAS-E, or to regain currency) then the evaluation form and completed exam and quiz shall be routed with the appropriate designation letter for the unit commanding officer's signature.

e. All SUAS Evaluation Forms and written examinations shall be filed in part VI of the ITR.

8. **Event Training Form (ETF).** ETFs shall be used to document event training. Every time an event is conducted an ETF shall be completed for that event. ETFs serve to document and track progress as well as to guide the student in correcting deficiencies. Completed ETFs shall be inserted into and maintained in the ITR, see paragraph 118 in this chapter.

9. **Currency.** Currency is a frequency requirement measured in time between SUAS sorties or training requirements. Currency minimum training requirements are derived from an event with a calendar date - specifically, from the date of the initial SUAS-O designation, upon regaining currency if that refresh requires a SUAS Evaluation flight (366 - 720 day lapse), or from the last SUAS Evaluation, whichever is most recent. A SUAS-O/I/E maintains currency by achieving the established minimum training and assessment requirements. Failure to maintain currency will result in the SUAS-O/I/E losing authorization to operate, train, or evaluate the system(s) until currency is regained. In cases where a currency lapse exceeds more than 365 days, designations shall be revoked.

a. **SUAS-O Currency Minimums.** SUAS-Os shall meet the following currency minimums and those noted in Table 1-3. SUAS-Os who fail to meet currency requirement shall not be authorized to operate the system(s) until currency is regained per Table 1-3.

(1) **12 Months.** Within 12 months preceding the date of the SUAS Evaluation, a total of 12 events are required, of which at a minimum 2 must be live flights. For systems requiring two SUAS-Os, half of an individual's

flights should be as the Vehicle Operator (VO) and half should be as the Mission Operator (MO).

(2) **6 Months.** Within 6 months preceding the date of the SUAS Evaluation a total of 6 events are required, of which at a minimum 1 must be a live flight. For systems requiring two SUAS-Os, half of an individual's flights should be as the Vehicle Operator (VO) and half should be as the Mission Operator (MO).

(3) **90 Days.** Within 90 days preceding the date of the SUAS Evaluation, 1 event is required (live or simulated).

b. Live events logged in conjunction with an annual SUAS Evaluation cannot be counted towards the currency requirements for that evaluation. Events conducted as part of a previous evaluation flight may be applied to currency minimums if that flight occurred within the period specified in Table 1-3. In order to ensure operators retain currency requirements to operate a specific SUAS, an Annual SUAS Evaluation flight shall be conducted within 12 months from the most recent SUAS Evaluation date.

c. **SUAS-I/Es currency minimums.** SUAS-I/Es shall maintain currency on the SUAS in which they will be instructing or evaluating. Currency shall be maintained as noted in Table 1-3.

d. **Currency Lapse.**

(1) SUAS personnel who fail to meet currency requirements shall not be authorized to operate, train or evaluate on the system(s) until currency is regained through refresher training per Table 1-3. Refresher requirements are based on the duration of the individual currency lapse and are summarized in Table 1-3.

(2) In order to regain currency, SUAS personnel shall complete or fly the indicated events under the observation of a current SUAS-I/E, as applicable. An Event Training Form (ETF) for each refresher event shall be completed and filed in Part IV of the ITR of the person regaining currency. Evaluation flights shall be flown with a SUAS-E.

Note: Events indicated with device code "L/S" can be flown using the approved simulator as an alternate means of accomplishing the flight. If a currency lapse exceeds 365 days, the designation letter shall be revoked. Once currency is regained, a new designation letter signed by the unit commanding officer will be issued.

Table 1-3. Currency Lapse (Durations in Days).

		Duration Of Currency Lapse			
SUAS Type	Event	91-180	181-365	366-720	721 +
		Days			
WASP	WASP-1000	L	L	L	
	WASP-1010	L/S	L	L	
	WASP-1020		L/S	L/S	
	WASP-1040		L/S	L/S	
	WASP-1100			L/S	
	EVAL-2980			L	
	DESG-2900 Revoked			X	X
	Recomplete WASP IQT Course				X
RQ-11B	RQ11-1200	L	L	L	
	RQ11-1210		L	L	
	RQ11-1220			L/S	
	RQ11-1270			L/S	
	EVAL-2985			L	
	DESG-2910 Revoked			X	X
	Recomplete RQ-11B IQT Course				X
WASP SUAS-I	IUT-2820			L	L
	IUT-2830			L	L
	EVAL-2980			L	L
	DESG-2940 Revoked			X	X
	Recomplete WASP IUT				
WASP SUAS-E	EUT-2860			L	L
	EVAL-2980			L	L
	DESG-2960 Revoked			X	X
	Recomplete WASP EUT				X
RQ-11B SUAS-I	IUT-2820			L	L
	IUT-2835			L	L
	EVAL-2985			L	L
	DESG-2945 Revoked			X	X
	Recomplete RQ-11B IUT				X
RQ-11B SUAS-E	EUT-2865			L	L
	EVAL-2985			L	L
	DESG-2965 Revoked			X	X
	Recomplete RQ-11B EUT				X

10. **Refresh.** When a SUAS-O/I/E fails to meet minimum training requirements, that individual is no longer authorized to operate SUASs until currency is regained. An individual can regain currency through the refresh process by completing the events specified in Table 1-3 under the supervision of a current SUAS-I/E, as applicable. There is no limit to the number of times an individual can refresh at a unit as long as done before the 721 day currency

lapse. If lapse is 721 days or greater, currency cannot be regained until the applicable SUAS Formal IQT Course is completed.

11. **Designation Revocation.** Unit commanding officers have the discretion to revoke a designation. Personnel removed from the SUAS training program shall be notified with a revocation letter signed by the unit commanding officer and removed immediately by the Unit SUAS-PM. Instances that may lead to removal from a SUAS program are flagrant violations, disregard to procedures, a trend of substandard performance, failure to refresh per Table 1-3. Unit commanding officers must approve revoked individuals for re-entry into the SUAS training program with a Remedial Syllabus letter. See paragraph 101 for location of the SUAS Remedial Syllabus and Revocation Letter templates.

12. **Remedial Syllabus.** A remedial syllabus is a series of training events selected by a SUAS-E/I and reviewed by the SUAS-PM for the purpose of correcting identified training deficiencies. This syllabus shall be approved in writing by the unit commanding officer and shall include an SUAS evaluation flight. An occasion of when a remedial syllabus would be required is in the case of a reinstatement to the SUAS Training Program following designation revocation. For example, if an individual's SUAS-O designation was revoked for repeated airspace violations, specific events from the T&R would be selected to retrain the SUAS-O on the use of airspace and on how to maintain the AV within airspace boundaries. See paragraph 101 for location of the SUAS Remedial Syllabus template.

13. **Deviations.** TECOM ATD is the approval authority for deviations from training policy delineated in this T&R Manual. However, commander, COMMARFORSOC is the approval authority for deviations from training policy for MARSOC. Requests for T&R policy deviation shall be requested via message to CG TECOM ATD, through the operational chain of command SUAS Program Manager (SUAS-PM) at the respective MEF/MARFORRES/MARSOC with notification to the syllabus sponsor. See paragraph 101 for location of the SUAS Deviation Request Message sample.

14. **Deployments.** SUAS-O/I/Es must be current and designated per this T&R Manual before deployment. A SUAS-O/I/E shall make every attempt to maintain currency. Once deployed, SUAS-O/I/Es will be considered current and designated for the duration of the deployment. Upon return from deployment, SUAS-O/I/Es who did not maintain their currency have 90 days to complete the refresh training requirements per Table 1-3. Commanders shall issue a waiver letter noting a by-date when currency must be refreshed before they lapse in currency. See paragraph 101 for location of the SUAS Deployment Currency Waiver Letter template.

15. **Unit SUAS Assessment.** The Unit SUAS-PM at each command echelon shall conduct annual assessment visits to each immediate subordinate command echelon maintaining a SUAS Training Program. The purpose of these assessments is to ensure proper program administration and standardization and to provide assistance and guidance for programs that do not meet standards. These assessments can be in conjunction with other unit exercises or operations and are encouraged to be conducted during real world operations. Within 60 days from the date of the assessment, the assessed unit shall take corrective action on all deficiencies noted during the SUAS assessment and provide the next higher echelon a written report and inform the SUAS-PM who conducted the assessment. See paragraph 101 of this chapter for location of the SUAS Training Program Assessment Checklist.

118. TRAINING ADMINISTRATION.

1. **Individual Training Record (ITR).**

a. The ITR contains all documents and records for a SUAS-O/I/E. An updated and accurate ITR is critical to tracking and documenting SUAS-O/I/E currency and designations. The Unit SUAS-PM is responsible for ensuring that each SUAS-O/I/E has an ITR. ITRs shall be constructed and organized into six sections per Table 1-4 using a common brown DOD 6 part folder. The syllabus sponsor will be responsible for the standardization of the SUAS ITR, and shall maintain a master file of ITR and document templates. See paragraph 101 of this chapter for location of the SUAS ITR cover sheets and training forms.

Table 1-4. ITR Organization

PART	ITEMS
I	General A: Privacy Act Statement B: Record of Audit C: Medical Documentation
II	Designation and Other Letters
III	Course Completion Certificates
IV	Flight Log
V	SUAS Training Forms
VI	Flight Evaluations
See paragraph 101 of this chapter for location of the SUAS ITR cover sheets and training forms.	

b. The ITR shall be audited at a minimum of annually when one of the following occasions occurs:

(1) Upon reporting to a unit.

(2) Upon designation or recertification.

(3) In conjunction with a SUAS evaluation.

(4) Upon transferring to another unit.

(5) During a unit assessment ITR may be randomly reviewed.

c. The ITR will be physically located with the Unit SUAS-PM, unless signed out by the individual. SUAS-O/I/Es are responsible for providing the Unit SUAS-PM with SUAS training documents such as course completion certificates and copies of logbook entries.

d. The ITR (in its entirety) shall be maintained as a permanent record.

e. **T&R Event Tracking.** Once completed, T&R events shall be tracked using a SUAS T&R Event Tracking Form. These forms shall be placed in Part V of the ITR. When an event is completed, the event number, date completed and instructor or evaluator signature shall be documented on the form. See paragraph 101 of this chapter for location of the SUAS T&R Event Tracking Form.

2. **Training Management System (TMS).** Marine Corps Training Information Management System (MCTIMS) is an automated, web-based database. MCTIMS is the primary database system that shall be used to track all SUAS training to include flights, simulator events, and currency requirements. MCTIMS does not replace the requirement to maintain ITRs.

3. **SUAS Flight Logbooks.**

a. SUAS-Os shall maintain an individual flight log book. Each individual flight event, live or simulated, shall be documented using a flight log that starts with the first flight in an IQT course and is maintained throughout a SUAS-O/I/E's career. Flight logs shall be standardized by the syllabus sponsor and accessible in electronic format. Flight logs shall be reviewed monthly by the Unit SUAS-PM who will date and sign in the row immediately following the last entry. See paragraph 101 of this chapter for location of the SUAS Flight Log Form.

b. All flights shall be logged to reflect the position of the duties being performed:

(1) SUAS-Os will log operator time as MO or VO as appropriate.

(2) SUAS-Is will log instructor time only if performing instructor duties.

(3) SUAS-Es will log evaluator time only if performing evaluator duties.

Note: Flying hour computation starts when AV is launched and in flight and ends when AV has landed.

c. SUAS-O/I/Es shall personally maintain their logbooks updated and in their custody. On a monthly basis and prior to a deployment, the Unit SUAS-PM shall inspect individual logbooks and maintain a copy in the ITR. SUAS-O/I/Es will deploy with their logbooks to ensure timely and accurate entry of flight data.

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CHAPTER 2

GROUP 1 UNMANNED AIRCRAFT SYSTEM (UAS) INDIVIDUAL TRAINING AND READINESS

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CHAPTER 2

GROUP 1 UNMANNED AIRCRAFT SYSTEM (UAS) INDIVIDUAL TRAINING AND READINESS

200. **TRAINING PROGRESSION MODEL.** SUAS personnel shall follow the training progression model as depicted below. The Model is broken into four phases as noted below. As a prerequisite to beginning the first phase the student must complete the BUQ-I course offered through Joint Knowledge Online (JKO), this training may be accomplished at the student's home station.

1. Core Skill Introduction Training (1000 numbered events) provides Initial Qualification Training (IQT) requirements. IQT is conducted by formal learning activities (i.e., formal schools or MTTs) with instructors certified to instruct courses of instruction authorized by TECOM or USSOCOM J-7/9. Upon completion of IQT requirements, the student is certified as a SUAS-O and eligible to be designated in writing by the unit commanding officer. Select events in Core Skills Introduction training are also used during unit level training to maintain or regain currency per Table 1-3. These select events may be conducted by unit SUAS-Is.

2. Core Skill Training (2000-2799 numbered events) provides Mission Qualification Training (MQT) requirements that are conducted at the unit by a SUAS-I. All MQT events shall be completed before a SUAS-O is considered full mission ready.

3. Instructor and Evaluator Under Training (IUT and EUT) (2800-2899 numbered events) provide training required to be designated as either an SUAS-Instructor (SUAS-I) or a SUAS-Evaluator (SUAS-E). This training is conducted by unit SUAS-Is or SUAS-Es, as noted for each event.

4. Designations and Requirements (2900-2999 numbered events) delineate requirements for SUAS-O/I/E and SUAS-PM designations and annual requirements.

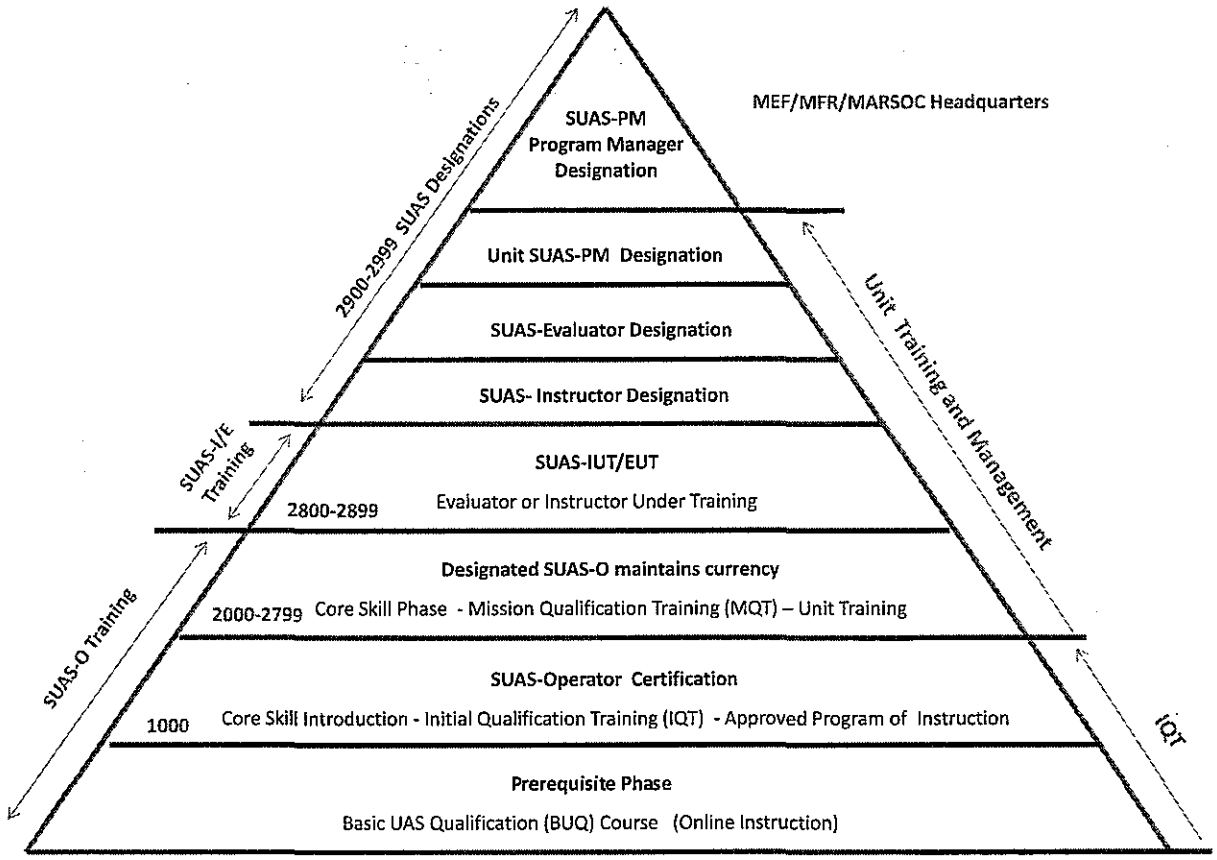

Figure 2-1. SUAS TRAINING PROGRESSION MODEL.

201. T&R EVENT STRUCTURE. The T&R event structure is provided below. The superscript numerals in the header section correspond to the explanation provided in the notes section below the example. The body sections contain embedded descriptions.

WASP-1020[1]	0.4[2]	I,R[3]	S/L[4]	(N)[5]	SUAS-I[6]

Task. States what is to be accomplished.

Additional Tasks. Only applies to 2000 numbered events. They are tasks that are related in scope and nature to the primary requirements of the event but are not required to complete the event. These tasks may be included during training to optimize the benefits of the event.

Requirement. Provides the condition in which the event will be conducted and lists performance steps that shall be completed.

Performance Standard. Directly tied to an event and indicates the level of competence that shall be achieved for the event to be considered satisfactorily completed.

Initial System Condition. The state of the SUAS when presented to the trainee prior to officially commencing training on this

event. As the syllabus progresses the initial system condition will require more setup on the part of the trainee.

System Configuration. The physical configuration of the SUAS required for the trainee to successfully complete the event. This section will contain information for both the Air Vehicle (AV) and Ground Control Station (GCS).

Prerequisite. Actions/items that shall be completed prior to starting the event.

Range Training Area. The range training area dimensions required to accomplish the event training requirements.

References. References that assist in training the student to satisfy the event performance standard, or the instructor in evaluating the effectiveness of the task completion.

Applicable SUAS. Notes the SUASs that the event applies to.

EVENT HEADER NOTES:

1. Event Code. This number is used to log completed events in MCTIMS and the ITR SUAS T&R Event Tracking Form. An event number is alphanumeric and thus has two parts. The first part is an alpha sequence that describes the event type, be it a common core event that applies to all SUASs (MQT) or SUAS specific in that it applies to only that SUAS (e.g. WASP, RQ11, IQT). The second part is a 4 digit number unique to that event (e.g. 1010) which cannot be used again for any other event.

2. Flight Duration. This is the **minimum duration** for the conduct of the event. The duration is expressed in tenths of a minute - $1/10^{th}$ of an hour is equal to 6 minutes. Flight duration shall be logged based on the "minute interval" in which the flight time falls. For example, if flight duration is 15 minutes, the decimal time will be 0.3.

Table 2-1. Time Conversion

TIME CONVERSION	
DECIMAL	MINUTE INTERVAL
0.1	1-6
0.2	7-12
0.3	13-18
0.4	19-24
0.5	25-30
0.6	31-36
0.7	37-42
0.8	43-48
0.9	49-54
1.0	55-60

3. Program of Instruction (POI) Code. Individuals undergoing training are required to complete a specific POI. A POI is a set of training events that an individual is required to complete.

POI type codes include: I (initial) or R (refresher). Once I-coded events have been completed and they are also R-coded, then they are to be subsequently flown per Table 1-3, Currency Lapse.

4. Event Device Code. The device or equipment required to complete the event. Non-flight events are noted as "Classroom". All I-coded events shall be conducted live; IQT events shall be conducted Live (L). Events that are also R-coded may be conducted live or use a simulator. Events coded "I, R" are device coded "L then L/S" to indicate initial conducted live and refresh conducted either live or simulator (L/S).

Table 2-2. Event Device Codes

DEVICE CODE	DEFINITION
L	Live flight only
S	Simulator flight only
L/S	Live flight preferred, Simulator flight optional
S/L	Simulator flight preferred, Live flight optional
Event shall only be completed using the approved simulator for the SUAS.	

5. Time of Day. When the event may be flown. Possible codes are **D** (Day), **N** (Night) or **(N)** (Night optional). An **(N)** coded flight can be flown day or night.

6. Instructor Required. This code will specify who can conduct training for this event (i.e., SUAS-I or SUAS-E).

202. **EVENT ACRONYMS.** Table 2-3 provides a list of acronyms found throughout events in the IQT and MQT syllabus.

Table 2-3. Event Acronyms List.

Acronym	Definition
ACA	Airspace Control Authority
ACM	Airspace Coordination Measure
AGL	Above Ground Level
ALT	Altitude
AV	Air Vehicle
BDA	Battle Damage Assessment
DTED	Digital Terrain Elevation Data
EO	Electro-Optical
EP	Emergency Procedures
ETF	Event Training Form
FO	Forward Observer
FSCM	Fire Support Coordination Measure
GCS	Ground Control Station
IAW	In Accordance With
IDF	Indirect Fire
IPB	Intelligence Preparation of the Battlefield
IR	Infrared
JTAC	Joint Terminal Attack Controller
LAT	Latitude
LOL	Loss of Link
LONG	Longitude
LOS	Line of Sight
LZ	Landing Zone
MGRS	Military Grid Reference System
MO	Mission Operator
NAIs	Named Areas of Interest
NLT	No Lower Than
NVD	Night Vision Device
OCU	Operator Control Unit
PID	Positive Identification
POO	Point of Origin
RSTA	Reconnaissance Surveillance and Target Acquisition
RVT	Remote Video Terminal
SOP	Standard Operating Procedure
SUA	Special Use Airspace
TAIs	Target Areas of Interest
TD	Technical Directive
UAV	Unmanned Aerial Vehicle
VO	Vehicle Operator
Acronyms for SUAS Modes are not included.	

203. CORE SKILL INTRODUCTION TRAINING (1000).

1. **General.**

a. **Purpose.** To provide entry-level instruction and develop expertise in the basic operation of the SUAS, and to emphasize systems knowledge, emergency procedures, and operational terminology. This training builds upon the academic information learned in the BUQ-I course and applies it during actual flight operations. Core Skill Introduction training fulfills the requirements of IQT for specific SUASs. Upon successful completion of this training, the student is certified as a SUAS-O and may be designated in writing by the unit commanding officer as such.

b. **Prerequisite.**

(1) Shall have Class I standards for visual acuity, color vision and depth perception as defined per the MANMED (Article 15-85).

(2) Complete BUQ-I Course in its entirety. To access the BUQ-I Course users are required to register for an account through SUASMAN, a SUAS training management system managed by AFSOC. See paragraph 101 for location of the "BUQ-I Course Registration Instructions" file that provides steps to setup a SUASMAN account. This file provides detailed registration instructions for SUASMAN and for accessing the BUQ-I Course. Certificates of completion of all BUQ-I Course modules or a transcript listing that all BUQ-I Course modules have been completed shall be filed in the operator ITR.

(3) Be selected for IQT by the unit Operations/Training Officer.

c. **Conduct.** Every attempt should be made to fly the IQT events in numerical order. Events may be flown out of sequence to maximize training efficiency and account for environmental and operational conditions, except in cases where prerequisite events are required. An event shall not be flown unless the event prerequisites have been successfully accomplished.

d. **Administration Notes.**

(1) Upon completion of IQT, all IQT event codes shall be logged in MCTIMS per paragraph 118.2 of this chapter and annotate completion dates and the name of the IQT-I who conducted the event on the SUAS T&R Event Tracking Form in the ITR.

(2) For each T&R event, the SUAS-O student shall demonstrate proficiency in each task in its entirety before the task is considered complete for that student.

(3) If SUAS personnel go out of currency for 721 days or more, they shall refresh by attending the required IQT course again.

(4) In order to receive full credit for an event, an individual must personally complete all event requirements (for both VO and MO) and perform the event performance standard to a proficient level before being given full credit for the event.

Note: Unit SUAS-Is/Es are prohibited from conducting initial qualification training (IQT) for the purpose of certifying personnel as first time SUAS-Os. Only personnel who have completed a formal SUAS instructor course (known as IQT-Is) are authorized to conduct IQT for the purpose of certifying SUAS-Os for the first time or recertifying SUAS-Os who have lapsed in currency for greater than 720 days.

e. **Stages.** A SUAS-O student shall train in one of the below stages, as directed.

(1) IQT for WASP (WASP)

(2) IQT for RQ-11B (RQ11)

2. **IQT for WASP.**

a. **Purpose.** To develop proficiency and build experience in the basic operation of the WASP. All events starting with the alpha numeric code of "WASP" apply specifically to WASP training.

b. **Admin Notes.** The WASP IQT syllabus shall be supplemented with essential academic / classroom instruction necessary to operate the system properly, plan for and conduct flight operations while adhering to regulations and ensuring safety of flight. Academic / classroom training shall include as the minimum the following subject areas:

(1) Introductory Skills.
- (a) Demonstrate publications knowledge.
- (b) Demonstrate system description knowledge.
- (c) Perform system assembly/disassembly.
- (d) Conduct preflight, launch, recovery operations.
- (e) Demonstrate knowledge of controls and indicators.
- (f) Operate the system simulator.

(2) Intermediate Skills.
- (a) Demonstrate knowledge of mapping and GPS.
- (b) Conduct basic mission planning / crew mission briefing.
- (c) Conduct basic aerodynamics principles piloting air vehicle.
- (d) Conduct instruction on covert approach and advanced flight.
- (e) Operate range and bearing tool.
- (f) Perform system maintenance and trouble shooting.
- (g) Conduct airspace management.
- (h) Operate FalconView, RPUAV Tool Bar, and Image Processing software.
- (i) Conduct emergency procedures.

(3) Advanced Skills.
- (a) Perform incident and readiness reporting procedures.
- (b) Conduct mobile, night, relay, and handoff operations.
- (c) Operate WASP using an Untrained Assistant.

c. **Conduct.** Flight events are conducted as specified. All I-coded events shall be conducted live; WASP IQT events shall be conducted Live (L). Events that are also R-coded may be conducted live or use a simulator.

Events coded "I, R" are device coded "L then L/S" to indicate initial conducted live and refresh conducted either live or simulator (L/S).

d. **Total Flight Training.** 13 flights, 5.3 hours

WASP-1000	0.4	I,R	L then L	D	IQT-I/SUAS-I

Task. Conduct heads up flight.

Requirement. Complete initial flight using all system flight modes IAW the references, checklists, ETF, and given a functional WASP. Instructor will demo first flight.

1. Instructor will demonstrate:
   a. GCS setup.
   b. How to plan a mission and how to load mission information and RSTA setup.
   c. How to assemble, stage, launch, and recover AV.
2. Student will:
   a. Assemble, stage, and launch AV.
   b. Take off in MAN mode; do not change modes below 200' AGL. Enter ALT mode NLT 200' AGL.
   c. Conduct timed turns, box pattern, orbit, and teardrop approach.
   d. Conduct dashes.
   e. Establish a loiter.
   f. Conduct practice approaches.
   g. Use NAV and HOME modes.
   h. Enter NAV mode and land E to L.
   i. Recover AV and render it safe.

Performance Standard. Conduct heads up flight IAW the references, checklists, and ETF. The student will demonstrate ability to:

1. Assemble AV.
2. Launch AV while serving as MO for another student.
3. Switch between all flight modes.
4. Fly heads up and keep AV oriented and on altitude during timed turns, box patterns, orbit, and a teardrop approach.
5. Dash the AV.
6. NAV AV from E to L and land AV.
7. Recover AV and render it safe.

Initial System Condition. GCS/AV assembled by the Instructor, RSTA powered and configured by the Instructor. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload, FalconView, RSTA.

Prerequisite. Complete BUQ-I Course.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.

2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1010	0.4	I,R	L then L	(N)	IQT-I/SUAS-I

Task. Conduct heads down flight.

Requirement. Launch heads up in MAN mode, conduct remainder of flight and recovery head's down. IAW the references, checklists and ETF, and given a functional WASP, the student will:

1. Set up GCS.
2. With Instructor assistance, set up the RSTA laptop.
3. Plan and load mission information.
4. Assemble, stage, launch, and recover AV.
5. Take off in MAN mode.
6. Enter ALT mode no lower than 200' AGL.
7. Conduct timed turns, box pattern, orbit, and teardrop approach.
8. Control AV speed using holds and dashes.
9. Establish a loiter.
10. Conduct practice approaches.
11. Use NAV and HOME modes.
12. Control AV to a landing in the specified area with Instructor assistance.
13. Land the AV by manually initiating AUTOLAND.
14. Recover AV and render it safe.

Performance Standard. Conduct heads down flight IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble AV.
2. Set up the GCS.
3. Set up RSTA laptop, plan a mission, and load mission to AV.
4. Launch AV while serving as MO for another student.
5. Switch between all flight modes.
6. Fly heads down and, with MO assistance, keep the AV oriented and on altitude during timed turns, box patterns, an overhead orbit, and a teardrop approach.
7. Dash and hold the AV.
8. NAV AV to waypoint E.

9. With Instructor assistance, manually navigate the AV to the landing area and establish a proper landing position/altitude profile.
10. Land the AV by manually initiating AUTOLAND.
11. Recover AV and render it safe.

Initial System Condition. GCS/AV disassembled. Load DTED, "UAV Origin", and 200m diamond default.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA.

Prerequisite. WASP-1000.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1020	0.4	I,R	L then L/S	(N)	IQT-I/SUAS-I

Task. Manually edit waypoints and reroute AV.

Requirement. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Set up GCS.
2. MO will plan and load mission information to AV using hand controller.
3. Assemble, stage, launch, and recover AV.
4. Take off in MAN mode. Enter ALT mode at briefed altitude NLT 200' AGL.
5. Enter NAV mode and fly at least 1 complete orbit of diamond default.
6. MO will manually edit waypoints and orbit points using hand controller.
7. In NAV mode, MO will redirect AV to specified orbit points.
8. MO shall switch waypoints A and C, or B and D, and redirect AV for a complete orbit of diamond default.
9. Conduct practice approaches.
10. NAV from E to L for head's down approach.
11. Recover AV and render it safe.

Note: Requirement to maintain a video log remains. Recommend use of a second GCS or an external digital video recording device connected to the HUB.

Performance Standard. Manually edit waypoints and reroute AV IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble AV.
2. Set up the GCS.
3. MO will plan a mission and load mission to AV using hand controller.
4. Launch AV while serving as MO for another student.
5. Switch between all flight modes.
6. Fly the diamond default pattern in NAV mode.
7. Manipulate position of orbit points in hand controller, and route AV to those orbit points.
8. Manually edit location of diamond default pattern waypoints using hand controller, and to redirect the AV to the pattern.
9. NAV AV from E to L and conduct a heads down recovery.
10. Recover AV and render it safe.

Initial System Condition. GCS/AV disassembled. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, and 2 hand controller configuration. 1:50K map of operating area to navigate from.

Prerequisite. WASP-1010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1030	0.4	I	L	D	IQT-I

Task. Use AV to conduct target acquisition.

Requirement. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Plan and load mission information.
2. Assemble, stage, launch, and recover AV.
3. Take off in MAN mode.
4. Enter ALT mode at briefed altitude, NLT 200' AGL.
5. Conduct remainder of flight heads down.
6. Navigate around target using front and side cameras in NAV, ALT and LOIT modes.
7. Change coordinate format on RSTA from MGRS to LAT LONG, and back to MGRS.
8. Drag waypoints to change payload view in order to maintain contact with target and to change AV orbit from clockwise to counterclockwise.
9. Leapfrog diamond waypoints to allow AV to search and navigate along a linear feature.
10. Adjust waypoint altitudes using Mission Altitude Control to while AV is in NAV mode.
11. Pull/delete captured images from the HUB.
12. Process imagery off RSTA laptop.
13. NAV from E to L for heads down approach and landing.
14. Recover AV and render it safe.

Performance Standard. Use AV to conduct target acquisition IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble AV.
2. Set up the GCS.
3. MO will plan and load a mission using the RSTA laptop.
4. Complete specified requirements, demonstrating the ability to navigate to and conduct reconnaissance of a target.
5. Manipulate imagery obtained during reconnaissance.
6. NAV AV from E to L and conduct a heads down landing.
7. Recover AV and render it safe.

Initial System Condition. FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload, Hand Controller, RSTA.

Prerequisite. WASP-1020.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)

4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1040	0.4	I,R	L then L/S	D	IQT-I/SUAS-I

Task. Introduction to use of joystick (if WASP so configured).

Requirement. Operate the WASP using the joystick instead of the hand controller. IAW the references, checklists, ETF, and given a functional WASP, with MO assistance, the student will:

1. Plan and load mission information.
2. Assemble, stage, launch, and recover AV.
3. Take off in MAN mode. Enter ALT mode at briefed altitude, NLT 200' AGL.
4. Operate AV in ALT, MAN, NAV, LOIT, and HOME modes using the joystick.
5. Use RSTA to direct AV in ALT and NAV modes.
6. Heads down, NAV to HOME, then E to L for landing.
7. Recover AV and render it safe.

Performance Standard. Operate the WASP using the joystick instead of the hand controller IAW the references, checklists, and ETF. With MO assistance, the student will demonstrate the ability to:

1. Assemble AV.
2. Set up the GCS.
3. MO will plan and load a mission using the RSTA laptop.
4. VO will use joystick to perform all VO functions, flying in ALT, MAN, NAV, LOIT, and HOME modes.
5. MO will use RSTA to navigate the AV, change headings, and change altitudes.
6. VO will capture images.
7. VO will use joystick to cycle back and forth between Operator Control Unit (OCU), and FalconView pages.
8. VO will remain head's down during the recovery from E to L.
9. MO will provide terminal guidance for the VO during recovery.
10. Recover AV and render it safe.

Note: If this event cannot be completed due to the SUAS not being configured with the appropriate software and controls for single user operations, an entry shall be made in the SUAS T&R Event Tracking Form for IQT. All items shall be annotated as "DNC" and in the Instructor Comments section, the SUAS-I/E shall insert the comment "SUAS not appropriately configured."

Initial System Condition. FalconView closed. Load DTED, "UAV Origin", and 500m diamond default. Config table set to MO function.

System Configuration. EO Payload, Joystick, RSTA.

Prerequisite. WASP-1010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1050	0.4	I	L	D	IQT-I

Task. Single Operator operations (if WASP so configured).

Requirement. Student will set up, launch, fly, and recover AV as a single operator. IAW the references, checklists, ETF, and given a functional WASP, demonstrate the following:

1. Plan and load mission information.
2. VO will assemble, stage, launch, and recover AV.
3. VO will launch AV.
4. Take off in MAN mode.
5. Enter ALT mode at briefed altitude, NLT 200' AGL.
6. Using the joystick, operate AV in ALT, MAN, NAV, LOIT and HOME modes.
7. Using RSTA, reroute the AV to at least one orbit point.
8. Cycle through all payload camera modes using Pan, Tilt, and Zoom (PTZ).
9. Heads down, NAV to HOME.
10. Transition to heads up and land manually.
11. Recover AV and render it safe.

Performance Standard. Conduct single operator operations IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Conduct entire flight as both VO and MO.
2. Assemble vehicle and set up RSTA.
3. Conduct preflight checks.
4. Launch the AV.
5. Use joystick to perform all VO functions, flying in ALT, MAN, NAV, LOIT, and HOME modes.
6. Use RSTA to navigate the AV, edit waypoints, and drag orbit points.
7. Capture images.
8. Cycle through all payload camera options and maintain contact with a target using PTZ.

9. Use joystick to cycle back and forth between OCU and FalconView pages.
10. Reroute AV to HOME heads down.
11. Transition to heads up and land manually.
12. Recover AV and render it safe.

Note: If this event cannot be completed due to the SUAS not being configured with the appropriate software and controls for single user operations, an entry shall be made in the SUAS T&R Event Tracking Form for IQT. All items shall be annotated as "DNC" and in the Instructor Comments section, the SUAS-I/E shall insert the comment "SUAS not appropriately configured."

Initial System Condition. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload, Joystick, RSTA.

Prerequisite. WASP-1040.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1060	0.4	I	L	D	IQT-I

Task. Conduct day mobile operations from a moving vehicle.

Requirement. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Set up GCS in mobile configuration.
2. Plan and load mission information.
3. Assemble, stage, launch, and recover AV.
4. Take off in MAN mode. Enter ALT mode at briefed altitude NLT 200' AGL.
5. NAV to Home or enter HOME mode while entering vehicle.
6. Use forward and side wing cameras to track a moving vehicle from a moving/stationary vehicle.
7. Control AV to a landing in the specified area.

8. Recover AV and render it safe.

Performance Standard. Conduct day mobile operations from a moving vehicle IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. AV crew will configure GCS for mobile operations inside a vehicle.
2. AV crew will launch AV, then transition to operations from inside a vehicle.
3. Track a moving vehicle from a stationary or moving vehicle using side and forward cameras.
4. MO will reposition HOME waypoint at least twice during the flight.
5. Maintain situational awareness on position of target vehicle during mobile operations.
6. Control AV to a landing in the specified area.
7. Recover AV and render it safe.

Initial System Condition. Load DTED, "UAV Origin", and 500m diamond default.

> Note: Requirement to maintain a video log remains. Recommend use of a second GCS or an external digital video recording device connected to the HUB.

System Configuration. EO Payload, Joystick or hand controller, RSTA. Configure system on a vehicle for mobile operations using omni-directional antenna and mobile mount.

Prerequisite. WASP-1030.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1070	0.4	I	L	D	IQT-I

Task. Conduct zone, area, and point reconnaissance operations.

Requirement. Students will plan a reconnaissance mission, and develop a flight plan from mission-based orders. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Plan and load mission information according to detailed mission brief.
2. Assemble, stage, and launch the AV.
3. Take off in MAN mode. Enter ALT mode at briefed altitude, NLT 200' AGL.
4. Conduct a Zone/Area reconnaissance of area briefed. Identify targets and/or TAIs in the zone/area.
5. Conduct a point reconnaissance.
6. VO will conduct heads down approach while MO vectors AV to landing area.
7. Recover AV and render it safe.

Performance Standard. Conduct zone, area, and point reconnaissance operations IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Develop and plan a mission to support briefed objectives.
2. Fully cover a NAI or TAI.
3. Conduct reconnaissance of a specific point and correlate it to a map or FalconView.
4. Recover AV and render it safe.

Initial System Condition. FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload, Joystick or hand controller, RSTA.

Prerequisite. WASP-1030.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1080 0.4 I L N IQT-I

Task. Introduction to basic night flight skills.

Requirement. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Plan and load mission information.
2. Assemble, stage, and launch the AV.
3. Take off in MAN mode. Enter ALT mode at briefed altitude NLT 200' AGL.
4. Track a linear feature.
5. Conduct reconnaissance of a point feature.
6. NAV E to L for heads down approach and landing.
7. Recover AV and render it safe.

Performance Standard. Conduct a basic night flight IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble GCS and AV at night.
2. Launch AV at night.
3. Use IR payload to track a linear target.
4. Use IR payload to conduct reconnaissance of a point target.
5. Detect orientation of AV visually using beacons.
6. Recover AV at night and render it safe.

Initial System Condition. GCS and AV disassembled. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. Hand Controller, IR Side Payload, RSTA.

Prerequisite. WASP-1020.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1090 0.4 I L N IQT-I

Task. Introduction to advanced night flight skills.

Requirement. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Plan and load mission information.
2. Assemble, stage, and launch the AV.
3. Take off in MAN mode. Enter ALT mode at briefed altitude NLT 200' AGL
4. Enter NAV mode.
5. As MO, route AV to programmed waypoints and target.
6. Conduct reconnaissance of an area, identify TAIs/NAIs.
7. As MO, pull captured images from the HUB.
8. As MO, process imagery off RSTA laptop.
9. As MO, delete captured images from the HUB.
10. As VO, conduct heads down approach to landing.
11. As MO, vector AV to landing area to manually AUTOLAND.
12. Recover AV and render it safe.

Performance Standard. Conduct an advanced night flight IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble GCS and AV at night.
2. Launch AV at night.
3. Use RSTA laptop to remain oriented.
4. Use RSTA laptop to reroute AV to specific waypoints or targets.
5. Use IR payload to conduct reconnaissance of a point target.
6. MO shall pull imagery off the HUB, RSTA laptop, and process that imagery into a JPEG.
7. Detect orientation of AV visually using beacons.
8. Recover AV at night visually.
9. Manually AUTOLAND AV.
10. Recover AV and render it safe.

Initial System Condition. FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. Hand Controller, IR Side Payload, RSTA.

Prerequisite. WASP-1080.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)

4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1100	0.5	I,R	L then L/S	(N)	IQT-I/SUAS-I

Task. Conduct AV hand-offs during point reconnaissance mobile operations.

Requirement. Operate from GCS A and hand off to a secondary GCS, GCS B. Conduct a minimum of two full AV exchanges for a total of four hand offs (two handing off, two receiving AV); can be conducted from either stationary or mobile GCS. IAW the references, checklists, ETF, and given a functional WASP, the student will:

GCS A (Ground Crew)

1. Review and discuss hand off procedures prior to conducting flight.
2. Plan and load mission information.
3. Assemble, stage, launch, and recover AV.
4. Ensure AV Channel, ALT, AV Number are communicated to GCS B.
5. Take off in MAN mode.
6. Enter ALT mode at briefed altitude NLT 200' AGL.
7. Conduct briefed mission profile.
8. At planned hand-off point, initiate hand-off sequence with GCS B.
9. Receive AV back from GCS B.
10. Conduct second AV hand-off and reception.
11. NAV E to L for heads down approach and landing.
12. Recover AV and render it safe.

GCS B (Mobile Crew)

1. Set up GCS in mobile configuration.
2. Receive AV Channel, ALT, AV Number from GCS A.
3. Receive AV from GCS A.
4. Use payload camera to track a moving vehicle from a moving/stationary vehicle.
5. Hand AV back to GCS A

Performance Standard. Conduct AV hand-offs during point reconnaissance mobile operations IAW the references, checklists and, ETF. The student will demonstrate the ability to:

GCS A (Ground Crew)

1. Launch AV on a normal mission profile and vector to briefed hand off point.
2. MO will demonstrate effective communication procedures to initiate hand off to GCS B.
3. When GCS B is ready, hand AV off.
4. When directed by GCS B, VO will receive AV and regain control.

5. AV crew will use a wing rock to visually confirm AV control has been regained after hand off.
6. Land AV heads down using NAV mode, E to L.
7. Recover AV and render it safe.

GCS B (Mobile Crew)

1. AV crew will configure GCS for mobile operations inside a vehicle.
2. MO will demonstrate effective communication procedures to initiate hand off from GCS A.
3. When directed by GCS A, VO will receive AV and regain control.
4. Track a moving vehicle from a moving vehicle using IR side camera.
5. MO will reposition HOME waypoint at least twice during the flight.
6. Maintain situational awareness on position of target vehicle during mobile operations.
7. When GCS A is ready, hand AV off.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration.

1. GCS A - OCU/Hand Controller, EO Payload for day flight or IR Side Payload for night, RSTA.
2. GCS B - OCU/Hand Controller, EO Payload for day flight or IR Side Payload for night, RSTA; manned with designated SUAS-O.

Prerequisite. WASP-1080.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1110	0.5	I	L	D	IQT-I

Task. Operate WASP using an Untrained Assistant.

Requirement. With Instructor oversight and one Untrained Assistant, the student shall be responsible for all aspects of flight coordination and conduct IAW the references, checklists, ETF, and given a functional WASP, the student will demonstrate tasks as noted in the table below:

	Trained Operator Tasks	Untrained Assistant Tasks
Mission	• Plan Mission	• Secure launch site • Provide airspace surveillance • Conduct time hack
Pre-flight	• Set waypoints in Mission Hand Controller • Run pre-flight check on VO controller: change LOL mode back to "Rally Point" on Mission Hand Controller	• Transport equipment • Hold air vehicle for pre-flight checks
Launch	• Launch air vehicle • Take control of VO Controller once airborne	• Engage toggle switch to power propeller • Hold VO Controller during launch, be prepared to engage AUTOLAND if required
Flight	• Operate VO Controller	• Monitor data off laptop • Come heads-up first for landing
Post-Flight	• Inspect equipment	• Recover air vehicle • Pack and transport equipment

Performance Standard. Operate WASP using Untrained Assistant IAW the references, checklists, and ETF. The student will demonstrate the ability to conduct all required tasks listed above to include those of the Untrained Assistant, without assistance from the Instructor. Student must demonstrate the ability to guide and direct the actions of the Untrained Assistant.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO payload, FalconView, RSTA.

Prerequisite. WASP-1020.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

WASP-1190	0.3	I	L	(N)	IQT-I

Task. Culmination Flight for WASP.

Requirement. With Instructor oversight, AV crew shall be responsible for all aspects of flight coordination and conduct. IAW the references, checklists, ETF, and given a functional WASP, the student will:

1. Power up GCS.
2. Plan and conduct full mission brief and load mission information.
3. Assemble, stage, and launch the AV.
4. Coordinate with ACA (simulate call to instructor) for conduct of flight operations.
5. Take off in MAN mode.
6. Enter ALT mode at briefed altitude NLT 200' AGL.
7. NAV to preprogrammed waypoints. Conduct area and point reconnaissance.
8. Use orbit points to control profile of AV.
9. Respond accurately and precisely to simulated emergency conditions.
10. Use MAN mode or NAV E to L for heads down approach and landing.
11. Recover AV and render it safe.

    Note: Requirement to maintain a video log remains. Recommend use of a second GCS or an external digital video recording device connected to the HUB.

Performance Standard. IAW the references, checklists, and ETF, the student will demonstrate the ability to conduct the culmination flight without assistance from the Instructor.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. OCU or Hand Controller, EO Payload for day flight or IR Side Payload for night flight, RSTA.

Prerequisite. WASP-1000, WASP-1010, WASP-1020, WASP-1030, WASP-1040, WASP-1050, WASP-1060, WASP-1070, WASP-1080, WASP-1090, WASP-1100, WASP-1110.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. WASP.

3. **IQT for RQ-11B.**

a. **Purpose.** To develop proficiency and build experience in the basic operation of the RQ-11B SUAS.

b. **Admin Notes.** The RQ-11B IQT syllabus shall be supplemented with essential academic / classroom instruction necessary to operate the system properly, plan for and conduct flight operations while adhering to regulations and ensuring safety of flight. Academic / classroom training shall include as the minimum the following subject areas:

(1) Introductory Skills.
- (a) Demonstrate publications knowledge.
- (b) Demonstrate system description knowledge.
- (c) Perform system assembly/disassembly.
- (d) Conduct preflight, launch, recovery operations.
- (e) Demonstrate knowledge of controls and indicators.
- (f) Operate the system simulator.

(2) Intermediate Skills.
- (a) Demonstrate knowledge of mapping and GPS.
- (b) Conduct basic mission planning / crew mission briefing.
- (c) Conduct basic aerodynamics principles and piloting the air vehicle.
- (d) Conduct instruction on covert approach and advanced flight.
- (e) Operate range and bearing tool.
- (f) Perform system maintenance and troubleshooting.
- (g) Conduct airspace management.
- (h) Operate FalconView, RPUAV Tool Bar, and Image Processing software.
- (i) Conduct emergency procedures.

(3) Advanced Skills.
- (a) Perform incident and readiness reporting procedures.
- (b) Conduct mobile, night, relay, and handoff operations.
- (c) Operate WASP using an Untrained Assistant.

c. **Conduct.** Flight events are conducted as specified. All I-coded events shall be conducted live; RQ-11B IQT events shall be conducted Live (L). Events that are also R-coded may be conducted live or use a simulator. Events coded "I,R" are device coded "L then L/S" to indicate initial conducted live and refresh conducted either live or simulator (L/S).

d. **Total Flight Training.** 10 flights, 5.6 hours.

RQ11-1200	0.6	I,R	L then L	D	IQT-I/SUAS-I

Task. Conduct heads up/heads down flight.

Requirement. Complete initial flight using all system flight modes IAW the references, checklists, ETF, and given a functional RQ-11B. Instructor will demonstrate first flight.

Instructor will demonstrate:

1. GCS setup.
2. How to plan a mission and how to load mission information and RSTA setup.
3. How to assemble, stage, launch, and recover AV.

Student will conduct the following:

1. Assemble and stage the system.
2. Take off in MAN mode, enter ALT mode when operating altitude is established.
3. Conduct timed turns, box pattern, orbit, and teardrop approach.
4. Conduct dashes.
5. Establish a loiter point, use LOIT mode.
6. Conduct practice approaches.
7. Use NAV and HOME modes.
8. Land the AV from ALT mode by manually initiating AUTOLAND.
9. Recover AV and render it safe.

Performance Standard. Conduct heads up/heads down flight IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble AV.
2. Assist with GCS setup.
3. Observe set up of the RSTA laptop, mission planning and loading a mission.
4. Launch AV while serving as MO for another student.
5. Switch between all flight modes.
6. Flying both heads up and heads down (with MO assistance) and keep the AV oriented and on altitude during timed turns, box patterns, orbit and a teardrop approach.
7. Control the speed of the AV (dash/hold).
8. Establish a loiter point, use LOIT mode.
9. Navigate AV to various points, bring AV to HOME waypoint.
10. With Instructor assistance, manually navigate the AV to the landing area and establish a proper landing position/altitude profile.

11. Land the AV from ALT mode by manually initiating AUTOLAND.
12. Recover AV and render it safe.

Initial System Condition. GCS/AV assembled and RSTA powered and configured by the Instructor. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload, FalconView, RSTA.

Prerequisite. Complete BUQ-I Course.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1210	0.6	I,R	L then L/S	(N)	IQT-I/SUAS-I

Task. Manually edit waypoints and reroute AV, Low Level (LL) flight, and LL AUTOLAND.

Requirement. IAW the references, checklists, ETF, and given a functional RQ-11B, the student will:

1. Set up GCS.
2. Plan and load mission information.
3. Assemble, stage, launch, and recover AV.
4. Take off in MAN mode, enter ALT mode at briefed altitude.
5. Instructor will demonstrate LL AUTOLAND.
6. Enter NAV mode and fly at least one complete orbit of diamond default.
7. In NAV mode, MO will redirect AV to specified orbit points.
8. MO shall switch waypoints by MGRS and using range and bearing.
9. Conduct security looking outward and inward.
   Note: Disconnect MO hand controller for LL portion of flight
10. Conduct LL flying in ALT mode beginning at 100'AGL and stepping down to 20-30' AGL.
11. Conduct LL flying in MAN mode beginning at 100'AGL and stepping down to 20-30' AGL.
12. Conduct LL VO initiated AUTOLAND between 3-6' AGL
13. Recover AV and render it safe.

Note: Require to maintain a video log recommend use of a second GCs or an external digital video recording device connected to the HUB.

Performance Standard. Manually edit waypoints and reroute AV, LL flight and LL AUTOLAND IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble AV.
2. Set up the GCS.
3. Plan a mission, and load mission to AV using hand controller.
4. Launch AV while serving as MO for another student.
5. Switch between all flight modes.
6. Fly the diamond default pattern in NAV mode.
7. Manipulate position of orbit points in hand controller, and route AV to those orbit points.
8. Conduct LL flight and traffic pattern navigation in ALT mode.
9. Conduct LL flight and traffic pattern navigation in NAV mode. Hard deck for this profile shall be 10' AGL until landing.
10. Conduct a LL AUTOLAND between 3' and 6' AGL.
11. Recover AV and render it safe.

Note: Require to maintain a video log recommend use of a second GCs or an external digital video recording device connected to the HUB.

Initial System Condition. GCS powered down. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, and 2 hand controller configuration. 1:50K map of operating area to navigate from.

Prerequisite. RQ11-1200.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1220	0.7	I,R	L then L/S	(N)	IQT-I/SUAS-I

Task. Conduct target acquisition using the RQ-11B.

Note: This event helps develop proficiency in high level silent AUTOLAND recovery.

Requirement. IAW the references, checklists, ETF, and given a functional RQ-11B, the student will:

1. Plan and load mission information.
2. Assemble, stage, launch, and recover AV.
3. Take off in MAN mode. Enter ALT mode at briefed altitude, conduct remainder of flight heads down, except landing.
4. Navigate around target using front and side cameras in NAV, ALT and LOIT modes.
5. MO shall change coordinate format on RSTA from MGRS to LAT/LONG and back to MGRS.
6. MO shall drag waypoints to change payload view in order to maintain contact with target and to change AV orbit from clockwise to counterclockwise.
7. MO shall leapfrog diamond waypoints to allow AV to search and navigate along a linear feature.
8. MO shall use Mission Altitude Control to adjust waypoint altitudes while AV is in NAV mode.
9. MO shall pull/delete captured images from the HUB.
10. MO shall process imagery off RSTA laptop.
11. Position AV for High Level AUTOLAND NLT 800' AGL.
12. Navigate heads up to bring AV into the wind for a high level landing.
13. Recover AV and render it safe.

Performance Standard. Conduct target acquisition using the RQ-11B IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble AV.
2. Set up the GCS.
3. MO will plan and load a mission using the RSTA laptop.
4. AV crew will complete specified requirements, demonstrating the ability to navigate to and conduct reconnaissance of a target.
5. AV crew will manipulate imagery obtained during reconnaissance.
6. Manually initiate AUTOLAND and subsequently pilot the AV during deep stall in order to land at the desired point.
7. Strive to land within 20 meters of desired landing point.
8. Recover AV and render it safe.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA.

Prerequisite. RQ11-1210.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1230	0.5	I	L	(N)	IQT-I

Task. Conduct silent (covert) target area surveillance.

Requirement. IAW the references, checklists, ETF, and given a functional RQ-11B, the student will:

1. Assemble and launch the AV.
2. Launch in MAN mode, establish ALT mode at briefed altitude (NLT 800' AGL).
3. Ingress to target using both MAN and ALT modes.
4. Initiate covert approach no closer than 500m from target, preferably upwind with emphasis on use of winds and awareness of winds.
5. Demonstrate proper technique to achieve at least 270° of observation prior to egress.
6. Initiate egress in MAN mode (preferably downwind) no closer than 300 meters and NLT 300' AGL, ensuring adequate obstacle clearance on the egress route.
7. Conduct manual approach or NAV E to L and AUTOLAND.
8. Recover AV and render it safe.

Performance Standard. Conduct silent (covert) target area surveillance IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Correlate winds aloft with the target area in order to develop a sound covert approach plan. Covert approach plan shall include ingress direction/altitude, egress point and altitude, flight mode (MAN or ALT), and ensure obstacle clearance throughout entire profile.
2. Correctly enter a covert profile by entering MAN mode and gliding to target.
3. Use teardrop entry into a surveillance profile and to provide a minimum of 270° of observation prior to egress.
4. Egress the target area without compromising the AV. A helpful training technique is to conduct the covert approach to the

GCS so the operators can listen for the AV and judge the effectiveness of their planned profile.
5. Recover AV and render it safe.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA.

Prerequisite. RQ11-1220.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1240	0.6	I	L	D	IQT-I

Task. Conduct day mobile operations from a moving vehicle.

Requirement. IAW the references, checklists, ETF, and given a functional RQ-11B, the students will:

1. Set up GCS in mobile configuration.
2. Plan and load mission information.
3. Assemble, stage, launch, and recover AV.
4. Take off in MAN mode, enter ALT mode at briefed altitude.
5. NAV to Home or enter HOME mode while entering vehicle.
6. Use forward and side payload cameras to track a moving vehicle from a stationary vehicle.
7. Use forward and side payload cameras to track a moving vehicle from a moving vehicle.
8. Heads up approach to landing area with AUTOLAND.
9. Recover AV and render it safe.

Performance Standard. Conduct day mobile operations from a moving vehicle IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Configure GCS for mobile operations inside a vehicle.

2. Launch AV, then transition to operations from inside a vehicle.
3. Track a moving vehicle from a stationary and moving vehicle using side and forward cameras.
4. MO will reposition HOME waypoint at least twice during the flight.
5. Maintain situational awareness on position of target vehicle during mobile operations.
6. Conduct heads up approach to landing area and manually initiate AUTOLAND.
7. Recover AV and render it safe.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload, FalconView, RSTA. Configure system on a vehicle for mobile operations using mobile mount.

Prerequisite. RQ11-1210.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1250	0.3	I	L	N	IQT-I

Task. Introduction to basic night flight skills.

Requirement. IAW the references, checklists, ETF, and given a functional RQ-11B, the student will:

1. Plan and load mission information.
2. Assemble, stage, launch, and recover AV.
3. Take off in MAN mode, enter ALT mode at briefed altitude
4. Track a linear feature.
5. Conduct reconnaissance of a point feature.
6. Use IR Illuminator.
7. NAV E to L for heads down approach and landing.
8. Recover AV and render it safe.

Performance Standard. Conduct a basic night flight IAW the references, checklists, and ETF. The student will demonstrate ability to:

1. Assemble GCS and AV at night.
2. Launch AV at night.
3. Use IR payload to track a linear target.
4. Use IR payload to conduct reconnaissance of a point target.
5. Detect orientation of AV visually using beacons.
6. Recover AV at night and render it safe.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. IR Side Payload, FalconView, RSTA.

Prerequisite. RQ11-1210, RQ11-1240.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)

Applicable SUAS. RQ-11B.

RQ11-1260 0.7 I L N IQT-I

Task. Introduction to advanced night flight skills.

Requirement. IAW the references, checklists, ETF, and given a functional RQ-11B, the student will:

1. Plan and load mission information.
2. Assemble, stage, launch, and recover AV.
3. Take off in MAN mode, enter ALT mode at briefed altitude
4. Enter NAV mode. MO route AV to programmed waypoints and target.
5. Conduct reconnaissance of an area; identify TAIs or items of interest.
6. MO shall pull/delete captured images from the HUB.
7. MO shall process imagery off RSTA laptop.
8. VO conducts heads down approach to landing area.
9. MO vectors AV to landing area to manually AUTOLAND.
10. Recover AV and render it safe.

Performance Standard. Conduct an advanced night flight IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Assemble GCS and AV at night.
2. Launch AV at night.
3. Use RSTA laptop to remain oriented.
4. Use RSTA laptop to reroute AV to specific waypoints or targets.
5. Use IR payload to conduct reconnaissance of a point target.
6. MO shall pull imagery off the HUB and RSTA laptop, and process that imagery into a JPEG.
7. Detect orientation of AV visually using beacons.
8. Conduct a night heads up landing.
9. Manually AUTOLAND AV.
10. Recover AV and render it safe.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. IR Side Payload, FalconView, RSTA.

Prerequisite. RQ11-1250.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1270	0.5	I,R	L then L/S	(N)	IQT-I/SUAS-I

Task. Conduct AV hand-offs during point reconnaissance night mobile operations.

Requirement. Operate from GCS A and hand off to a secondary GCS, GCS B. Conduct a minimum of two full AV exchanges for a total of four hand offs (two handing off, two receiving AV); can be conducted from either stationary or mobile GCS. Conduct flight IAW the references, checklists, and ETF, the student will:

GCS A (Ground Crew)

1. Review and discuss hand off procedures prior to conducting flight.
2. Plan and load mission information.
3. Assemble, stage, launch, and recover AV.
4. Ensure AV Channel, ALT and AV Number are communicated to GCS B.
5. Take off in MAN mode
6. Enter ALT mode at briefed altitude NLT 200' AGL.
7. Conduct briefed mission profile.
8. At planned hand-off point, initiate hand-off sequence with GCS B.
9. Conduct second AV hand-off and reception.
10. NAV E to L for heads down approach and landing.
11. Recover AV and render it safe.

GCS B (Mobile Crew)

1. Set up GCS in mobile configuration.
2. Receive AV Channel, ALT, AV Number from GCS A.
3. Receive AV from GCS A.
4. Use payload camera to track a moving vehicle from a moving/stationary vehicle.
5. Hand AV back to GCS A.

Performance Standard. Conduct AV hand-offs during point reconnaissance night mobile operations IAW the references, checklists, and ETF. The student will demonstrate the ability to:

GCS A (Ground Crew)

1. Launch AV on a normal point reconnaissance mission profile and vector to briefed hand off point.
2. MO will demonstrate effective communication procedures to initiate hand off to GCS B.
3. When GCS B is ready, hand AV off.
4. When directed by GCS B, VO will receive AV and regain control.
5. AV crew will use a wing rock to visually confirm to GCS B that AV control has been regained after hand off.
6. Safely land AV heads down using NAV mode, E to L.
7. Recover AV and render it safe.

GCS B (Mobile Crew)

1. AV crew will configure GCS for mobile operations inside a vehicle.
2. MO will demonstrate effective communication procedures to initiate hand off from GCS A.
3. When directed by GCS A, VO will receive AV and regain control.
4. Track a moving vehicle from a moving vehicle using IR side camera.

5. MO will reposition HOME waypoint at least twice during the flight.
6. Maintain situational awareness on position of target vehicle during mobile operations.
7. When GCS A is ready, hand AV off.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration.

1. GCS A - Hand Controller, IR Side Payload, FalconView, RSTA.
2. GCS B - Hand Controller, IR Side Payload, FalconView, RSTA; manned with designated SUAS-O.

Prerequisite. RQ11-1250.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

RQ11-1280	0.5	I	L	D	IQT-I

Task. Operate RQ-11B using an Untrained Assistant.

Requirement. With Instructor oversight and one Untrained Assistant, the student shall be responsible for all aspects of flight coordination and conduct IAW the references, checklists, and ETF. Given a functional RQ-11B, the student will conduct tasks as noted in the table below:

	Trained Operator Tasks	Untrained Assistant Tasks
Mission	• Plan Mission	• Secure launch site • Provide airspace surveillance • Conduct time hack
Pre-flight	• Set waypoints in Mission Hand Controller • Run pre-flight check on VO controller: change LOL mode back to "Rally Point" on Mission Hand Controller	• Transport equipment • Hold air vehicle for pre-flight checks
Launch	• Launch air vehicle • Take control of VO Controller once airborne	• Advance throttle to 100% for launch • Hold VO Controller during launch, be prepared to engage AUTOLAND if required
Flight	• Operate VO Controller	• Monitor RSTA laptop • Come heads-up for landing
Post-Flight	• Inspect equipment	• Recover air vehicle • Pack and transport equipment

Performance Standard. Operate RQ-11B using an Untrained Assistant IAW the references, checklists, and ETF. The student will demonstrate the ability to conduct all required tasks listed above to include those of the Untrained Assistant, without assistance from the Instructor. Student must demonstrate the ability to guide and direct the actions of the Untrained Assistant.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO payload, FalconView, RSTA.

Prerequisite. RQ11-1210.

RQ11-1290 0.6 I L (N) IQT-I

Task. Culmination Flight for RQ-11B.

Requirement. With Instructor oversight, AV crew shall be responsible for all aspects of flight coordination and conduct. IAW the references, checklists, ETF, and given a functional SUAS, the student will:

1. Power up GCS.
2. Plan and conduct full mission brief and load mission information.
3. Assemble, stage, and launch AV.

4. Coordinate with Airspace Control Authority (ACA) or range control (simulate call to instructor) for conduct of flight operations.
5. Take off in MAN mode, enter ALT mode at briefed altitude.
6. NAV to MO preprogrammed waypoints.
7. Conduct area and point reconnaissance.
8. Use orbit points to control profile of AV.
9. Respond accurately and precisely to simulated emergency conditions.
10. Use MAN mode or NAV E to L for heads down approach and landing.
11. Recover AV and render it safe.

Performance Standard. IAW the references, checklists, and ETF, the student will demonstrate ability to conduct the culmination flight without assistance from the Instructor.

Initial System Condition. GCS powered down, FalconView closed. Load DTED, "UAV Origin", and 500m diamond default.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA.

Prerequisite. RQ11-1200, RQ11-1210, RQ11-1220, RQ11-1230, RQ11-1240, RQ11-1250, RQ11-1260, RQ11-1270, RQ11-1280.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. RQ-11B.

204. CORE SKILL TRAINING (2000 - 2799).

1. General.

a. **Purpose.** To apply the skills acquired during the IQT phase to advanced mission sets and tactical scenarios in order to prepare the SUAS-O to employ the systems in an operational environment. Additional tasks within each event are provided as supplemental skills to be practiced in conjunction with the main mission requirements to provide greater exposure for the SUAS-O and scenario depth. All MQT events shall be completed in order to be considered MQT complete. However, if time and or resources preclude

completion of all MQT events, Table 2-4 should be used as a guide for prioritizing events for unit training.

Table 2-4. MQT to Unit Mission Correlated Events.

Type Unit	MQT 2010 Local Airspace	MQT 2020 Recon	MQT 2030 Overwatch Security Ops	MQT 2040 Track Mobile Targets	MQT 2050 Cover Friendly Mobile Ops	MQT 2060 Terminal Control of Fires
AAV	X			X		
Anglico	X					X
Artillery	X		X			X
CEB	X					
CLR	X					
Infantry	X	X	X	X	X	X
Intel	X	X				
LAR	X	X				
MEU	X	X	X	X	X	X
MLG	X		X		X	
MWSS	X		X	X		
Recon	X	X	X	X	X	X
Special Ops	X	X	X	X	X	X
Tank BN	X		X		X	

b. **Prerequisite.** Complete IQT training for the specific SUAS being trained prior to commencing Core Skill training.

c. **Conduct.** Core Skill events in this phase may be flown in any order with the exception of the MQT-2010 event which shall be completed first.

d. **Stage.** Mission Qualification Training (MQT).

2. **Mission Qualification Training (MQT) Stage**

a. **Purpose.** To train SUAS-Os in unit specific SUAS mission tasks. Generally, these tasks are not taught or emphasized during IQT. MQT events are independent of each other and can be conducted in any order with the exception of MQT-2010 which must be completed first.

b. **Admin Notes.**

(1) Regardless of how many platforms the operator is designated in, that operator only needs to complete MQT events once in any SUAS in order to be MQT complete. Completion of these on one SUAS carries over to all SUASs.

(2) A SUAS-O is not MQT complete until all MQT events have been completed, at which time the SUAS-O will be full mission ready.

c. **Conduct.** Events are flown as specified.

3. **MQT Training.**

a. **Classroom.** 1 event, 2.0 hours.

b. **Flight.** 5 flights, 2.5 hours.

MQT-2010	2.0	I,R	Classroom	NA	SUAS-I

Task. Introduction to local area flying operations.

Requirement. This period of instruction provides the student with the information required to safely and effectively operate within the confines of the assigned operational area. Instruction shall include the following:

1. Ensure student has an ITR and Flight Log that are properly constructed and maintained per the references.
2. Provide detailed review of all Local Airspace (including SUA) and SUAS training areas.
3. Provide detailed review of procedures for reserving training areas and airspace.
4. Provide a detailed review of all applicable controlling agencies and entities (tactical and administrative) for conducting SUAS operations in the local flying area.
5. Introduce how to assist unit personnel with SUAS frequencies deconfliction.
6. Introduce the student to the unit frequency manager.
7. Provide a detailed review of all local SOPs, Orders, policies and regulations that govern local SUAS flight operations.
8. Provide an overview of local unit procedures for storage, handling, and accounting for SUAS equipment.
9. Provide an overview of local supply points and procedures for replacing/repairing broken/missing system parts.
10. Provide a detailed review of local procedures for planning, conducting, and logging SUAS flight operations.
11. Provide a detailed review of procedures required in the event of a lost or damaged SUAS.
12. Provide an overview of incident and mishap reports and procedures.
13. Demonstrate how to access to local and Service websites related to the performance of SUAS-O duties.

Performance Standard. The student shall demonstrate the ability to fully understand and complete all required items of this event and to coordinate and conduct safe SUAS operations.

Initial System Condition. N/A.

System Configuration. N/A.

Prerequisite. Complete IQT and be designated as a SUAS-O on the SUAS in which being trained.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. All.

MQT-2020	0.5	I	L	(N)	SUAS-I

Task. Refine reconnaissance techniques in a tactical scenario.

Scenario. Select tactical launch site to support mission and provide optimal positioning for launch/recovery of the AV and security for the SUAS crew. Fly AV out in MAN mode until mission altitude is achieved, then enter ALT mode and route to hold or to first checkpoint. During the mission the VO shall conduct Route, Area, and Point Reconnaissance. During the reconnaissance mission the focus should be on the quality of the products and the live video feed. Instructor shall provide specific requirements for video/still imagery products required. The Range and Bearing (S&T) function shall be used at least once during the mission if the SUAS is so equipped. The route reconnaissance should be flown in both free flight mode and by dragging A/B/C/D waypoints. The area reconnaissance shall be flown within a defined boundary (specified during the mission brief) with a specific objective. The point reconnaissance mission shall be flown using covert techniques to prevent acoustic and visual detection of the AV. SUAS crew must take notes and be able to identify those TAIs/NAIs found during the mission for later exploitation. At the conclusion of the flight, imagery and video shall be processed on the RSTA for dissemination; dissemination methods shall be discussed with the Instructor.

Additional Tasks.

A. GCS to GCS handoff.
B. Remote site launch and forward control of vehicle from a concealed position.
C. Student obtains required resources to conduct training (i.e., range, frequencies, system checkout, etc.)
D. Conduct notional actions (e.g., reports and simulated EPs, as noted in MQT-2010).
E. Report mobile target status in real time.
F. Coordinate to provide external downlink to RVT(s).

Requirement. Instructor will provide the student with a tactical scenario tailored to the specific range/operating area in use. VO shall plan and execute entire mission with assistance from MO. IAW the references, checklists, and ETF, the student will:

1. Setup GCS and AV.
2. Select AV payload that best supports the environmental conditions and types of targets anticipated during the mission. IR payload can be used during the daytime.
3. Plan mission IAW briefed parameters.
4. Launch AV in MAN mode.
5. Conduct route reconnaissance of a linear feature.
6. Conduct area reconnaissance of a defined NAIs or TAIs.
7. Conduct point reconnaissance using covert flight techniques.

8. Use S&T function to determine range and bearing on a selected image.
9. Download and process imagery from HUB and from RPUAV-log.
10. Capture imagery from mission video and save as JPEG.
11. Land AV manually or in NAV mode from E to L.
12. Recover AV and render it safe.

Performance Standard. Conduct reconnaissance techniques in a tactical scenario IAW the references, checklists, and ETF. The student will demonstrate the ability to complete the event requirement without assistance from the Instructor.

Initial System Condition. SUAS packed for transport to the field. SUAS crew should wear combat gear appropriate to the mission but at a minimum shall wear a helmet and body armor.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA.

Prerequisite. MQT-2010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. All.

MQT-2030	0.5	I	L	(N)	SUAS-I

Task. Conduct overwatch and security operations in support of a fixed position.

Scenario. The SUAS crew shall use SUAS to provide overwatch and security of their own fixed site. Site should simulate a small forward operating base or site with limited access and launch/recovery areas. Site should have some nearby vertical obstacles, if possible, such as trees or structures that will limit launch and recovery options. Mission preparation should include an IPB analysis of potential vulnerabilities, areas of interest, and visual dead spots surrounding the launch site. The mission should prioritize areas within the enemy's effective weapons range per the scenario. During pre-mission planning, consideration should be given to potential IDF POO, enemy

defilade or hidden fighting positions, ambush sites, denial of access for key avenues of approach, forward observation points for enemy observers, infill routes for sappers, etc. Mission plan should follow a realistic flight path to provide imagery/video reconnaissance of those key areas and avenues identified during IPB. SUAS crew must take notes and be able to identify those areas/items of interest found during the mission for later exploitation. Precision landing techniques are critical to limit exposure of the SUAS crew to hostile fire and potential loss of AV.

Additional Tasks.

A. GCS to GCS handoff.
B. Remote site launch and forward control of vehicle from a major hub (hub and spoke operations).
C. Student obtains required resources to conduct training (i.e., range, frequencies, system checkout, etc.)
D. Conduct notional actions like reports and simulated EPs, as noted in MQT-2010).
E. Coordinate to provide external downlink to RVT(s).

Requirement. Instructor will provide the student with a tactical scenario tailored to the specific range/operating area in use. The student shall plan and execute entire mission with assistance from MO and guidance from the Instructor. Try blending or expanding scenario to transition into MQT-2050 during the same training session (Shall fly a 0.5 time minimum for each event). IAW the references, checklists, and ETF, the student will:

1. Setup GCS and AV.
2. Select AV payload that best supports the environmental conditions and the types of targets anticipated during the mission. IR payload can be used during daytime.
3. Plan mission IAW briefed parameters.
4. Launch AV in MAN mode.
5. Conduct site security and overwatch per mission plan and brief.
6. Download and process imagery from HUB and from RPUAV-log.
7. Capture imagery from mission video and save as JPEG.
8. Land AV manually or in NAV mode from E to L, ensuring the technique selected is optimal for landing accuracy.
9. Recover AV and render it safe.

Performance Standard. Conduct overwatch and security operations in support of a fixed position IAW the references, checklists, and ETF. The student will demonstrate the ability to complete all items in the event requirement without assistance from the Instructor. Landing shall be accomplished within the confines of the operating base as defined by the Instructor prior to launch. The AV will be recovered and rendered safe.

Initial System Condition. SUAS packed for transport to the field. SUAS crew should wear combat gear appropriate to the mission but at a minimum shall wear a helmet and body armor.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA.

Prerequisite. MQT-2010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. All.

MQT-2040	0.5	I	L	(N)	SUAS-I

Task. Track mobile targets.

Scenario. The student shall use SUAS to track mobile targets. Scenario shall provide the opportunity to track both vehicles and personnel. Scenario shall include at least one target transition - when a target changes mode of transportation or overhead cover situation. Some examples include but are not limited to:

A. A target vehicle disembarking and personnel getting out and departing on foot.
B. A target watercraft.
C. A foot mobile target getting into a vehicle.
D. A target vehicle pulling into a garage or a foot mobile target going into a building.
E. Multiple similar vehicles executing decoy and switch operations to throw off an observer.
F. An evading target on foot or in a vehicle that realizes he is under observation.

(Coordination and external support for this scenario are crucial.)

Additional Tasks.

A. Maintain PID for a specified period of time.
B. Illuminate target with onboard IR pointer, if AV is so equipped.
C. Maintain continuous coverage with multiple AVs from a second hub/landing site using two GCSs.
D. Report mobile target status in real time.
E. Coordinate to provide external downlink to RVT(s).

F. Student obtains required resources to conduct training (i.e., range, frequencies, system checkout, etc.)
G. Conduct notional actions like reports and simulated EPs, as noted in MQT-2010).

Requirement. Instructor will provide the student with a tactical scenario tailored to the specific range/operating area in use. The student shall understand the definition of PID and shall plan and execute entire mission with assistance from MO and guidance from the Instructor. IAW the references, checklists, and ETF, the student will:

1. Setup GCS and AV.
2. Select AV payload that best supports the environmental conditions and the types of targets anticipated during the mission. IR payload can be used during the daytime.
3. Plan mission IAW briefed parameters.
4. Launch AV in MAN mode.
5. Conduct surveillance operations on a mobile target(s) in order to maintain PID.
6. Download and process imagery from HUB and from RPUAV-log.
7. Capture imagery from mission video and save as JPEG.
8. Land AV manually or in NAV mode from E to L.
9. Recover AV and render it safe.

Performance Standard. Track mobile targets IAW the references, checklists and ETF. The student will demonstrate the ability to:

1. Track a mobile target.
2. Maintain situational awareness.
3. Maneuver the AV efficiently to maintain contact with the target. In the event the target is lost, VO and MO must be able to coordinate their efforts to reacquire the target in order to reestablish PID.
4. Land AV manually or in NAV mode from E to L.
5. Recover AV and render it safe.

Initial System Condition. SUAS packed for transport to the field. SUAS crew should wear combat gear appropriate to the mission but at a minimum shall wear a helmet and body armor.

System Configuration. EO Payload for day flight or IR Side Payload for night flight, FalconView, RSTA. NVDs for illuminator operations. Video downlink equipment for assault force/patrol as required.

Prerequisite. MQT-2010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. All.

MQT-2050	0.5	I	L	(N)	SUAS-I

Task. Overwatch of friendly mobile operations.

Scenario. The student shall configure the GCS for mobile operations out of a vehicle. A tactical vehicle is preferred, but a non-tactical vehicle can be used. Every attempt should be made to operate out of vehicles used in-theater in order to build comfort with the vehicle and to allow the SUAS crew to develop and/or reinforce crew coordination procedures. Scenario should provide student the opportunity to operate the AV from a moving vehicle. Possible scenarios might include:

A. Collocated overwatch of a foot mobile patrol. AV can be operated by VO collocated with the patrol.
B. Remote overwatch of a foot mobile patrol. AV can also be launched and operated from a HUB/FOB and circle overhead a patrol. In this scenario the SUAS-O crew remains at the HUB/FOB. The SUAS crew must have constant communication with a member of the patrol. The patrol receives imagery from the SUAS via remote video terminal (e.g. MVR, Video Scout).
C. Overwatch of a mechanized patrol. VO configures the vehicle for mobile GCS operations.
D. Overwatch of an infill. SUAS crew coordinates with mission commander to provide overwatch of infill and integration into overall direct action plan. Consideration must be given to the element of surprise (acoustic signature of AV) and mission imagery requirements. Mobile operations can transition to fixed point security once the assault force is on the objective area.
E. Overwatch of an exfill. SUAS crew coordinates with the commander to provide overwatch of exfill route during actions on to ensure that IEDs and/or ambushes are not being emplaced while a mission is on-going. AVs can be cycled, and multiple vehicles/GCSs can be used to support an objective area and route.
F. Use of IR illuminator (if AV so equipped) to provide situational awareness to force personnel wearing NVDs.

Additional Tasks.

A. GCS to GCS handoff.
B. Use of IR illuminator in conjunction with aided mobile operations.
C. Conduct multiple GCS/AV operations.

D. Student obtains required resources to conduct training (i.e., range, frequencies, system checkout, etc.)
E. Conduct notional actions (e.g., reports and simulated EPs, as noted in MQT-2010).
F. Report friendly patrol status in real time.
G. Coordinate to provide external downlink to RVT(s).

Requirement. The SUAS can significantly enhance the security of a force by providing overhead persistent surveillance during mobile operations. Occasions for using the SUAS in support of overhead operations might include a foot-mobile patrol, vehicle patrol, infill, exfill, and time on objective area. VO shall plan and execute entire mission with assistance from MO and guidance from the Instructor. Try blending or expanding scenario to transition into MQT-2030 during the same training session (Shall fly a 0.5 minimum for each event). IAW the references, checklists, and ETF, the student will:

1. Setup GCS and AV.
2. Select AV payload that best supports the environmental conditions and types of targets anticipated during the mission. IR payload may be used during daytime.
3. Configure GCS for mobile operations in a tactical or surrogate tactical vehicle.
4. Plan mission IAW briefed parameters.
5. Launch AV in MAN mode.
6. Maintain position of AV relative to friendly forces as mission requirements dictate. Continuously update Home, E/L waypoints, and orbit points to support mobile plan and AV emergencies.
7. Simulate or execute an actual landing of the AV near the SUAS-O vehicle using updated E and L waypoints or manual navigation after SUAS-O vehicle has moved from origin point.
8. Download and process imagery from HUB and from RPUAV-log.
9. Capture imagery from mission video and save as JPEG.
10. Land AV manually or in NAV mode from E to L.
11. Recover the AV and render it safe.

Performance Standard. Conduct overwatch of friendly mobile operations IAW the references, checklists, and ETF. The student will demonstrate the ability to:

1. Track a mobile target.
2. Maintain situational awareness.
3. Maneuver the AV efficiently to maintain contact with friendly forces while supporting the mission commander's mission requirements.
4. Maintain control of AV at all times, effectively updating the Home, E/L waypoints, and orbit points to allow recovery of the vehicle in the event the AV must land immediately (interloper aircraft), an emergency, or due to LOL.
5. Properly configure a mobile GCS.
6. Recover the AV and render it safe.

Initial System Condition. SUAS packed for transport to the field. SUAS crew should wear combat gear appropriate to the mission but at a minimum shall wear a helmet and body armor.

System Configuration. EO / IR Side Payload, FalconView, RSTA. NVDs for illuminator operations. Video downlink equipment for assault force/patrol as required.

Prerequisite. MQT-2010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. All.

MQT-2060	0.5	I	L	D	SUAS-I

Task. Use SUAS to support the terminal control of fires (surface, naval gunfire, aviation).

Note: The three major skill sets to train to are:

A. Targeting. Using the SUAS to PID targets and, depending on the specific SUAS in use, generate either coordinates or a mission to engage that target. Map correlation is critical - the coordinates generated from the SUAS must be correlated with a map to ensure they are accurate and relevant. The targeting process can be enhanced if the JTAC or FO can see the SUAS feed through the use of a video downlink device or over the SUAS-Os shoulder. The JTAC or FO can direct the SUAS crew in positioning the AV to best support the targeting process.

B. Adjust Fire. Use the SUAS to observe fires and generate corrections for the JTAC or FO. Physical placement of the SUAS during live fire operations is a key consideration. Judging distances via the SUAS display is also a learned skill set, particularly if the terrain or target set being viewed does not provide decent contrast and comparative elements. Lastly, high situation awareness of the SUAS position and its orientation both to the magnetic compass and relative to the target are critical in generating a

correction. The adjustment process can be enhanced if the JTAC or FO can see the SUAS feed through the use of a video downlink device. If the JTAC or FO can directly view the SUAS feed he can make the corrections immediately. SUAS crew must be able to interpret the video scene for the JTAC or FO.

C. Bomb Damage Assessment (BDA). Use the SUAS to collect BDA on a target set. SUAS crew must know what the condition of the target set was prior to engagement and be able to interpret the scene via the SUAS in order to provide accurate and timely BDA. The process of gathering BDA can be greatly enhanced if the JTAC or FO can see the SUAS feed through the use of a video downlink device or over the student's shoulder.

Scenario. This event is best conducted in conjunction with a live fire event (e.g., EWTG TACP Shoot, unit FireEx, Mojave Viper, etc.) but may be conducted without live fires given a robust and detailed scenario from the Instructor.

A. Live Fire Scenario. Integrate the SUAS into a live fire event using surface or aviation fires.

B. Simulated Scenario. Targeting and BDA can be simulated fairly easily in a non live fire scenario. Corrections are more difficult to simulate. A technique that can be employed is to fly to a known target array and use a known target as the reference. The Instructor points to a visible object relative to the known target and calls that object (a bush, tree, dark patch of terrain, etc.) the impact. The student then generates the correction from that object to the target. The effects of the correction cannot be effectively simulated.

Additional Tasks.

A. Use of 9-line, surface call for fire, AC-130 call for fire, and Naval Gunfire call for fire procedures.
B. Map reading and interpretation.
C. Range and distance estimation.
D. Use FalconView overlays and draw files to depict FSCMs and ACMs.
E. Downlink SUAS feed to JTAC or FO if they are equipped with a video receiver.
F. Student obtains required resources to conduct training (i.e., range, frequencies, system checkout, etc.)
G. Conduct notional actions (e.g., reports and simulated EPs, as noted in MQT-2010).
H. Provide information in real time.
I. Coordinate to provide external downlink to RVT(s).

Requirement. IAW the references, checklists, ETF, and given a functional SUAS, the student shall employ the SUAS to train to one or all of the terminal control skill support skill sets (Targeting, Adjust Fire, Bomb Damage Assessment).

1. Setup GCS and AV.
2. Select AV payload that best supports the environmental conditions and the types of targets anticipated during the mission. IR payload can be used during the daytime.
3. Develop mission plan IAW briefed parameters. Ensure airspace plan and fires plans conform to each other and are integrated with all existing FSCMs and ACMs.
4. Launch AV in MAN mode.
5. Maneuver the AV relative to friendly forces to accomplish the mission objectives.
6. Conduct target reconnaissance and selection using AV and correlating to map/FalconView. Share target data with external agencies (e.g., JTAC, FO) to feed a fire mission.
7. Use SUAS to observe impacts and effects of aviation, surface, or naval fires.
8. Use SUAS to provide data for generating corrections for aviation, surface, or naval fires. Ensure AV is deconflicted from incoming fires and aircraft.
9. Use SUAS to gather BDA. Report BDA to JTAC/FO.
10. Download and process imagery from HUB and from RPUAV-log.
11. Capture imagery from mission video and save as JPEG.
12. Land AV manually or in NAV mode from E to L.
13. Recover the AV and render it safe.

Performance Standard. Use SUAS to support the terminal control of fires (surface, naval gunfire, aviation) IAW the references, checklists, and ETF. The student shall plan and execute entire mission with assistance from MO and guidance from the Instructor. The student will demonstrate ability to:

1. Integrate SUAS plan with fire support plan.
2. Find a target array and correlate it with a map and/or FalconView.
3. Derive a MGRS grid for a given target and refine that grid using a map and/or FalconView.
4. Interpret the SUAS feed from the AV at a given altitude and provide distance corrections from the target for impacts.
5. Communicate and coordinate with the JTAC or FO to effectively and efficiently provide targeting, correction, and BDA in support of an active fires package.
6. Maintain situational awareness. While:
   a. Maneuvering the AV efficiently to maintain contact with friendly forces while supporting the mission commander's mission requirements.
   b. Positioning the AV to observe fires as required while complying with FSCMs, ACMs and remaining clear of incoming fires.

Initial System Condition. SUAS packed for transport to the field. SUAS crew should wear combat gear appropriate to the mission but at a minimum shall wear a helmet and body armor.

System Configuration. EO / IR Side Payload, FalconView, RSTA, 1:50k map. Video downlink equipment for assault force/patrol as required. Current Air Land Sea Application (ALSA) Joint Fires publication.

Prerequisite. MQT-2010.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. CJCSI 3255.01 Joint UAS Minimum Training Standards (JUMTS)
2. NATO STANAG 4670 Recommended Guidance for the Training of Designated Unmanned Aerial Vehicle Operator (DUO)
3. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations)
4. Applicable System Manuals

Applicable SUAS. All.

205. INSTRUCTOR UNDER TRAINING (IUT) (2800 - 2849).

1. **General.**

a. **Purpose.** To provide designated and experienced SUAS-Os the additional skills necessary to instruct SUAS operations and employment. Upon completion of the required training, a SUAS instructor under training (IUT) may be considered for SUAS-I designation by the unit commanding officer.

b. **Prerequisite.**

(1) Shall be a corporal or above.

(2) Shall be SUAS-O designated and current in the system(s) in which being recommended to instruct.

(3) Shall have a minimum of 25 hours of actual live flight experience on the system in which being recommended to instruct. Length of experience can be waived by the unit commanding officer.

(4) Shall be recommended by the Unit SUAS-PM to begin IUT.

(5) Should have a minimum of one year remaining on their enlistment contract.

(6) Although not required, it is highly recommended the individual complete a formal instructor-training course like the Formal School Instructor (FSI) Course offered by the Train-The-Trainer (T3) School.

c. **Admin Notes.**

(1) The primary function of the SUAS-I is to oversee currency flights and execute training per this T&R. Therefore, unit commanding officers shall select the most experienced SUAS-Os who have demonstrated expert operator

knowledge, experience and maturity, judgment and ability to effectively mitigate operational risk to the SUAS and unit mission.

(2) The steady production of well trained and experienced SUAS-Is is essential to the effectiveness and sustainment of overall unit's SUAS program in its goal to provide well trained and highly skilled SUAS-Os to support the operational commander.

(3) See Table 1-3 for currency requirements.

(4) The following notes apply to SUAS-Is who have been designated and are now required to complete an annual SUAS Evaluation.

(a) SUAS-Is who receive two unqualified (UQ) ratings during a SUAS Evaluation shall receive an overall rating of UQ and be suspended from SUAS-I duties. This suspension shall be annotated on the SUAS Evaluation Form; both the SUAS-E and SUAS-I shall sign and date next to the annotation.

(b) A failure in the area of "Integrated safety principles" shall automatically result in an overall rating of UQ. The SUAS-I shall be suspended from SUAS-I duties. This suspension shall be annotated on the SUAS Evaluation Form; both the SUAS-E and SUAS-I shall sign and date next to the annotation.

(c) A suspended SUAS-I shall be re-evaluated after completing training in the area(s) identified as deficient during training, and may be re-designated by the unit commanding officer upon successful completion of a reevaluation.

(d) SUAS-Is shall be removed from SUAS-I duties if the reevaluation results in a second failure. Their designation shall be revoked in writing by the unit commanding officer. A copy of the SUAS Revocation letter shall be filed in the ITR.

(e) Subsequent retraining and recertification for personnel who were revoked shall be at the discretion of the unit commanding officer and per this T&R Manual.

d. **Conduct.** IUT events are flown as required.

2. **IUT Training.**

a. **Classroom.** 1 event, 2.0 hours.

b. **Flight.** 4 events, 1.8 hours.

IUT-2800	2.0	I	Classroom	NA	SUAS-I/E

Task. Introduction to Instructional Techniques.

Requirement. The Instructor will conduct a period of instruction to include the following:

1. Introduce/discuss/demonstrate instructional techniques.
2. Introduce/discuss/demonstrate class management techniques.
   a. How to prepare to conduct effective instruction.

b. How to use instructional resources to communicate with students.

3. Introduce/discuss/demonstrate how to prepare for a period of instruction. How to:
   a. Schedule a class.
   b. Prepare/access required training materials for the class.
   c. Prepare the ETF to be used to evaluate the student.
4. Discuss general tactical employment considerations.
5. Introduce/discuss/demonstrate how to document training using the ETF, logging the event code in MCTIMS, and documenting it in the ITR.
6. Familiarize the student with the content of the following references as they apply to the class topic:
   a. This T&R Manual (NAVMC 3500.107).
   b. OPNAVINST 3710.7U
   c. Local unit SOPs.
   d. Range SOPs.

Note: Locally developed instructional materials are encouraged and may be used.

Performance Standard.

1. Instructor will complete all items IAW the references.
2. Instructor will verbally ask questions to assess the IUT's understanding of the principles of instruction.
3. Student will answer the questions in detail and demonstrate knowledge of proper instruction and classroom techniques.

Prerequisite. See paragraph 205.1.b.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. Local Unit SOPs.
4. Local Range SOPs.
5. Applicable System Manuals.

Applicable SUAS. All.

IUT-2810	0.5	I	L	D	SUAS-I/E

Task. Introduction on how to instruct a live flight event.

Scenario. SUAS-I/E may use the scenario and requirements of any MQT event in this T&R Manual to complete this event.

Requirement. A SUAS-I/E will walk the student through an entire flight evolution from pre-mission brief to pack up, demonstrating the conduct of a flight evolution. The objective of this event is to demonstrate and instruct the student on how to instruct a flight event. Given required references, checklists, ETF, and a functional SUAS, the instructor will:

1. Introduce procedures for requesting frequencies, range, and airspace.
2. Introduce procedures for obtaining a Range OIC and Range Safety officer, per local SOP.
3. Introduce procedures for obtaining logistics support to conduct a flight event.
4. Introduce and demonstrate mission planning and briefing procedures.
5. Introduce range and airspace activation procedures.
6. Introduce and demonstrate how to set up a site for flight operations.
7. Introduce and demonstrate how to conduct flight operations according to the requirements for the event selected.
8. Introduce and demonstrate site tear down.
9. Introduce range and airspace turn in procedures.

Performance Standard. IAW the references, checklists, ETF, and given a functional SUAS:

1. Instructor will:
   a. Verbally ask questions to assess the SUAS IUT's operational and employment knowledge of the system the IUT is to instruct.
   b. Ensure the IUT understands the procedures demonstrated by asking questions and having the IUT explain and or demonstrate the procedures.
2. Student will:
   a. Observe the Instructor and ask question so as to ensure mastery of how to instruct a live flight event.
   b. Answer the Instructor's questions in detail and demonstrate mastery of SUAS operational and employment knowledge of the system the IUT is going to instruct.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by SUAS-I/E.

Prerequisite. IUT-2800.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. Local Unit SOPs.
4. Applicable Range SOP.

5. Applicable System Manuals.

Applicable SUAS. All.

IUT-2820	0.5	I,R	L then L	D	SUAS-I/E

Task. Instruct a live flight event.

Scenario. SUAS-I/E shall select any MQT event in this T&R Manual to complete this event. The event shall be applicable to the SUAS for which the student is expected to conduct training.

Requirement. Student will demonstrate how to instruct an event from preparation to conduct to completing administrative requirements. The student shall conduct instruction through an entire flight evolution from pre-mission brief to pack up. The objective of this flight is for the student to be able to demonstrate and instruct SUAS T&R events / flight evolutions to SUAS-Os. Given the required references, checklists, and a functional SUAS, the student will conduct the event while the Instructor plays the role of a student:

1. Prepare to instruct the event:
   a. Request frequencies, range, and airspace required to conduct event training.
   b. Obtain a Range OIC and Range Safety officer, as required.
   c. Obtain logistics support required to conduct the flight.
   d. Conduct mission planning and briefing.
   e. Reserve and activate range and airspace required.
   f. Ensure all training resources are properly staged and equipment is set up for training.
2. Conduct training on the event selected, ensuring the requirement and performance standard are met.
3. Instruct the student in a thorough manner so as to cover all requirements for the event selected.
   a. Ensure continuous, objective assessment of the student's progress during training.
   b. Ensure student completes the requirement and meets the performance standard.
   c. Identify student deficiencies in a timely manner and provide the student feedback.
   d. Answer student questions accurately.
4. Debrief the student and provide guidance for corrective action. Complete an ETF on the student.
5. Pack up training materials, turn-in range, and airspace to controlling agency.

Performance Standard. Instruct a live flight event IAW the references, checklists, ETF, and given a functional SUAS. The student will demonstrate the ability to complete the requirement without assistance from the Instructor. The student will:

1. Ensure training resources are obtained, and the site and equipment are setup properly.
2. Instruct the event in its entirety and ensure proper conduct and safety of flight; take corrective action when needed.

3. Complete all administrative actions to document training.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by the Instructor.

Prerequisite. IUT-2810.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. Local Unit SOPs.
4. Applicable Range SOP.
5. Applicable System Manuals.

Applicable SUAS. All.

IUT-2830	0.4	I,R	L then L	(N)	SUAS-E

Task. SUAS-I culmination flight on WASP.

Scenario. SUAS-E, will select any MQT event in this T&R Manual to complete this event. The event shall be applicable to the SUAS for which the student is expected to conduct training.

Requirement. SUAS-E will play the role of a student. This event may be flown by the student on the same day as the IUT-2820, but each event must be a completely separate event with the SUAS configured to meet the initial system condition and system configuration requirements below. The student will:

1. Demonstrate ability to prepare to instruct an event by obtaining required frequencies, range, and airspace.
2. Demonstrate understanding of procedures for coordination of Range OIC and Range Safety officer as required.
3. Demonstrate ability to coordinate logistics to support a flight event.
4. Activate range and airspace.
5. Set up a site and conduct a flight operation.
6. Demonstrate proper training of the event selected, ensuring the requirement and performance standard are met.
7. Instruct the event in its entirety and ensured proper conduct and safety of flight; take corrective action when needed.
8. Instruct the student on how to plan and brief the event.

9. Instruct the student in a thorough manner so as to cover all requirements for the event selected.
10. Tear down site, turn in range and airspace.
11. Complete all administrative actions to document student training.

Performance Standard. Complete SUAS-I culmination flight on WASP IAW the references, checklists, and ETF. The student will demonstrate the ability to complete all requirements without the assistance of the SUAS-E.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by SUAS-E.

Prerequisite. IUT-2800, IUT-2810, IUT-2820.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. Local Unit SOPs.
4. Applicable Range SOP.
5. Applicable System Manuals.

Applicable SUAS. WASP.

IUT-2835	0.4	I,R	L then L	(N)	SUAS-E

Task. SUAS-I culmination flight on RQ-11B.

Scenario. SUAS-E will select any MQT event in this T&R Manual to complete this event. The event shall be applicable to the SUAS for which the student is expected to conduct training.

Requirement. SUAS-E will play the role of a student. This event may be flown by the student on the same day as the IUT-2820, but each event must be a completely separate event with the SUAS configured to meet the initial system condition and system configuration requirements below. The student will:

1. Demonstrate ability to prepare to instruct an event by obtaining required frequencies, range, and airspace.
2. Demonstrate understanding of procedures for coordination of Range OIC and Range Safety officer as required.

3. Demonstrate ability to coordinate logistics to support a flight event.
4. Activate range and airspace.
5. Set up a site and conduct a flight operation.
6. Demonstrate proper training of the event selected, ensuring the requirement and performance standard are met.
7. Instruct the event in its entirety and ensured proper conduct and safety of flight; take corrective action when needed.
8. Instruct the student on how to plan and brief the event.
9. Instruct the student in a thorough manner so as to cover all requirements for the event selected.
10. Tear down site, turn in range and airspace.
11. Complete all administrative actions to document student training.

Performance Standard. Complete SUAS-I culmination flight on RQ-11B IAW the references, checklists, and ETF. The student will demonstrate the ability to complete all requirements without the assistance of the SUAS-E.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by SUAS-E.

Prerequisite. IUT-2800, IUT-2810, IUT-2820.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. Local Unit SOPs.
4. Applicable Range SOP.
5. Applicable System Manuals.

Applicable SUAS. RQ-11B.

206. EVALUATOR UNDER TRAINING (EUT) (2850 - 2899).

1. General.

a. **Purpose.** To provide designated and experienced SUAS-Is the additional skills necessary to conduct annual unit SUAS assessments, instruct and evaluate IUTs, and evaluate SUAS-O/Is regaining currency in order to sustain the unit SUAS program per this T&R Manual. Upon completion of the

required training, an EUT may be considered for SUAS Evaluator (SUAS-E) designation by the regimental or air group commanding officer.

b. **Prerequisite.**

(1) Shall be a sergeant or above.

(2) Shall be SUAS-O designated and current in the SUAS for which the SUAS-E will serve as an evaluator.

(3) Shall be designated and current as a SUAS-I in the SUAS being recommended to evaluate.

(4) Shall have a minimum of 6 months experience as a SUAS-I in the SUAS for which the SUAS-E will serve as an evaluator. Length of experience can be waived by the designating authority.

(5) Shall be recommended by the Unit SUAS-PM, and approved in writing by the unit commanding officer to begin EUT.

(6) Shall have read and thoroughly understand applicable references, checklists, SUAS Evaluation Guide, and evaluation training form.

c. **Admin Notes.**

(1) The SUAS-E is to conduct evaluation flights per this T&R Manual, and to serve as a SUAS-I when required.

(2) The SUAS-E may train but shall evaluate IUTs, unit assigned SUAS-O/I/Es. A SUAS-E has technical supervision of the unit standardization program as specified by the unit commanding officer. The SUAS-E is the commander's technical advisor on all SUAS standardization within the command and assists the commander to develop, implement, evaluate and manage the unit training program. Therefore, unit commanding officers shall select the most knowledgeable and experienced SUAS-I for SUAS-E training.

(3) The steady production of well trained and experienced SUAS-Es is essential to the effectiveness and sustainment of overall unit's SUAS program in its goal to provide well trained and highly skilled SUAS-Os to support the operational commander.

d. **Conduct.** SUAS EUT events are flown as required.

2. **EUT Training.**

a. **Classroom.** N/A.

b. **Flight.** 3 events, 1.2 hours.

EUT-2850	0.4	I	L	(N)	SUAS-E

Task. Observe the conduct of a SUAS-E evaluation.

Scenario. Student will observe another SUAS-E developing a scenario and coordinating all aspects of the evaluation flight per the Evaluation Guide.

Requirement. Student will observe the SUAS-E conduct an evaluation. The SUAS-E will demonstrate to the student how to conduct an evaluation according to the SUAS Evaluation Guide, to include:

1. Discuss and review all aspects of the evaluation with the student, prior to commencing the evaluation.
2. During the evaluation, explain each evaluation step in a thorough manner so as to cover requirements for the event selected.
3. After the completion of the evaluation, discuss and question the student to ensure clear understanding of how to conduct an evaluation from preparing, conducting, and documenting the evaluation. Questions should include topics/contents like:
   a. Characteristics, capabilities, and limitations of the SUAS being used to evaluate.
   b. Contents of the applicable checklist.
   c. Evaluation Guide.
   d. Training Forms and administration.

Performance Standard. While observing the conduct of a SUAS-E evaluation, the student will:

1. Demonstrate knowledge and understanding of the evaluation process to include applicable training devices, checklists, SUAS Evaluation Guide, and training forms.
2. Demonstrate an understanding of how to conduct an evaluation by accurately answering SUAS-E questions and explaining the process thoroughly.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by the SUAS-E.

Prerequisite. See paragraph 206.2.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. SUAS Evaluation Guide.
4. Local Unit SOPs.
5. Applicable Range SOP.
6. Applicable System Manuals.

Applicable SUAS. All.

EUT-2860	0.4	I,R	L then L	(N)	SUAS-E

Task. SUAS-E culmination flight on WASP.

Scenario. Student will develop a scenario and coordinate all aspects of the flight per the SUAS Evaluation Guide.

Requirement. The SUAS-E will assume the role of the person being evaluated, the evaluee. The student will conduct an evaluation according to the SUAS Evaluation Guide.

1. Ensure the person to be evaluated is current on the WASP.
2. Ensure resources required to conduct the evaluation are available and the site and equipment are in a ready state.
3. Conduct the evaluation and debrief the evaluee.
4. Complete all administrative actions required to document the evaluation.

Performance Standard. IAW references, checklists, SUAS Evaluation Guide, and ETF, the student shall complete all requirements without assistance. The student will ensure the evaluation was conducted thoroughly, corrective action was taken as required, and safety of flight was maintained.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by prospective SUAS-E.

Prerequisite. EUT-2850.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. SUAS Evaluation Guide.
4. Local Unit SOPs.
5. Applicable Range SOP.
6. Applicable System Manuals.

Applicable SUAS. WASP.

EUT-2865 0.4 I,R L then L (N) SUAS-E

Task. SUAS-E culmination flight on RQ-11B.

Scenario. The SUAS EUT will develop a scenario and coordinate all aspects of the flight per the SUAS Evaluation Guide.

Requirement. The SUAS-E will assume the role of the person being evaluated, the evaluee. The student will conduct an evaluation according to the SUAS Evaluation Guide.

1. Ensure the person to be evaluated is current in the RQ-11B.
2. Ensure resources required to conduct the evaluation are available and the site and equipment are in a ready state.
3. Conduct the evaluation and debrief the evaluee.
4. Complete all administrative actions required to document the evaluation.

Performance Standard. IAW the references, checklists, SUAS Evaluation Guide, and ETF, the student will complete all requirements without assistance. Evaluation was conducted thoroughly, corrective action taken as required, and safety of flight maintained.

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by prospective SUAS-E.

Prerequisite. EUT-2850.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. SUAS Evaluation Guide.
4. Local Unit SOPs.
5. Applicable Range SOP.
6. Applicable System Manuals.

Applicable SUAS. RQ-11B.

207. DESIGNATIONS AND EVALUATIONS (2900 - 2999).

1. **General.**

a. **Purpose.**

(1) **Designations.** To designate SUAS personnel who have completed all training prerequisites and have demonstrated competency in the area being designated. The SUAS designation shall remain in effect as long as the SUAS remains current per Table 1-3.

(2) **Evaluations.** To provide for annual unit SUAS evaluations and evaluations for non-current SUAS personnel regaining currency in order to sustain the unit program per this T&R Manual. A proficient level is defined as the ability to efficiently and skillfully conduct a flight and correct errors without hesitation or assistance.

b. **Admin Notes.** All training requirements for designation must be completed prior to being considered for designation. The designation is not effective until the letter has been signed by the unit commanding officer, filed in the ITR, and applicable event codes have been logged in MCTIMS. For detailed information on designations refer to paragraph 117.6.

2. **Designations.** SUAS-O, SUAS-I, SUAS-E and SUAS-PM.

DESG-2900

Task. SUAS-O Designation for WASP.

Requirement. Complete the prerequisites listed below.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Complete WASP IQT Course (events 1000 through 1190).
2. Be recommended by the Unit SUAS-PM.
3. Be designated in writing by the unit commanding officer.

Applicable SUAS. WASP.

DESG-2910

Task. SUAS-O Designation for RQ-11B.

Requirement. Complete the prerequisites listed below.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Complete RQ-11B IQT Course (events 1200 through 1290).
2. Be recommended by the Unit SUAS-PM.
3. Be designated in writing by the unit commanding officer.

Applicable SUAS. RQ-11B.

DESG-2940

Task. SUAS-I Designation for WASP.

Requirement. Complete the prerequisites listed below.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Complete IUT-2800, IUT-2810, IUT-2820, and IUT-2830.
2. Be recommended by the SUAS-E via the Unit SUAS-PM.
3. Be designated in writing by the unit commanding officer.

Applicable SUAS. WASP.

DESG-2945

Task. SUAS-I Designation for RQ-11B.

Requirement. Complete the prerequisites listed below.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Complete IUT-2800, IUT-2810, IUT-2820, and IUT-2835.
2. Be recommended by the SUAS-E via the Unit SUAS-PM.
3. Be designated in writing by the unit commanding officer.

Applicable SUAS. RQ-11B.

DESG-2960

Task. SUAS-E Designation for WASP.

Requirement. Complete the prerequisites listed below.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Complete EUT-2850 and EUT-2860.
2. Be recommended by the Unit SUAS-PM.
3. Be designated in writing by the unit commanding officer.

Applicable SUAS. WASP.

DESG-2965

Task. SUAS-E Designation for RQ-11B.

Requirement. Complete the prerequisites listed below.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Complete EUT-2850 and EUT-2865.
2. Be recommended by the Unit SUAS-PM.
3. Be designated in writing by the unit commanding officer.

Applicable SUAS. RQ-11B.

DESG-2970

Task. Unit SUAS-PM Designation.

Requirement. Be selected by the unit commanding officer.

Performance Standard. Demonstrate competency in all prerequisites.

Prerequisite.

1. Understand the roles and responsibilities of a Unit SUAS-PM.
2. Be designated in writing by the unit commanding officer.

Applicable SUAS. All.

3. **SUAS Evaluation Requirements (EVAL).**

a. **Purpose.** To provide the SUAS Evaluator (SUAS-E) and SUAS personnel with a standardized approach to conduct a SUAS Evaluation.

b. See paragraph 117.7 for explanation of the SUAS Evaluation process and supporting documents.

EVAL-2980	0.3	I,R	L then L	(N)	SUAS-E

Task. SUAS Evaluation on WASP.

Scenario. Evaluate SUAS knowledge and ability to safely and effectively operate the SUAS. The evaluation flight shall be administered by a SUAS-E per the SUAS Evaluation Guide. In situations where a SUAS-O is unavailable to serve as MO, the SUAS-E may serve as the MO once individual under evaluation completes the full system setup to include mission planning and upload.

Requirement. Per the SUAS Evaluation Guide, the student shall complete each of the below:

Preflight

1. Closed book examination with a minimum grade of 80%.
2. Closed book Emergency Procedures (EP) Exam with a minimum grade of 100%.
3. SUAS Evaluation discussion period.

Flight

1. Pre-mission Planning / Crew Brief.
2. Identify System Components.
3. Knowledge of Hand Controller buttons and display.
4. Assemble Air Vehicle.
5. Set up Ground Control Station.
6. Perform Preflight and Pre-takeoff Checklist.
7. Launch Air Vehicle.
8. Navigate to Objective Area.
9. Conduct Mission Payload Operations.
10. Perform Emergency Procedures.
11. Perform Hand-off Procedures*
12. Perform Secure Data Link/Password Procedures*
13. Navigate to Recovery Area.
14. Land and Recover Air Vehicle.
15. Perform post-flight checks on Air Vehicle.
16. Disassemble and store UAS.
17. Operator Level Maintenance Knowledge.
18. Overall Situational Awareness during flight.
19. Airspace Knowledge, Awareness, and Procedures.

Note: *Items are not required, but may be performed as part of the mission scenario.

Performance Standard. IAW the references, checklists, SUAS Evaluation Guide, and ETF, the student shall complete all requirement items with a passing grade of "Qualified".

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by the SUAS-E.

Prerequisite.

1. Be current per Table 1-3.
2. Be designated in writing by the unit commanding officer.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.

2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. SUAS Evaluation Guide.
4. Local Unit SOPs.
5. Applicable Range SOP.
6. Applicable System Manuals.

Applicable SUAS. WASP.

EVAL-2985	0.3	I,R	L then L	(N)	SUAS-E

Task. SUAS Evaluation on RQ-11B.

Scenario. Evaluate SUAS knowledge and ability to safely and effectively operate the SUAS. The evaluation flight shall be administered by a SUAS-E according to the SUAS Evaluation Guide. In situations where a SUAS-O is unavailable to serve as MO, the SUAS-E may serve as the MO once the individual under evaluation completes the full system setup to include mission planning and upload.

Requirement. According to the SUAS Evaluation Guide, the student shall complete each of the below:

Preflight

1. Closed book examination with a minimum grade of 80%.
2. Closed book Emergency Procedures (EP) Exam with a minimum grade of 100%.
3. SUAS Evaluation discussion period.

Flight

1. Pre-mission Planning / Crew Brief.
2. Identify System Components.
3. Knowledge of Hand Controller buttons and display.
4. Assemble Air Vehicle.
5. Set up Ground Control Station.
6. Perform Preflight and Pre-takeoff Checklist.
7. Launch Air Vehicle.
8. Navigate to Objective Area.
9. Conduct Mission Payload Operations.
10. Perform Emergency Procedures.
11. Perform Hand-off Procedures*
12. Perform Secure Data Link/Password Procedures*
13. Navigate to Recovery Area.
14. Land and Recover Air Vehicle.
15. Perform post-flight checks on Air Vehicle.
16. Disassemble and store UAS.
17. Operator Level Maintenance Knowledge.
18. Overall Situational Awareness during flight.
19. Airspace Knowledge, Awareness, and Procedures.

Note: *Items are not required, but may be performed as part of the mission scenario.

Performance Standard. IAW the references, checklists, SUAS Evaluation Guide, and ETF, the student shall complete all requirement items with a passing grade of "Qualified".

Initial System Condition. System completely disassembled and packed in its cases.

System Configuration. Per scenario as briefed by SUAS-E.

Prerequisite.

1. Be current per Table 1-3.
2. Be designated in writing by the unit commanding officer.

Range Training Area. Minimum requirements:

1. Launch/Landing Zone (LZ) dimensions: Cleared surface area of at least 200m by 200m to allow for AV launch and landing.
2. Airspace dimensions: A minimum of 2km by 2km or a 2km radius about a point, with a vertical component of surface to 1200 ft AGL. Tall obstacles may obstruct LOS during flight.

References.

1. NAVMC 3500.107 Group 1 Unmanned Aircraft Systems (UAS) Training and Readiness Manual.
2. OPNAVINST 3710.7U (Chapter 14) NATOPS General Flight and Operating Instructions (UAS Policies and Operations).
3. SUAS Evaluation Guide.
4. Local Unit SOPs.
5. Applicable Range SOP.
6. Applicable System Manuals.

Applicable SUAS. RQ-11B.

208. SUAS SYLLABUS SUMMARY.

Table 2-5 summarizes the training syllabus outlined in this T&R Manual.

Table 2-5. SUAS Syllabus Summary.

GROUP 1 SMALL UAS SYLLABUS MATRIX										
STAGE	NEW CODES	EVENT TITLE	TOTAL EVENTS	FLT HRS	POI TYPE	DEVICE (IQT)	DEVICE (REFRESH/CURRENCY)	TIME OF DAY	INSTRUCTOR REQUIRED	PREREQ
WASP IOT					CORE SKILL INTRODUCTION (1000)					
WASP	1000	Conduct heads up flight		0.4	I,R	L	L	D	IQT-I SUAS-I	BUQ-I Course
WASP	1010	Conduct heads down flight		0.4	I,R	L	L	(N)	IQT-I SUAS-I	1000
WASP	1020	Manually edit waypoints and reroute AV		0.4	I,R	L	L/S	(N)	IQT-I SUAS-I	1010
WASP	1030	Use AV to conduct target acquisition		0.4	I	L	NA	D	IQT-I	1020
WASP	1040	Introduction to use of joystick (if WASP so configured)		0.4	I,R	L	L/S	D	IQT-I SUAS-I	1010
WASP	1050	Single Operator operations (if WASP so configured)		0.4	I	L	NA	D	IQT-I	1040
WASP	1060	Conduct day mobile operations from a moving vehicle		0.4	I	L	NA	D	IQT-I	1030
WASP	1070	Conduct zone, area, and point reconnaissance operations		0.4	I	L	NA	D	IQT-I	1030
WASP	1080	Introduction to basic night flight skills		0.4	I	L	NA	N	IQT-I	1020
WASP	1090	Introduction to advanced night flight skills		0.4	I	L	NA	N	IQT-I	1080
WASP	1100	Conduct AV hand-offs during reconnaissance mobile operations		0.5	I,R	L	L/S	(N)	IQT-I SUAS-I	1080
WASP	1110	Operate WASP using an Untrained Assistant		0.5	I	L	NA	D	IQT-I	1020

STAGE	NEW CODES	EVENT TITLE	TOTAL EVENTS	FLT HRS	POI TYPE	DEVICE (IQT)	DEVICE (REFRESH/CURRENCY)	TIME OF DAY	INSTRUCTOR REQUIRED	PREREQ
WASP	1190	Culmination Flight for WASP		0.3	I	L	NA	(N)	IQT-I	1000, 1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1090, 1100, 1110.
		TOTALS	13	5.3						
		RQ-11B IQT			**CORE SKILL INTRODUCTION (1000)**					
RQ11	1200	Conduct heads up/heads down flight		0.6	I,R	L	L	D	IQT-I SUAS-I	BUQ-I Course
RQ11	1210	Manually edit waypoints and reroute AV, LL fight and LL AUTOLAND		0.6	I,R	L	L/S	(N)	IQT-I SUAS-I	1200
RQ11	1220	Conduct target acquisition using the RQ-11B		0.7	I,R	L	L/S	(N)	IQT-I SUAS-I	1210
RQ11	1230	Conduct silent (covert) target area surveillance		0.5	I	L	NA	(N)	IQT-I	1220
RQ11	1240	Conduct day mobile operations from a moving vehicle		0.6	I	L	NA	D	IQT-I	1210
RQ11	1250	Introduction to basic night flight skills		0.3	I	L	NA	N	IQT-I	1210, 1240
RQ11	1260	Introduction to advanced night flight skills		0.7	I	L	NA	N	IQT-I	1250
RQ11	1270	Conduct AV hand-offs during point reconnaissance night mobile operations		0.5	I,R	L	L/S	(N)	IQT-I SUAS-I	1250
RQ11	1280	Operate RQ-11B using an Untrained Assistant		0.5	I	L	NA	D	IQT-I	1210

STAGE	NEW CODES	EVENT TITLE	TOTAL EVENTS	FLT HRS	POI TYPE	DEVICE (IQT)	DEVICE (REFRESH/CURRENCY)	TIME OF DAY	INSTRUCTOR REQUIRED	PREREQ
RQ11	1290	Culmination Flight for RQ-11B		0.6	I	L	NA	(N)	IQT-I	1200, 1210, 1220, 1230, 1240, 1250, 1260, 1270, 1280
		TOTALS	10	5.6						
SUAS MQT										
MQT	2010	Introduction to local area flying operations		2.0	I,R	NA	NA	NA	SUAS-I	Complete IQT and be designated as a SUAS-O on SUAS in which being trained
MQT	2020	Refine reconnaissance techniques in a tactical scenario		0.5	I	L	NA	(N)	SUAS-I	2010
MQT	2030	Conduct overwatch and security operations in support of a fixed position		0.5	I	L	NA	(N)	SUAS-I	2010
MQT	2040	Track mobile targets		0.5	I	L	NA	(N)	SUAS-I	2010
MQT	2050	Overwatch of friendly mobile operations		0.5	I	L	NA	(N)	SUAS-I	2010
MQT	2060	Use SUAS to support the terminal control of fires (surface, naval gunfire, aviation)		0.5	I	L	NA	D	SUAS-I	2010
		TOTALS	6	4.5						
INSTRUCTOR AND EVALUATOR UNDER TRAINING (IUT) (2800 - 2830)										
IUT	2800	Introduction to Instructional Techniques		2.0	I	NA	NA	NA	SUAS-I SUAS-E	See para 205.1.b of this T&R Manual
IUT	2810	Introduction on to how to instruct a live flight event		0.5	I	L	NA	D	SUAS-I SUAS-E	2800

STAGE	NEW CODES	EVENT TITLE	TOTAL EVENTS	FLT HRS	POI TYPE	DEVICE (IQT)	DEVICE (REFRESH/CURRENCY)	TIME OF DAY	INSTRUCTOR REQUIRED	PREREQ
IUT	2820	Instruct a live flight event		0.5	I,R	L	L	D	SUAS-I SUAS-E	2810
IUT	2830	SUAS-I culmination flight on WASP		0.4	I,R	L	L	(N)	SUAS-E	2800, 2810, 2820
IUT	2835	SUAS-I culmination flight on RQ-11B		0.4	I,R	L	L	(N)	SUAS-E	2800, 2810, 2820
TOTALS			5	3.8						
EUT	2850	Observe conduct of a SUAS-E evaluation		0.4	I	L	NA	(N)	SUAS-E	See para 206.2 of this T&R Manual.
EUT	2860	SUAS-E culmination flight on WASP		0.4	I,R	L	L	(N)	SUAS-E	2850
EUT	2865	SUAS-E culmination flight on RQ-11B		0.4	I,R	L	L	(N)	SUAS-E	2850
			3	1.2						
DESIGNATION (DESG) AND REQUIREMENTS (EVAL) (2900-2999)										
DESG	2900	SUAS-O Designation for WASP								1. Complete WASP IQT Course 2. Be recommended by Unit SUAS-PM 3. Be designated in writing by unit CO
DESG	2910	SUAS-O Designation for RQ-11B								1. Complete RQ-11B IQT Course 2. Be recommended by Unit SUAS-PM 3. Be designated in writing by unit CO

STAGE	NEW CODES	EVENT TITLE	TOTAL EVENTS	FLT HRS	POI TYPE	DEVICE (IQT)	DEVICE (REFRESH/CURRENCY)	TIME OF DAY	INSTRUCTOR REQUIRED	PREREQ
DESG	2940	SUAS-I Designation for WASP								1. Complete IUT 2800, 2810, 2820, 2830. 2. Be recommended by SUAS-E via Unit SUAS-PM 3. Be designated in writing by unit CO
DESG	2945	SUAS-I Designation for RQ-11B								1. Complete IUT 2800, 2810, 2820, 2835. 2. Be recommended by SUAS-E via Unit SUAS-PM 3. Be designated in writing by unit CO
DESG	2960	SUAS-E Designation for WASP								1. Complete EUT 2850, 2860 2. Be recommended by Unit SUAS-PM 3. Be designated in writing by unit CO
DESG	2965	SUAS-E Designation for RQ-11B								1. Complete EUT 2850, 2865 2. Be recommended by Unit SUAS-PM 3. Be designated in writing by unit CO
DESG	2970	SUAS-PM Designation								1. Understand roles and responsibilities of Unit SUAS-PM 2. Be designated in writing by unit CO

STAGE	NEW CODES	EVENT TITLE	TOTAL EVENTS	FLT HRS	POI TYPE	DEVICE (IQT)	DEVICE (REFRESH/CURRENCY)	TIME OF DAY	INSTRUCTOR REQUIRED	PREREQ
EVAL	2980	SUAS Evaluation on WASP		0.3	I,R	L	L	(N)	SUAS-E	1. Be current per Table 1-3. 2. Be designated in writing by unit CO.
EVAL	2985	SUAS Evaluation on RQ-11B		0.3	I,R	L	L	(N)	SUAS-E	1. Be current per Table 1-3. 2. Be designated in writing by unit CO.